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Original Paper

Central and Eastern European Countries before and after the 2008 Financial Crisis: Economic Overview and Transportation Companies

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Abstract

One of the main aims of the European Union (EU) is the European competitiveness. To achieve this goal, it is important to study the lessons of the economic crisis. This in turn allows the development of measures.

The aim of this article is to analyse the economic crisis lessons of the transportation and storage enterprises of Poland and other new EU Member States from Central and Eastern Europe (CEE-8), and to compare them on the EU level.

The purpose is to analyse the labour productivity before and after the economic crisis by gross value added per person employed and employee and turnover per person employed.

We will look at how the economic crisis has affected the labour productivity of transportation companies and analyze the changes in the companies.

In the background, we look at the countries' economic (GDP) development and quality of life.

What are the lessons learned from the economic crisis?

The literature review shows the crisis theory.

We present for discussion the objective and subjective factors of the economic crisis of the companies.

Based on this and previous publications, we will offer a number of generalized suggestions.

Keywords

economic crisis, labour productivity, economic development, transportation and storage companies, suggestions

1. Introduction

For an introduction, let us look at the background of these countries.

Central and Eastern European Countries is an OECD term for the group of countries comprising

Albania, Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic, Slovenia, and the three Baltic States: Estonia, Latvia and Lithuania. (Definition)

Central and Eastern Europe is a generic term for countries in Central Europe, Southeast Europe and Eastern Europe, usually meaning former communist states in Europe. It is in use after the collapse of the Iron Curtain in 1989–1990. (Inotai, 2009)

The term *Central and Eastern Europe* (*CEE*) has by now displaced the alternative term *East-Central Europe* in the context of transition countries, mainly because the abbreviation *ECE* is ambiguous: it commonly stands for *Economic Commission for Europe* rather than *East-Central Europe*. (ECE)

The EU was established on 1 November 1993, when the Maastricht Treaty came into force. On 1 May 2004 Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia and Slovakia joined EU (EU-25). The most recently joined countries are Bulgaria and Romania who joined the EU on 1 January 2007 (EU-27) and at 1 July 2013 Croatia joined the EU, so the EU-28. (Tanning, 2008; Political Europe)

All the CEE-8 and the Baltic states are members of NATO. (Tanning, 2008; NATO)

Four major sectors of the economy (non-financial companies) with the greatest gross domestic product and the largest number of employees will be observed, these are: industry, construction, trade and transportation. Here we look at transport and storage companies.

In the background, we look at the countries' economic (GDP) development by GDP per capita in PPS and the real GDP growth rate. We also look at the quality of life.

Labour productivity is one of the most important economic indicators.

Here, we analyze more detail the apparent labour productivity of the CEE-8 countries by *gross value added per employed and per employee* and turnover per person employed.

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

Let us attempt to draw comparisons with EU countries, particularly in the developed economies, the old EU-15 and Baltic (Estonia, Latvia and Lithuania) countries.

2. Literature Review

2.1 Financial Crisis

The term *financial crisis* is applied broadly to a variety of situations in which some financial assets suddenly lose a large part of their nominal value. In the 19th and early 20th centuries, many financial crises were associated with banking panics, and many recessions coincided with these panics. Other situations that are often called financial crises include stock market crashes and the bursting of other financial bubbles, currency crises, and sovereign defaults. (Kindleberger, C. P., & Aliber, R., 2005; Laeven L., & Valencia F., 2008)

Financial crisis directly result in a loss of paper wealth but do not necessarily result in changes in the real economy. Many economists have offered theories about how financial crisis develop and how they could be prevented. There is no consensus, however, and financial crises continue to occur from time to

time. (Global, 2013; The Theory, 2013)

The international financial crisis of 2008 - 2009 years led to the first downturn in global output since 1946 and presented the world with a major new challenge: determining what mix of fiscal and monetary policies to follow to restore growth and jobs, while keeping inflation and debt under control. Financial stabilization and stimulus programs that started in 2009-2011, combined with lower tax revenues in 2009 – 2010 years, required most countries to run large budget deficits. (The World Factbook)

2.2 Economic Cycle (Crises) Theory

The term *economic cycle* or *business cycle* refers to economy-wide fluctuations in production or economic activity over several months or years. These fluctuations occur around a long-term growth trend, and typically involve shifts over time between periods of relatively rapid economic growth, and periods of relative stagnation or decline. (O'Sullivan, A., & Steven, M. S., 2003)

These fluctuations are often measured using the growth rate of real GDP. Despite being termed cycles, most of these fluctuations in economic activity do not follow a mechanical or predictable periodic pattern. (Tanning, L., & Tanning, T., 2013a)

2.3 Crisis Theory

Crisis theory has been the subject of much debate within the history of political economy. It is concerned with explaining the *recession, depression and business cycle* in economics. We will make a short view of the financial crisis. The economic crisis has been a sharp deterioration in the economic situation.

A *recession* in economics is a business cycle contraction, it is a general slowdown in economic activity. (Recession, 2008; Recession definition, 2007)

Recessions generally occur when there is a widespread drop in spending (an adverse demand shock). This may be triggered by various events, such as a financial crisis, an external trade shock, an adverse supply shock or the bursting of an economic bubble. Governments usually respond to recessions by adopting expansionary macroeconomic policies, such as increasing money supply, increasing government spending and decreasing taxation. (Recession, 2008; Recession definition, 2007)

2.4 The Theoretical Bases

The theoretical bases of labour productivity have been brought in more detail in the authors' earlier works (Tanning, L. & Tanning, T., a, b, c, d, e, f, g, 2013; Tanning, T. & Tanning, L., 2013; Tanning, T. Tanning, T., 2013) and in the works of other authors (Saari, S., 2006; Saari, S., 2011; Kalle, E., 2013).

3. Methodology and Definitions

3.1 Business Statistics of the Eurostat

The Eurostat collects and disseminates methodological information. A basic summary of the methodology employed for structural business statistics is available at summary methodology for SBS. (Summary)

More detailed methodological information relating to structural business statistics is stored on the RAMON server at methodological manuals relating to SBS. This server also includes country specific methodological information as well as quality reports relating to the collection of structural business statistics in the Member States and other EEA countries at SBS methodology by country. (Methodology)

Structural business statistics can provide answers to questions on the wealth creation, investment and labour input of different economic activities. The data can be used to analyse structural shifts, country specialisations, sectoral productivity and profitability, as well as a range of other topics. Structural business statistics provide useful background information on which to base an interpretation of short-term statistics and the business cycle. (Structural)

The Statistical classification of economic activities in the European Community, abbreviated as NACE, is the nomenclature of economic activities in the EU. NACE is a four-digit classification providing the framework for collecting and presenting a large range of statistical data according to economic activity in the fields of economic statistics and in other statistical domains developed within the European statistical system. The first reference year for NACE Rev. 2 compatible statistics is 2008, after which NACE Rev. 2 will be consistently applied to all relevant statistical domains. (Statistical)

The Eurostat publication *Business economy by sector - NACE Rev. 2* presents an overview of structural business statistics analysed per activity sector of the NACE Rev. 2 classification.

We will first observe the main total (SIZE_EMP: Total) quantitative indicators of transportation (NACE_R2: Transportation and storage), as well as the changes in the number of transportation companies, etc. Eurostat's primary data will be used as the main sources (Services by employment size class – NACE Rev. 2, H, S95).

3.2 Definitions

EU-SILC - European Union Statistics on Income and Living Conditions.

GDP (official exchange rate). This entry gives GDP or value of all final goods and services produced within a nation in a given year. A nation's GDP at official exchange rates (OER) is the home-currency-denominated annual GDP figure divided by the bilateral average US exchange rate with that country in that year. The measure is simple to compute and gives a precise measure of the value of output. Many economists prefer this measure when gauging the economic power an economy maintains vis-à-vis its neighbors, judging that an exchange rate captures the purchasing power a nation enjoys in the international marketplace. (GDP (official exchange rate))

GDP (purchasing power parity). This entry gives GDP or value of all final goods and services produced within a nation in a given year. A nation's GDP at purchasing power parity (PPP) exchange rates is the sum value of all goods and services produced in the country valued at prices prevailing in the United States in the year noted. This is the measure most economists prefer when looking at per-capita welfare and when comparing living conditions or use of resources across countries. The measure is difficult to compute, as a US dollar value has to be assigned to all goods and services in the

country regardless of whether these goods and services have a direct equivalent in the United States (for example, the value of an ox-cart or non-US military equipment); as a result, PPP estimates for some countries are based on a small and sometimes different set of goods and services. (GDP (purchasing power parity))

Productivity (Economics) is the rate at which goods or services are produced especially output per unit of labour. (Productivity)

Exports. This entry provides the total US dollar amount of merchandise exports on an f.o.b. (free on board) basis. These figures are calculated on an exchange rate basis, i.e., not in purchasing power parity (PPP) terms. (References... Exports)

Imports. This entry provides the total US dollar amount of merchandise imports on a c.i.f. (cost, insurance, and freight) or f.o.b. basis. These figures are calculated on an exchange rate basis, i.e., not in purchasing power parity (PPP) terms. (References... Imports)

The median income is the income value which divides a population, when ranked by income, into two equal sized groups: exactly 50% of people fall below that value and 50% are above it. (Lot 1)

Gross value added (GVA) at market prices is output at market prices minus intermediate consumption at purchaser prices. (Gross)

Number of persons employed is defined as the total number of persons who work in the observation unit, as well as persons who work outside the unit who belong to it and are paid by it. It excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service. (Statistical concepts)

Number of employees is defined as those persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind. A worker from an employment agency is considered to be an employee of that temporary employment agency and not of the unit in which they work. (Statistical concepts)

Turnover, in the context of structural business statistics, comprises the totals invoiced by the observation unit during the reference period, and this corresponds to the total value of market sales of goods and services to third parties. (Turnover)

The techniques and labour market survey definitions used by the authors have been specified in Eurostat (Methodological Notes EU-LFS) (Methodology).

4. Gross Domestic Product (GDP) Analysis

Next, in the background, we look at the EU, USA and CEE countries' economic (GDP) development.

Table 1. Real GDP Growth Rate. Percentage Change on Previous Year (Code: tec00115)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU-28	1.3	1.5	2.6	2.2	3.4	3.2	0.4	-4.5	2.0	1.7	-0.4	0.1
Euro area (17)	0.9	0.7	2.2	1.7	3.2	3.0	0.4	-4.4	2.0	1.6	-0.7	-0.4
USA	1.8	2.8	3.8	3.4	2.7	1.8	-0.3	-2.8	2.5	1.8	2.8	1.9

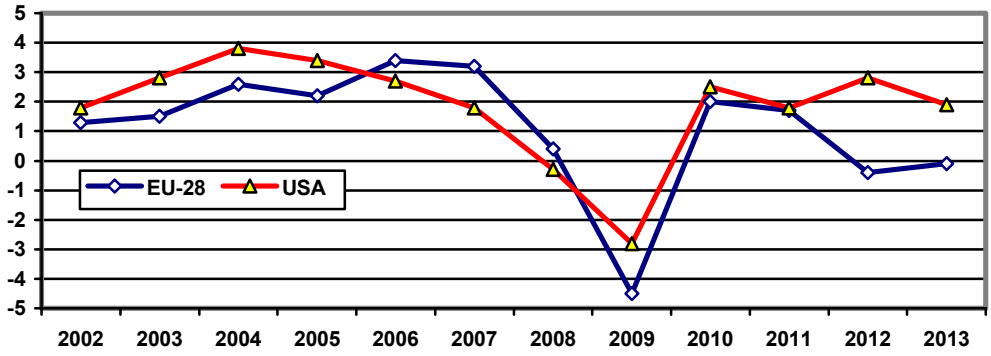


Figure 1. Real GDP Growth Rate of the EU-28 Countries and the USA. Percentage Change During the Previous Years. (Code: tec00115)

Source: the authors' illustration

The economy (GDP) of the USA has generally developed quicker than that of the EU; the pre-crisis years from 2006 to 2008 are the only exception. The decline in the EU was significantly higher in 2009 than in the USA. While the EU economy was negative in 2012, the increment in the USA was 2.2%. The EU-28 economy experienced a small growth (+0.1%), but the euro zone (17 countries) an ongoing decline (-0.4%) in 2013. The growth of the USA (+1.9%) was normal for a highly developed industrial country.

Real GDP growth rate, percentage change during the previous year was in 2012: Euro area (17) = -0.7%; Germany = 0.7%; France = 0.0%; United Kingdom = 0.3%; Italy = -2.4%; Japan = 1.4% and in 2013: Euro area (17) = -0.5%; Germany = 0.4%; France = 0.2%; UK = 1.9%; Italy = -1.9%; Japan = 1.5%. (Code: tec00115)

In the background we look CEE countries macro summary, economic indicators.

Table 2. Economic Indicators for Selected Countries of Central and Eastern Europe. USD. 2012 (Macro)

	Population	GDP	GDP per capita	GDP growth	CPI	Industrial output	Exports	Imports	Current account	Public finances balance
	'000	M $	$	% YoY	% YoY	% YoY	M $	M $	% GDP	% GDP
Bulgaria	7 306	50 973	6 977	0.8	3.0	-1.0	26 714	32 722	-1.3	-0.8
Croatia	4 269	56 442	13 221	-2.0	3.4	-5.5	12 344	20 762	0.0	-5.0
Czech Republic	10 511	196 338	18 679	-1.2	3.3	-1.2	156 656	140 735	-2.4	-4.4
Hungary	9 921	125 467	12 647	-1.7	5.7	-1.7	103 033	94 160	1.0	-2.0
Poland	38 536	489 996	12 715	1.9	3.7	1.0	182 718	195 974	-3.7	-3.9
Romania	20 077	169 396	8 437	0.7	3.6	0.0	57 861	70 167	-4.4	-3.0
Slovakia	5 404	91 344	16 903	2.0	0.6	10.3	79 843	75 274	2.2	-4.5
Slovenia	2 057	45 567	22 152	-2.3	1.8	0.4	27 080	28 392	3.3	-3.8

The percentage of Poland in the CEE-8 population was 39.3%, the GDP 40.0%, exports 28.3%, and imports 29.8%. Czech Republic was in the second place by GDP (16.0%), followed by Romania (13.8%), Hungary (10.2%), Slovakia (7.4%), Croatia (4.6%), Bulgaria (4.2), and Slovenia (3.7%).

Czech Republic was in the second place by exports (24.2%), followed by Hungary (15.9%), Slovakia (12.3%), Romania (8.9%), Slovenia (4.2%), Bulgaria (4.1), and Croatia (1.9%).

The trade balances (exports - imports) of Czech Republic, Hungary and Slovakia were positive in 2012. In general, the trade balance of the CEE-8 countries was negative (-11 937 M $ or -1.85%). (Macro)

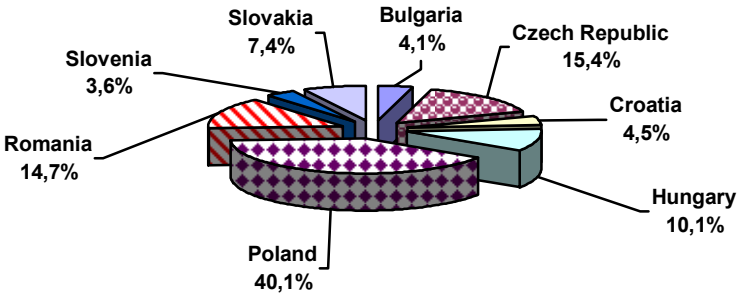


Figure 2. GDP at Market Prices of the CEE-8. 2013 (Code: tec00001)

Source: the authors' illustration

Table 3. GDP of the CEE-8 Countries. 2013

	Purchasing power parity (Country Comparison: GDP (purchasing power parity))		Official exchange rate (Country Comparison: official exchange rate)		GDP - per capita (PPP) (Country Comparison: GDP - per capita)	
	Rank	$ billion	Rank	$ billion	Rank	$
Poland	22	814,0		513.9	69	21,100
Czech Republic	45	286,5		198.6	56	27,200
Romania	48	280,7		183.8	99	13,200
Hungary	57	196,6		130.6	71	19,800
Slovakia	66	133,4		96.96	61	24,700
Bulgaria	74	104,6		53.7	93	14,400
Croatia	84	78,15		58.6	78	17,800
Slovenia	93	56,5		46.82	55	27,400
Sum CEE-8		1950,45		1282,98		

Note: data are in 2013 US dollars

By the total ($1.95 trillion) GDP by *purchasing power parity*, the CEE-8 would be in the 9th place in the world, following France ($2.273 trillion) and in front Mexico ($1.845 trillion). In 2013, it formed 12.3% of the GDP of the EU and 11.7% of the GDP of the U.S., and 2.2% of the gross world product (GWP). [45]

By total GDP ($ 1.283 trillion) by *official exchange rate* (OER), the CEE-8 would be in the 12th place in the world, following India ($ 1.758 trillion) and in front South Korea ($ 1.198 trillion). In 2013, it formed 7.5% of the GDP of the EU and 7.6% of the GDP of the U.S., and 1.7% of the gross world product (GWP). [46]

The *GDP — per capita* of Czech Republic (27,200) has almost reached the level of Slovenia (27,400) and is approaching Slovakia (24,700) fast.

While Croatia's GDP - per capita (PPP) was higher than that of Russia in 2011 (18,200 > 17,100) and in 2012 (17,900 > 17,800), in 2013 it was the opposite situation (Russian $18,100 > Croatia's $17,800).

The GDP - per capita (PPP) of Romania and Bulgaria were lower than Croatia's GDP - per capita.

The GDP - per capita of Lithuanian and Estonian were lower than the GDP - per capita of Slovenia, Czech Republic and Slovakia, but better from the rest of the CEE countries. However, GDP - per capita of all three Baltic States were better than the Russian GDP - per capita.

The world GDP - per capita was $13,100 (2013). (Country Comparison**:** GDP - per capita)

Table 4. GDP per Capita in PPS of the CEE Countries. Index (EU28 = 100) (Code: tec00114)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bulgaria	30	32	34	35	37	38	40	44	44	44	47	47
Czech Republic	73	74	77	78	79	80	83	81	83	81	81	81
Croatia	51	53	55	56	57	58	61	63	62	59	61	62
Hungary	58	61	63	63	63	63	62	64	65	66	67	67
Poland	48	48	49	51	51	52	55	56	61	63	65	67
Romania	28	29	31	34	35	38	42	47	47	48	48	50
Slovenia	80	83	84	87	87	88	89	91	86	84	84	84
Slovakia	53	54	56	57	60	63	68	73	73	74	75	76
Portugal	*81*	*80*	*80*	*77*	*80*	*79*	*79*	*78*	*80*	*80*	*77*	*76*
Greece	*87*	*90*	*93*	*94*	*91*	*92*	*90*	*93*	*94*	*88*	*80*	*75*

Two of the weakest economies of the old, rich EU-15 are Portugal and Greece. Some of the new EU Member States have already surpassed their level. Slovenia surpassed the level of Portugal in 2002 and Czech Republic 2006. Slovakia reached the level of Portugal level in 2012. Slovenia and Czech Republic exceeded the level of Greece in 2011. Lithuania should reach this level in 2013, Estonia a little bit later. The CEE countries are well behind the EU average Bulgaria and Romania.

Table 5. Real GDP Growth Rate of the CEE-8 Countries. Percentage Change on Previous Year (Code: tec00115)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Bulgaria	4.7	5.5	6.7	6.4	6.5	6.4	6.2	-5.5	0.4	1.8	0.6	0.9
Czech Republic	2.1	3.8	4.7	6.8	7.0	5.7	3.1	-4.5	2.5	1.8	-1.0	-0.9
Croatia	4.9	5.4	4.1	4.3	4.9	5.1	2.1	-6.9	-2.3	-0.2	-1.9	-1.0
Hungary	4.5	3.9	4.8	4.0	3.9	0.1	0.9	-6.8	1.1	1.6	-1.7	1.1
Poland	1.4	3.9	5.3	3.6	6.2	6.8	5.1	1.6	3.9	4.5	1.9	1.6
Romania	5.1	5.2	8.5	4.2	7.9	6.3	7.3	-6.6	-1.1	2.2	0.7	:
Slovenia	3.8	2.9	4.4	4.0	5.8	7.0	3.4	-7.9	1.3	0.7	-2.5	-1.1
Slovakia	4.6	4.8	5.1	6.7	8.3	10.5	5.8	-4.9	4.4	3.0	1.8	0.9

From 2002 to 2008, the real GDP growth rates of all CEE countries were higher than the EU average, except for Hungary in the 2007. While the decline in the EU-28 in 2009 was -4.5%, Czech Republic experienced the biggest drop, but Poland increased by +1.6%. Slovakia and Poland came out strongly

from the crisis, but Czech Republic and Bulgaria were also successful.

Since 2009, business has been continuously declining in the new EU Member State Croatia. In 2012 and 2013, business also declined in Slovenia and Czech Republic in addition to Croatia, and in 2012 also in Hungary.

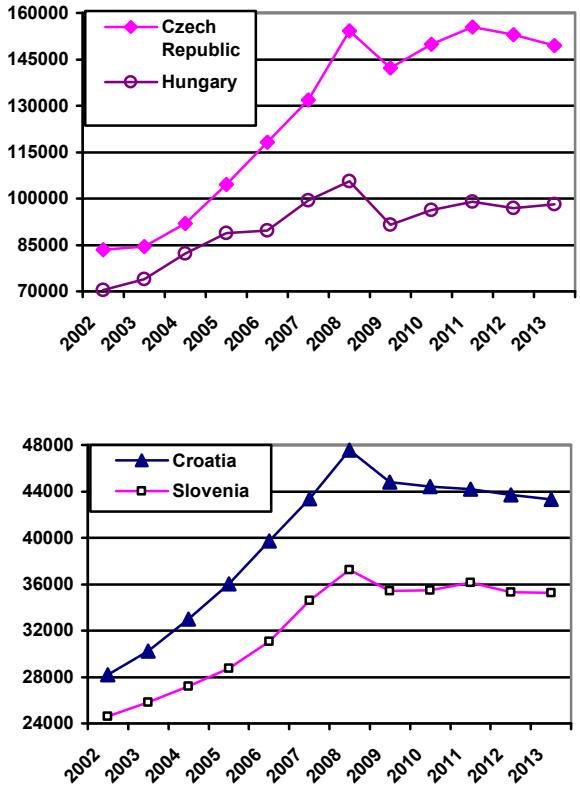


Figure 3. GDP at Market Prices. Millions of Euro. 2013 (Code: tec00001)

Analyzing GDP at market prices (at current prices) of the Purchasing Power Standard (PPS) and of the euro [44], we see that the CEE-8 countries came out of the economic crisis with difficulties. Four of the eight countries had not yet reached the pre-crisis levels.

By GDP of PPS, Croatia (2008=69960 M and 2012=66831 M) and Slovenia (2008=45825 M and 2012=43989 M) did not reach the levels of 2008 in 2012.

By GDP of the euro, Czech Republic (2008=154269 and 2013=149387), Croatia (2008=47538 and 2013=43313), Hungary (2008=105535 and 2013=98071) and Slovenia (2008=37244 and 2013=35274) did not reach the levels of 2008 in 2013. (Code: tec00001)

Economy overview of the Poland

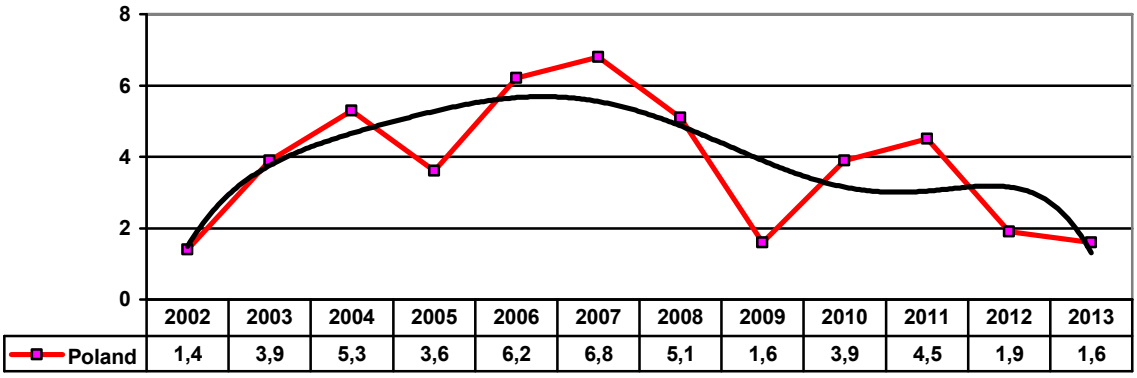
The Poland has pursued a policy of economic liberalization since 1990. Although the EU membership and access to EU structural funds have provided a major boost to the economy since 2004, GDP per

capita remains significantly below the EU average while unemployment continues to exceed the EU average. The government steered the Polish economy through the economic downturn by skill fully managing public finances and adopting controversial pension and tax reforms to further shore up public finances. While the Polish economy has performed well over the past five years, growth slowed in 2012 and 2013, in part due to the ongoing economic difficulties in the euro zone. (Poland)

GDP (official exchange rate) of Poland: $513.9 billion (2013).

GDP - real growth rate of Poland: 1.3% (2013) country to the world: 165. 1.9% (2012) and 4.5% (2011).

GDP - per capita (PPP) of Poland: $21,100 (2013) country to the world: 69. $20,800 (2012) and $20,500 (2011). (Poland)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Poland	1,4	3,9	5,3	3,6	6,2	6,8	5,1	1,6	3,9	4,5	1,9	1,6

Figure 4. Poland's Real GDP Growth Rate. Percentage Change on Previous Year (Code: tec00115)

Source: the authors' illustration

Poland's economy has developed cyclically, but it was the only EU country that did not have the economy (GDP) in debt during the crisis.

Trend line and mathematical model of GDP growth rate in Poland:

$$y = -0{,}0004x^6 + 0{,}0146x^5 - 0{,}2077x^4 + 1{,}4472x^3 - 5{,}3753x^2 + 10{,}953x - 5{,}3417;\ R^2 = 0{,}6146 \quad (1)$$

This complex trend line is characterized cyclical of development of the Poland's economy (GDP) before and after the economic crisis.

Table 6. Exports and Imports of the CEE-8 Countries. USD. Rank to World. 2013

	Rank	Exports (Country Comparison. Exports)	Rank	Imports (Country Comparison. Imports)
Poland	27	202,300	26	207,400
Czech Republic	33	136,900	32	128,000
Romania	52	61,240	43	69,180
Hungary	39	92,980	37	89,520
Slovakia	45	82,700	39	77,960
Bulgaria	67	27,900	65	32,880
Croatia	90	12,370	77	20,920
Slovenia	66	28,290	68	28,020
Sum CEE-8		644,68		653,88

By total exports, the CEE-8 was below China, the U.S., Germany and Japan in 2013.

By total imports, the CEE-8 was below the U.S., China, Germany and Japan in 2013.

The total exports and imports of the CEE-8 were as large as the Russian exports and imports.

The exports of Poland were in the 27th place and imports in the 26th place worldwide.

Next we look at the quality of life for selected countries of Central and Eastern Europe.

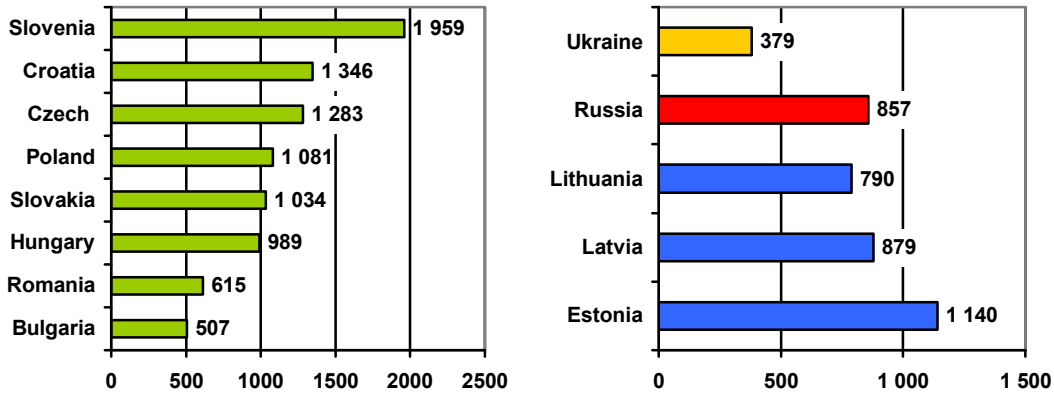


Figure 5. Average Gross Earnings for Selected Central and Eastern Europe Countries, USD, 2012 (Macro)

Source: the authors' illustration

The average wage alone is not enough to assess the quality of life. Consideration should be given to taxes, prices and other direct and indirect factors. (Tanning, L., 2002; Tanning, L., 2004)

A comparative analysis of average gross earnings is important. Slovenia and Bulgaria differed by 3.9

times. However, the economies of the two counties with the highest wages, Slovenia and Croatia, have declined in recent years, but nevertheless, Slovenia had the highest GDP per capita among the post-socialist countries.

Estonia had the highest average gross earnings of the Baltic countries (1140), followed by Latvia (879) and Lithuania (790); only Romania and Bulgaria had higher gross wages. By comparison, the post-socialist country with the lowest total gross wages was Ukraine (379). In Russia (857), gross wages were only slightly below the Baltic states of Lithuania and the CEE-8 countries Romania and Bulgaria.

The gross wages of Slovenia and Estonia were 2.28 times and 1:33 times greater than Russia's, respectively.

Next we look at the median equivalized net income dynamics of the EU and CEE-8 countries.

Table 7. Median Equivalized Net Income of the EU Countries. Total. Euro (Code: ilc_di03)

	2004	2005	2006	2007	2008	2009	2010	2011	2012
European Union (28 countries)	:	:	:	:	:	:	14,638	14,775	15,206
European Union (15 countries)	:	15,448	15,668	16,666	17,216	17,139	17,395	17,469	18,002
New Member States (12 countries)	2,564	2,284	2,782	3,462	4,069	4,787	4,419	4,741	4,872
Euro area (18 countries)	:	14,300	14,377	15,262	16,301	16,703	16,881	16,880	17,096
Bulgaria	:	:	1,384	1,481	2,171	2,828	3,017	2,914	2,860
Czech Republic	:	4,233	4,802	5,423	6,068	7,295	7,058	7,451	7,791
Croatia	:	:	:	:	:	:	5,768	5,593	5,404
Hungary	:	3,447	3,849	3,936	4,400	4,739	4,241	4,535	4,753
Poland	:	2,533	3,111	3,502	4,155	5,097	4,405	5,025	5,060
Romania	:	:	:	1,658	1,953	2,162	2,037	2,116	2,116
Slovenia	:	8,797	9,317	9,907	10,893	11,864	11,736	11,999	12,122
Slovakia	:	2,830	3,313	3,972	4,792	5,671	6,117	6,306	6,927

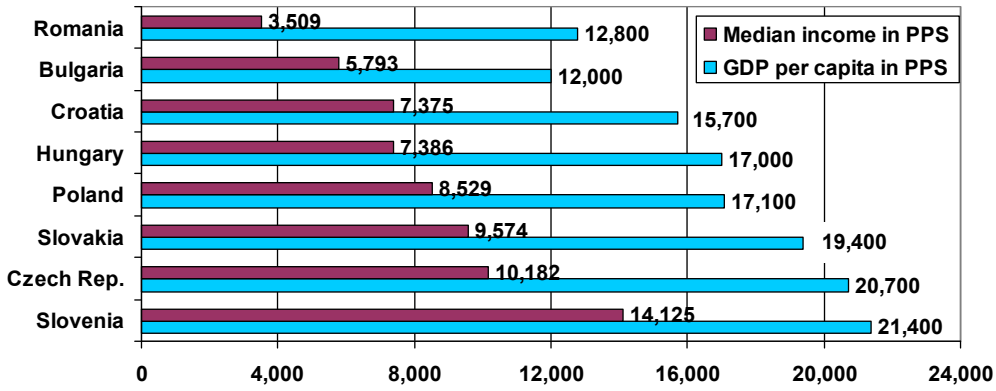


Figure 6. Median Income and GDP per Capita in PPS in the CEE Countries. 2012 (Macro)

Source: the authors' illustration

As a comparison, the *GDP per capita in PPS* was highest among EU-28 in 2012 in Luxembourg (67 100), Austria (33 100) and Ireland (32 900); the largest *median incomes in PPS* were in Luxembourg (26 660), Austria (20 499) and Sweden (19 696).

Of the CEE-8 countries, the leaders were Slovenia, Czech Republic and Slovakia. The median income in PPS of Romania was 4.0 times lower than Slovenia's and 7.6 times lower than Luxembourg's.

The ratio of GDP per capita in PPS / median income in PPS was 3.65 in Romania and 1.51 in Slovenia. Therefore, GDP per capita does not only depend on median income.

There is a very high difference between the quality of life in the EU and in the CEE countries. Why? There are objective and subjective reasons. One group of reasons argues that poverty is their own fault. The second, however, argues that poverty has been caused by the exploitation of developing countries and their dependence on developed industrial countries. This, in turn, results in conflicts between rich and poor countries. (Tanning, L., & Tanning, T., 2010)

5. Labour Productivity Analyses of the Transportation and Storage Companies of the CEE Countries

5.1 Overview of the European Union Transportation and Storage Companies

We will first observe the main total quantitative indicators of transportation (NACE_R2: Transportation and storage), as well as the changes in the number of transportation companies, etc. Eurostat's primary data will be used as the main sources.

The main emphasis of this analysis is on how the transportation and storage enterprises of these countries survived the economic crisis, considering that the economy of some of these states is once again declining. What are the lessons learned from the economic crisis?

There were over 1.13 million enterprises in the EU-27's transportation and storage services sector in 2011, equivalent to 5.2 % of the non-financial business economy enterprise population. These enterprises employed over 10.2 million persons and recorded value added of EUR 483.1 billion, which

represented 7.5 % of those working in the non-financial business economy and 7.9 % of the wealth generated in the non-financial business economy. The relatively low share of transportation and storage services in the non-financial business economy enterprise population indicates that the average size of enterprises in the transportation and storage services sector (in value added or employment terms) was above average; indeed, this sector includes some activities which are dominated by very large enterprises, for example, postal services, air and rail transport services. (Structural business)

In the EU (27 countries) as a whole, the number of transportation and storage enterprises grew by a significant 13.2% during the years 2008 to 2011. Spain, Italy, France, Germany and Poland had the largest number of such companies. The three first countries constituted 43.1% and all five together 59.7% of all transportation and storage enterprises in the EU. In all of the countries, except in France, the number of enterprises decreased. (Code: sbs_na_1a_se_r2. Number)

5.2. Labour Productivity Analyses by Turnover per Person Employed

We look at the total turnover per person employed of the transportation and storage companies of the European Union countries.

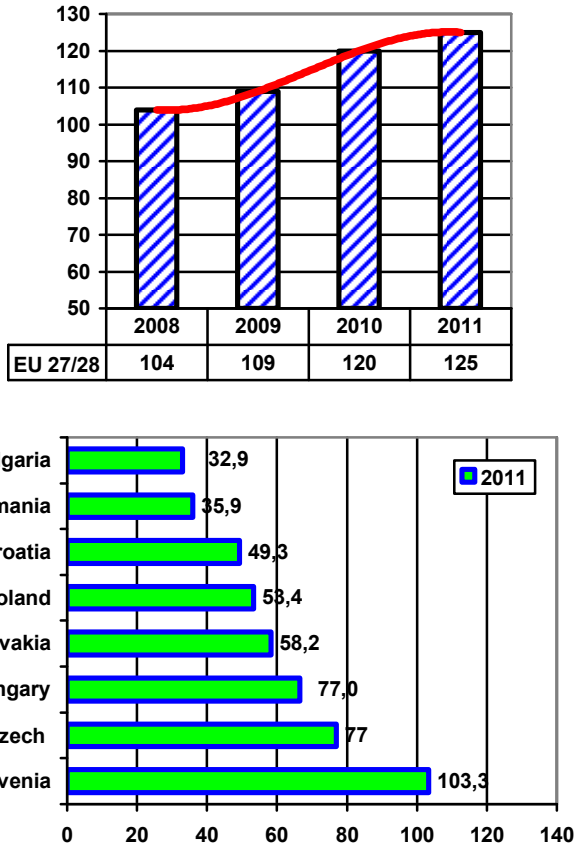


Figure 7. Total Turnover per Person Employed in Transportation in the EU and CEE Countries.

(Code: sbs_sc_1b_se_r2)

Source: the authors' illustration

The total turnover per person employed grew in 2009 and 2010 in the EU-27 in comparison to 2008. Two-year growth was 15.4%. According to this indicator, transportation and storage enterprises of EU successfully got through the crisis year 2009. 2011th grew EU-28 apparent labour productivity 4.2%. 2011th average labour productivity in the EU-28 grew by 4.2%.

On the other hand, if we view turnover per person employed in transportation and storage by countries and by the size of companies, this trend is no longer valid for the majority. Thus, the EU average is not enough to draw definite conclusions on the whole EU.

14 countries had turnover per person employed of transportation and storage above the EU 27 average. As a rule, the labour productivity fell in 2009 in comparison with the previous year. Of these six countries remained the 2010th the lower level of the 2008th year level. Derogation from Denmark was a great turnover per employee growth from the 2008th year.

Thus, according to the average, it can not yet make definitive conclusions.

The following is a comparison of the CEE-8 countries total turnover per person employed.

They were very large differences between countries. Estonian transport enterprises, labour productivity in the 2010th was 3.7 times higher than in Bulgaria (in 2011. was 3.9 times), but 3.1 times less than in Denmark. Thus, the Danish transport companies, in turn, productivity was 11.3 times higher than in Bulgaria (!).

This leads the standard of living (salary) and part of the whole economy of difference. This difference is due to both objective (modes of transportation, etc.) and subjective, the overall look.

Next, we analyze the labour productivity dynamics during the crisis in Eastern Europe and the Baltic countries.

Table 8. Turnover per Person Employed in the CEE Countries. (Code: sbs_sc_1b_se_r2. Annual)

	2005	2006	2007	2008	2009	2010	2011
Bulgaria	:	:	:	32.2	26.9	30.2	32.9
Czech Republic	:	:	:	71.5	61.5	:	77.0
Croatia	:	:	:	55.7	45.3	48.4	49.3
Hungary	43.3	51.2	55.9	64.0	55.4	60.1	66.5
Poland	35.1	40.2	45.7	51.5	41.1	49.4	53.4
Romania	22.1	26.3	31.7	34.5	28.3	32.8	35.9
Slovenia	68.4	74.9	81.1	87.8	77.3	88.4	104.3
Slovakia	:	:	:	57.7	50.8	54.4	58.2

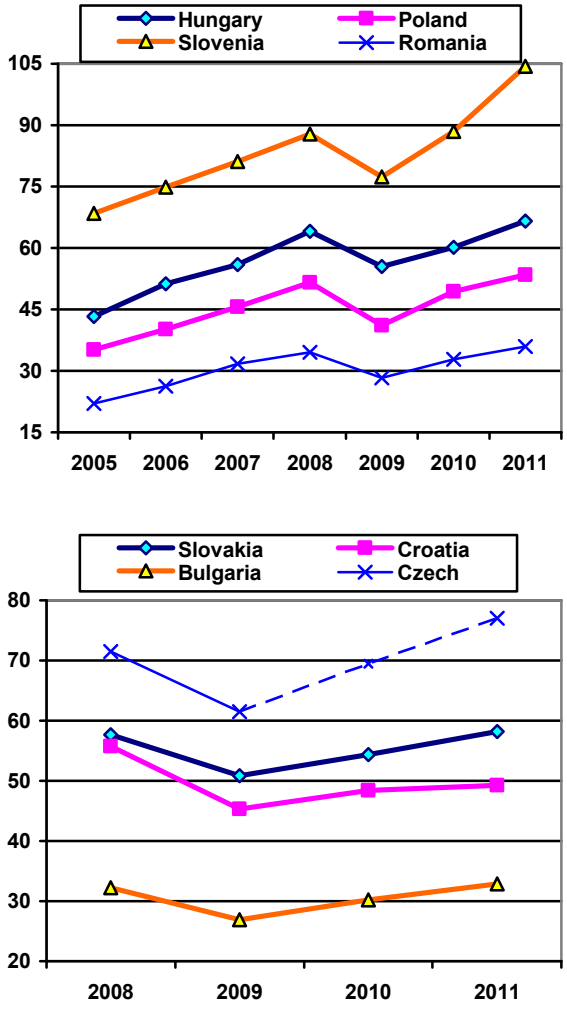


Figure 8. Turnover per Person Employed in Transportation in the CEE Countries. (Code: sbs_sc_1b_se_r2. Annual)

Source: the authors' illustration

Only Slovenia surpassed the level of 2008 in 2010, but in other CEE-8 countries the pre-crisis levels were not reached. In 2011, all CEE and Baltic countries with the exception of Croatia exceeded this level.

Baltic countries also experienced a decline in labour productivity in 2009, compared with the previous year; while in 2010 the 2008 level was once again exceeded. In 2011 increase their productivity even more.

Regard less in 2009 decline, labour productivity growth in Lithuania from 2005 to 2011 81.8%, at the same time in Estonia 54.0% and in Latvia from 2008 to 2011 20.0%.

Thus, the transportation companies of the Baltic States and Slovenia successfully exited the economic crisis, as did some Northern and Western European countries.

Estonia and Slovenia had the largest turnover per person employed in transportation and storage of the

post-socialist states among new EU member states.

5.3. Labour Productivity Analyses by Gross Value Added per Person Employed

Next we analyze the transport enterprises productivity by apparent labour productivity or by gross value added (GVA) per employed.

We analyze the labour productivity dynamics during the crisis in Eastern Europe and the Baltic countries has been brought here. The following is a comparison of the CEE-8 countries total gross value added per person employed.

Table 9. Gross Value Added per Employed of the CEE-8 Countries. (Code: sbs_sc_1b_se_r2. Annual)

	2005	2006	2007	2008	2009	2010	2011
Bulgaria	:	:	:	9.1	8.3	9.6	10.0
Czech Republic	:	:	:	21.8	20.2	:	21.9
Croatia	:	:	:	25.6	21.1	22.2	21.8
Hungary	13.9	15.0	17.8	16.1	14.9	16.5	18.2
Poland	12.1	14.3	15.7	17.4	14.1	16.3	17.6
Romania	6.7	9.0	10.3	*45.2*	10.0	12.0	13.2
Slovenia	23.8	25.7	25.4	28.5	25.7	34.1	36.3
Slovakia	:	:	:	15.4	14.7	18.2	22.1

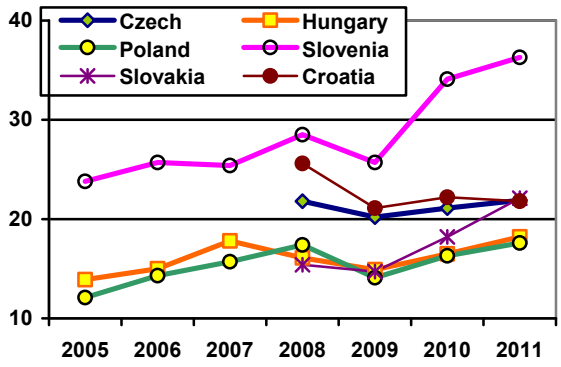


Figure 9. Gross Value Added per Employed. (Code: sbs_sc_1b_se_r2. Annual)

Source: the authors' illustration

In all CEE and Baltic countries of transportation and storage had one year of gross value added per employed loss, compared with the previous year. This was followed growth. As a rule, the decline was in 2009 and the record high productivity in 2011. Only Slovenia surpassed in the 2010th 2008 year's level, but in other CEE-8 countries pre-crisis levels remained missing. In the 2011th excess of this level all CEE and Baltic countries. The only failed to achieve in 2011 the pre-crisis level in CEE countries

Croatia (-14.8%) and the Baltic States Latvia (-0.5%).

In years 2005 and to 2011 the largest growth was in CEE countries in Romania (1.97 times), Slovenia (1.52 times), Poland (1.45 times) and Hungary (13.1 times). In the Baltic States increased 1.60 times and Lithuania 1.46 time.

This leads the standard of living (salary) and part of the whole economy of difference. This difference is due to both objective (modes of transportation, etc.) and subjective, the overall look.

They were very large differences between countries. Slovenian labour productivity of transport enterprises in the 2011th was 3.6 times higher than in Bulgaria (Estonia was 2.8 times), but 2.8 times less (Estonia was 3.6 times) than in Switzerland. Thus, the Switzerland transport companies, in turn, productivity was 10.2 times higher than in Bulgaria (!).

Thus, the transportation companies of the Baltic States and Slovenia successfully exited the economic crisis. Slovenia and Estonia had the largest gross value added per person employed in transportation and storage of the post-socialist states among new EU member states.

5.5. Gross Value Added per Employee. Transportation and Storage

Next we analyze the transport companies productivity by gross value added per employee.

The difference between the *employed* and the *employee* has been given to their definitions (Statistical concepts).

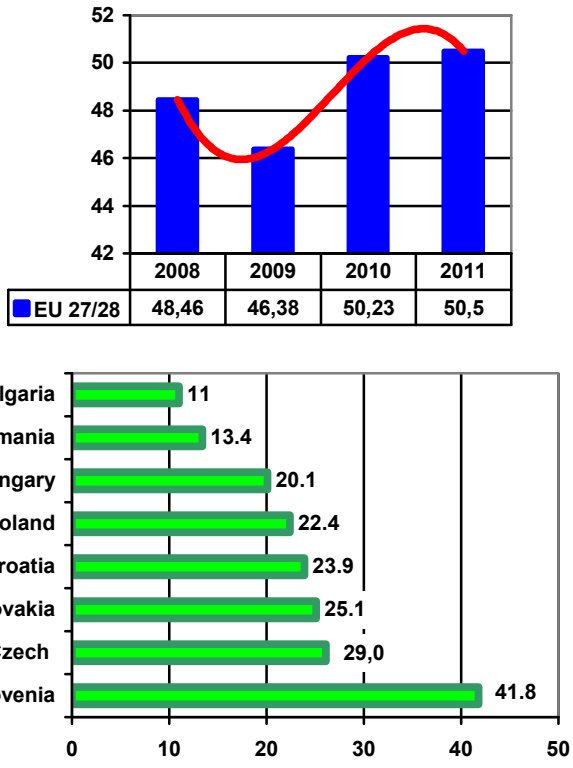


Figure 10. Gross Value Added per Employee of the EU and CEE-8 Countries. (Code: sbs_sc_1b_se_r2. Annual)

Source: the authors' illustration

If the turnover per employed was the best of Eastern Europe and the Baltic countries Estonia ahead of Slovenia, then the gross value added per person employee basis, is exchange places, best was Slovenia. However, all of these countries, the level is much lower than in Western European countries.

Table 10. Gross Value Added per Employee of the CEE-8 Countries. (Code: sbs_sc_1b_se_r2. Annual)

	2005	2006	2007	2008	2009	2010	2011
Bulgaria	:	:	:	9.9	9.1	10.5	11.0
Czech Republic	:	:	:	25.3	23.5	24.6	26.1
Croatia	:	:	:	28.5	23.9	24.8	23.9
Hungary	15.7	16.8	19.8	17.9	16.5	18.3	20.1
Poland	16.0	19.0	20.4	22.2	17.6	20.6	22.4
Romania	6.8	9.1	10.4	12.5	10.2	12.3	13.4
Slovenia	27.6	29.6	29.0	32.4	29.1	38.7	41.8
Slovakia	:	:	:	15.4	14.8	20.7	25.1

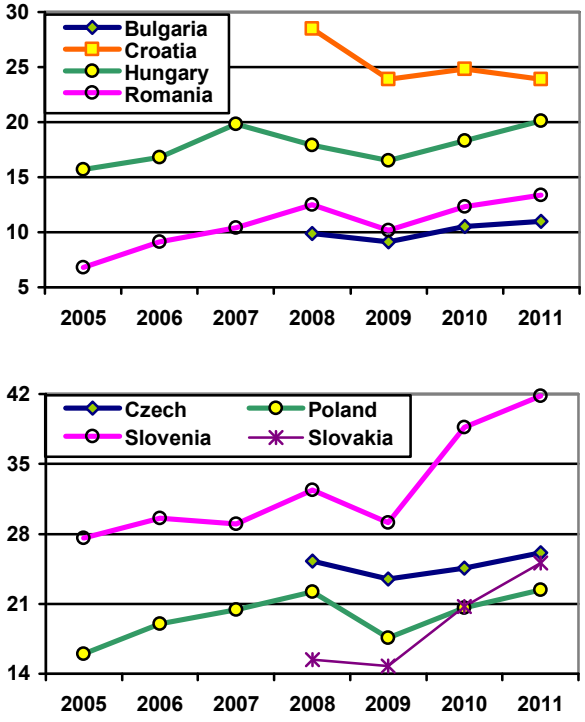


Figure 11. Gross Value Added per Employee of the CEE-8 Countries. (Code: sbs_sc_1b_se_r2. Annual)

Source: the authors' illustration

The level of Latvia and Lithuania corresponds to the level of the majority of Eastern European countries. Estonia's level is significantly higher than the other Baltic countries, but remains several times less than the level of Western European countries.

Estonia was constant growth including blended well during the crisis. Lithuania remained barely missing the pre-crisis level in 2010, but in 2011 was already a record-breaking productivity. Latvia, however, was two years of recession, but in 2011 barely exceeded, 2008 year's level.

CEE-8 countries Bulgaria, Hungary, Slovenia and Slovakia and Baltic countries the Estonia in 2010 exceeded 2008 year's level. Hungary remained, nevertheless, still missing the 2007 record level productivity.

Norway and Denmark had the highest gross added value per employee in transportation and storage, while Bulgaria (10.5) and Romania (12.3) had the lowest. The different was tenfold.

The labour productivity of transport companies by *turnover per person* employed has been analyzed in the authors' earlier works. (Tanning, L., & Tanning, T., a, b, c, d, e, f, g, 2013; Tanning, T., & Tanning, L., 2013; Tanning, T., & Tanning, T., 2013)

6. Discussion & Conclusions

The economy (GDP) of the USA has generally developed quicker than that of the EU. In 2013, the real GDP growth rate of the USA was +1.9%, EU-28 +0.1% and the Euro zone (17) -0.4%. By total GDP by *PPP*, the CEE-8 is in the 9th place in the world. In 2013, it formed 12.3% of the GDP of the EU and 11.7% of the GDP of the U.S., and 2.2% of the GWP. By total GDP by OER, the CEE-8 is in the 12th place in the world. In 2013, it formed 7.5% of GDP of the EU and 7.6% of the GDP of the U.S., and 1.7% of the GWP. By the total of exports and imports, the CEE-8 was below China, the U.S., Germany and Japan in 2013.

The economic indicators of Central and Eastern Europe countries are very different, both in absolute and in relative terms. In absolute terms, Poland is the leader of the CEE-8 in front Czech Republic. By GDP (PPP), Poland was in the 22nd place in the world. In relative terms, Slovenia is the leader of the CEE-8 in front Czech Republic and Slovakia. The economy and industrial output grew only in a half of the CEE-8 countries in 2012. Poland's was the only EU country that did not have the economy (GDP) in debt during the crisis. Analyzing the GDP at market prices (at current prices) of Purchasing Power Standard (PPS) and of the euro, we see that the CEE-8 countries came out of the economic crisis with difficulties. Four of the eight countries had not yet reached the pre-crisis levels. The cost of living (CPI) had increased more in Hungary and less in Slovakia. The trade balance was positive in Czech Republic, Hungary and Slovakia in 2012.

In total, the CEE-8 was in debt (-9.2 billion USD) in 2013. The Current Account was positive in Hungary, Slovakia and Slovenia in 2012. The deficit of public finances balance was larger than -3% of the GDP in five CEE-8 countries. GDP per capita was the highest among the CEE countries in Slovenia, Czech Republic, Slovakia and Poland. The highest average gross earnings of CEE countries were in

Slovenia. Slovenia and Bulgaria differed by 3.9 and 2.4 times. The highest median income in PPS in the CEE countries was in Slovenia. Romania's median income in PPS was 4.0 times lower than Slovenia's and 7.6 times lower than the median income of Luxembourg.

The difference between the quality of life in the EU and the CEE countries is very high. As a rule, European transportation enterprises have exited the economic crisis successfully, some sooner, some later. There were great differences between how enterprises overcame the economic crisis. As a rule, European transportation enterprises have exited the economic crisis successfully, some sooner, some later. There were great differences between how enterprises overcame the economic crisis.

In 2011, turnover and added value in the EU-27 remained below the 2008 level, while gross operating surplus was higher. In 2011, number of persons employed in the EU-27 remained below the 2008 was level. In 2011, turnover, added value at factor cost, number of enterprises, turnover per person employed and gross value added per person employed in the EU-27 remained below the 2008 level, was higher. In 2010, apparent labour productivity and gross operating rate in the EU-27 were higher than in 2008. Total turnover per person employed in the EU-27 grew in 2009 and 2010 compared to 2008. According to this indicator, transportation and storage successfully overcame the crisis year 2009.

However, if we look at turnover per person employed in transportation and storage by countries and the sizes of companies, this trend is no longer valid for most states. Estonia had the largest labour productivity of the Baltic states, however, it only comprises 51.6% of the EU-27 average. Slovenia was followed by Croatia and the Czech Republic.

In principle, the transportation companies of the Baltic and CEE countries as a whole exited the economic crisis successfully. On the other hand, the crisis meant the death of thousands of companies and a rise in unemployment. There were great differences in the dynamics of the labour productivities of countries during the crisis and labour productivity by size class, thus also in how the economic crisis was overcome. Thus, in order to get a more accurate overview of what were the lessons learnt by countries as a result of the economic crisis, other key indicators in their interconnection should be observed as well. A more detailed analysis of different types of transportation would also provide a more accurate picture.

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