



Volume: 2, Issue: 10, 26-36
Oct 2015
www.allsubjectjournal.com
e-ISSN: 2349-4182
p-ISSN: 2349-5979
Impact Factor: 5.742

Lembo Tanning
TTK University of Applied
Sciences, Marcellus Trade
LLC, Tallinn, Estonia, EU

MSc. Toivo Tanning
Tallinn School of Economics,
Marcellus Trade LLC
Tallinn, Estonia, EU

Construction enterprises problems analysis in the new member states of European Union

Lembo Tanning, MSc. Toivo Tanning

Abstract

The goal of this publication is to analyze how were construction companies of the European Union (EU) countries go out of the economic crisis, with special focus to new EU Member States, or Central and Eastern Europe (CEE-8) and the Baltic countries? The aim is to analyse the lessons learned during the economic crisis in the European countries. The objective is to analyse gross value added and changes number of construction enterprises of new EU Member States countries. We analyze of construction enterprises by branch and by employment size class. The situations before the European economic 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 (EU-15). We will look at how the economic crisis has affected to construction enterprises. In background reviewed to the global economic power situation. The literature review shows in short the crisis theory. It is concerned with explaining the recession, depression and business cycle in economics. Based on this and previous publications, we will offer a number of generalized suggestions.

Keywords: European Union, CEE-8 and Baltic Countries, Economic Crisis, Construction Enterprises.

1. Introduction

The construction is process of creation and construction building infrastructure or facility. *The infrastructure* is a basic facilities and systems serving country, city or region, including services and facilities necessary for its economy to function. The first houses and shelters were built by hand or with simple tools. As the city grew during the Bronze Age, class of professional masters, like bricklayers and carpenters, appeared. In the middle Ages they were organized into guilds. In the 19 century, the steam engine appeared, and then diesel and electric-powered vehicles, such as cranes, excavators and bulldozers.

The EU was established on 1 November 1993, when the Maastricht Treaty came into force. On 31 December 1994, the EU had 12 members: Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Portugal and the United Kingdom. On 1 January 1995, Sweden, Finland and Austria joined the EU (EU-15), 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, so the EU-28. ^[1 - 2]

Use of the term "Eastern Bloc" generally refers to the "communist states of eastern Europe" or satellite states of the former Soviet Union (FSU) or former communist states in Europe ^[3 - 6]. The CEE-8 and Baltic States were a half-century of Soviet-bloc countries. This will help to understand better the economic backwardness of the Western European countries. ^[7 - 8]

2. Theoretical Bases

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 business cycle contraction it is a general slowdown in economic activity. ^[9 - 10] 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. ^[9 - 10] The theoretical bases have been brought in more detail in the authors' earlier works. ^[1, 11 - 33]

Correspondence
Lembo Tanning
TTK University of Applied
Sciences, Marcellus Trade
LLC, Tallinn, Estonia, EU

3. Methodology and Definitions

Methodology and definitions based on Eurostat's publications [35 - 37] and the authors' earlier works [1, 11 - 33].

4. Analyses of Gross Domestic Product

The global economic power situation, the EU, United States, China and India economic development we reviewed our previous article. [34 - 35] In background reviewed to the global economic power situation, the EU, United States, China and India economic development.

The growth of economy is measured by gross domestic product (GDP). GDP based on current prices and exchange rates of the euro or USD.

The focus of Western countries is in the competition in Asia, especially China, India and other emerging economies of developing countries.

As follows we look at the world's economic power of GDP.

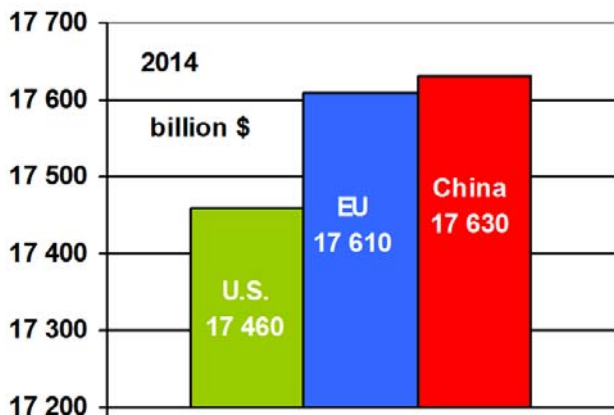


Fig 1: GDP (purchasing power parity), 2014 [34]

When in 2013 was leader United States with 16 720, second EU 15 850 and then China 13 390 billion USD, then in 2014 there has been principle change - the world's economic (GDP by PPP) leader has increased China (17 630), followed by the EU (17 610), the US (17 460) and India (7 277 billion USD). The basis of GDP by official exchange rate was in 2014: EU 17.42, United States 17.42 and China 10.36 trillion USD. [49 - 50]

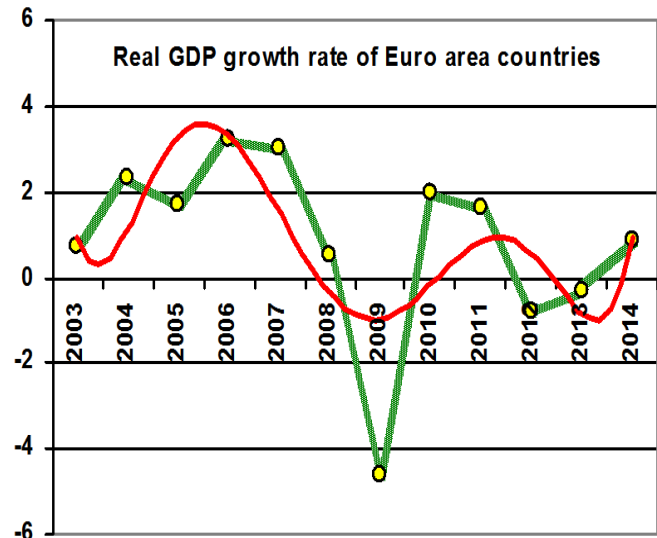


Fig 2: Real GDP growth rate of Euro area 19 countries [35]

Trend line: $y = 0,0013x^6 - 0,0496x^5 + 0,7409x^4 - 5,2839x^3 + 18,193x^2 - 27,007x + 14,348; R^2 = 0,4342$

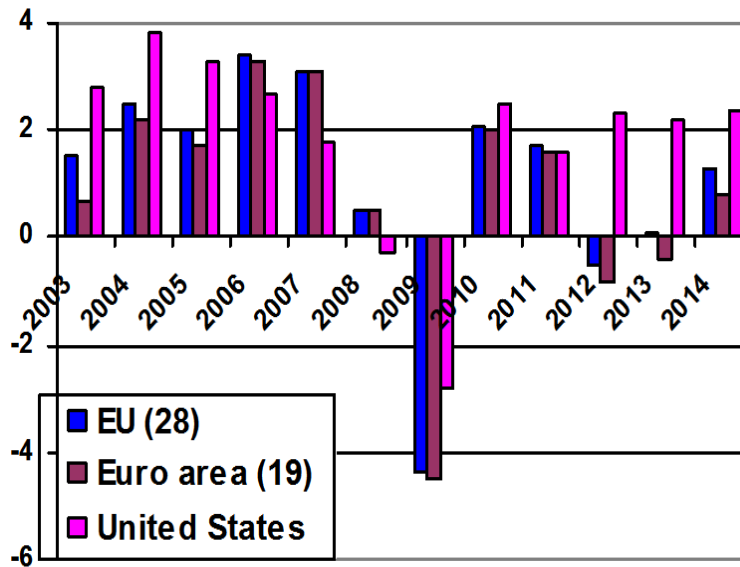


Fig 3: Real GDP growth rate, % [35]

In 2013 was GDP real growth rate of United States 1.6%, of EU 0.1% and of China 7.7%. In 2014 was GDP real growth rate of United States was 2.4%, of EU 1.4% and of China 7.4%.

Based on current prices and exchange rates of the euro, the EU is still low superiority in front the United States.

For an introduction, let us look at the economic background of new EU Member, the CEE (Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Slovenia and Slovakia) and Baltic (Estonia, Latvia and Lithuania) countries of the main emphasis on Baltic States.

Table 1: Real GDP growth rate of CEE-8. % change on previous year ^[35]

	2003	2007	2008	2009	2010	2011	2012	2013	2014
EU 28	1.5	3.1	0.5	-4.4	2.1	1.7	-0.5	0.1	1.3
Euro 19	0.7	3.1	0.5	-4.5	2	1.6	-0.8	-0.4	0.8
Bulgaria	5.4	6.9	5.8	-5	0.7	2	0.5	1.1	1.7
Czech	3.6	5.5	2.7	-4.8	2.3	2	-0.8	-0.7	2.0
Estonia	7.5	7.9	-5.3	-14.7	2.5	8.3	4.7	1.6	2.1
Croatia	5.6	5.2	2.1	-7.4	-1.7	-0.3	-2.2	-0.9	-0.4
Latvia	8.6	9.8	-3.2	-14.2	-2.9	5	4.8	4.2	2.4
Lithuania	:	11.1	2.6	-14.8	1.6	6.1	3.8	3.3	2.9
Hungary	3.8	0.5	0.9	-6.6	0.8	1.8	-1.5	1.5	3.6
Poland	3.6	7.2	3.9	2.6	3.7	4.8	1.8	1.7	3.4
Romania	5.5	6.9	8.5	-7.1	-0.8	1.1	0.6	3.4	2.8
Slovenia	2.8	6.9	3.3	-7.8	1.2	0.6	-2.6	-1.0	2.6
Slovakia	5.4	10.7	5.4	-5.3	4.8	2.7	1.6	1.4	2.4

Before the crisis, all CEE-8 countries experienced large increases. All of the states experienced a great GDP decline in 2009, except Poland, which was the only EU country, where the economy did not decline. While in 2010, Croatia (-1.7%) and Romania (-0.8%) were still experiencing GDP declines, in the following year, none of the countries no longer had negative GDP. However, in 2012, half of the countries under observation here, once again experienced an economic decline. In Czech Republic, Croatia and Slovenia were also experience a decline in 2013. In 2014, was the only country to still be in decline, Croatia (-0.4%).

The GDP increase in Poland was already relatively large before 2009 (+2.6%). ^[35]

As the only EU country, Poland did not even experience an economic decline compared to the previous year during the most difficult time; of course, the tempo of the increase varied. On the other hand, it must be highlighted that Poland does have the largest economy and population of all 13 new EU member states. If we want to provide an overall evaluation of the 13 new member states, it must be kept in mind that Poland's level has the most influence.

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.

Before and after (2011 – 2014) the economic depression, the Baltic States were successful. As a whole, in 2014 were all CEE-8 and Baltic countries GDP increments higher than EU-28 average. Only exception was Croatia. ^[49 - 50]

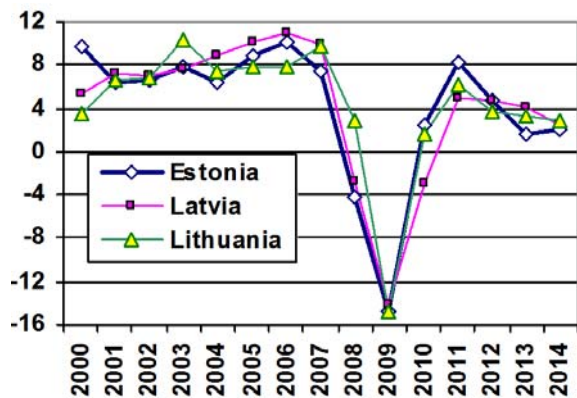


Fig 4: Real GDP percentage change on previous year of Baltic States ^[35]

The development of the Baltic countries economy before and after the crisis was one of the fastest in the EU. The Baltic

countries had the highest in GDP growth rates in Europe between 2000 and 2007.

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.

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 14.2% in Latvia and 14.7% in Estonia.

In 2014 was GDP growth in Estonia 2.1%, Latvia 2.4% and Lithuania 2.9%. By comparison, EU28 growth was 1.3%, euro area countries only 0.8% and Russia 0.6%. ^[34 - 35]

5. Construction Enterprises of European Union

5. 1. Total Construction Enterprises

Below analyzed EU countries number of enterprises and of persons employed changes of construction companies.

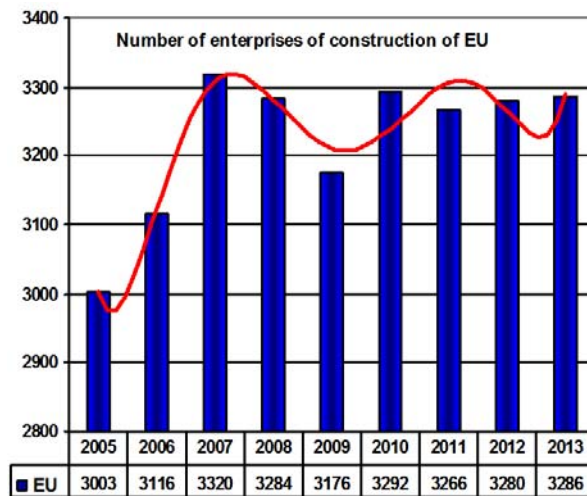


Fig 5: Number of construction enterprises of EU, in thousands ^[36]

Trend line: $y = 0,4048x^6 - 12,406x^5 + 147,9x^4 - 860,32x^3 + 2491,1x^2 - 3189,1x + 4424,1$; $R^2 = 0,9319$

Complicated 6-degree polynomial ($R^2 = 0.9319$) characterized changes number of enterprises of construction in the EU. The construction boom was in 2007 and in 2009 sharp decline. In the coming years although the number of enterprises increased, but it was still lower than the 2007 record level. In 2013 the EU has not reached the level of enterprises of construction of 2007.

Estonia and Latvia exceeded the 2008 record level in 2012, but Lithuania has not yet reached. In 2013 the EU has not reached the level of enterprises of construction of 2007.

Table 2: Number of enterprises of construction of new EU countries, thousand ^[36]

	2005	2008	2009	2010	2011	2012	2013
Bulgaria	13,244	21,493	23,606	21,164	19,543	19,068	18,732
Czech	145,036	157,479	163,097	173,872	176,251	175,799	169,548
Estonia	4,434	8,317	7,911	7,446	7,888	8,376	8,896
Croatia	:	24,824	27,083	24,671	21,987	20,170	19,236
Latvia	4,492	7,599	7,137	6,874	6,579	8,000	8,816
Lithuania	12,073	22,429	12,112	12,201	16,995	20,242	20,430
Hungary	73,404	74,175	69,611	67,354	65,322	60,284	55,201
Poland	164,597	238,125	226,387	233,019	239,232	233,731	223,796
Romania	31,023	59,389	60,135	49,348	43,503	44,607	45,382
Slovenia	14,266	19,433	19,499	19,190	18,940	18,392	18,065
Slovakia	3,984	5,436	5,474	91,432	90,886	86,412	81,902

From 2005 to 2013 were in Bulgaria, Czech Republic, Poland, Romania, Slovenia and Slovakia great increases of enterprises of construction; in Croatia and Hungary was a big loss.

In all three Baltic countries was great, nearly double, growth of enterprises of construction. In 2009 was in Estonia and Latvia small and in Lithuania had a big loss.

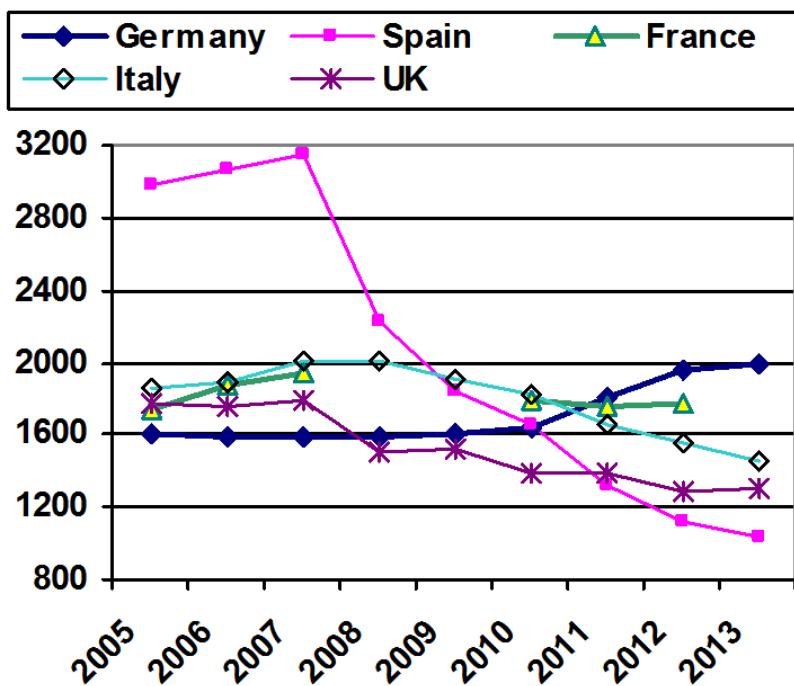


Fig 6: Number of persons employed of large EU countries. Construction ^[37]

In all four major EU country was to 2007 significant increase of number of persons employed. Next, followed by a decline, three times as high as in Spain.

Trend of Germany was different: stability until 2010, nearly a quarter exponential growth, and further small growth (21.1%). In recent years the number of persons employed of construction of Germany also was largest in the EU.

Table 3: Number of persons employed of CEE and Baltic countries. Construction ^[37]

	2007	2008	2009	2010	2012	2013
Bulgaria	223,250	259,589	237,452	182,765	150,381	145,359
Czech	403,048	412,734	409,244	410,446	395,214	375,367
Estonia	61,810	57,227	44,387	38,622	43,437	45,980
Croatia	:	163,257	160,144	136,560	111,447	106,340
Latvia	88,419	89,172	58,831	52,954	59,775	62,194
Lithuania	136,119	141,801	91,909	81,305	93,448	95,421
Hungary	249,105	246,726	221,287	212,730	198,317	187,717
Poland	843,010	930,213	931,885	902,247	890,864	829,648
Romania	518,514	564,776	479,255	402,868	410,340	378,371
Slovenia	80,201	89,766	86,791	77,901	62,357	60,800
Slovakia	76,156	84,323	78,854	176,323	153,110	144,545

The construction boom by persons employed was in 2007 - 2008 and in 2009 - 2010 sharp recessions. In 2013 the EU has not reached its level of 2007, including all CEE-8, and Baltic countries. Slovakia was exceptional.

5. 2. Construction Enterprises by Branch

Distribution of construction (F) by section: construction of buildings (F41), civil engineering (F42) and specialised construction activities (F43). They all have lot sections.

5. 2. 1. Construction of buildings

The building is man-made structure with a roof and walls were more or less permanently standing in one place, such as a house or factory. Buildings come in a variety of shapes, sizes and functions, and have been adapted throughout history for a wide range of factors, from building materials available, to weather conditions, to land prices, ground conditions, specific purposes uses and aesthetic reasons.

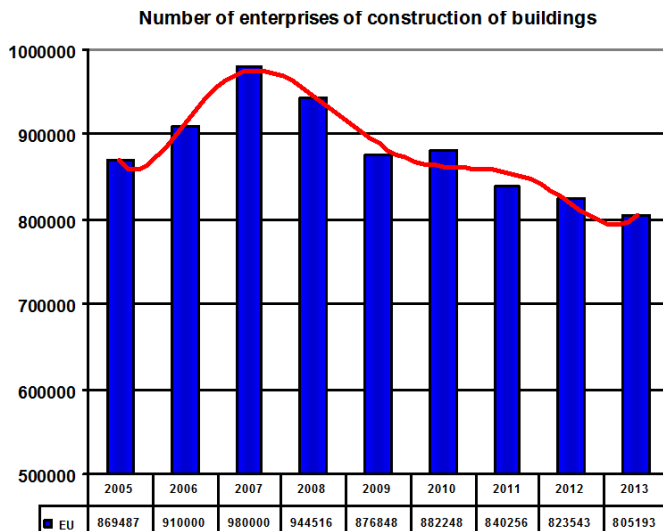


Fig 7: Number of construction enterprises of buildings of EU [36]

The number of enterprises of construction of buildings in EU was significantly reduced after the building boom the level in 2013 was only 82.2% from the record level of 2007. The number of enterprises of construction of buildings in Spain and Italy was many times larger than it are in France,

Netherlands and the UK. In France and Netherlands was great rise and in Spain, Italy and UK small loss. In Germany had four years decline, but since 2012 restored former level. In other countries was two times growth.

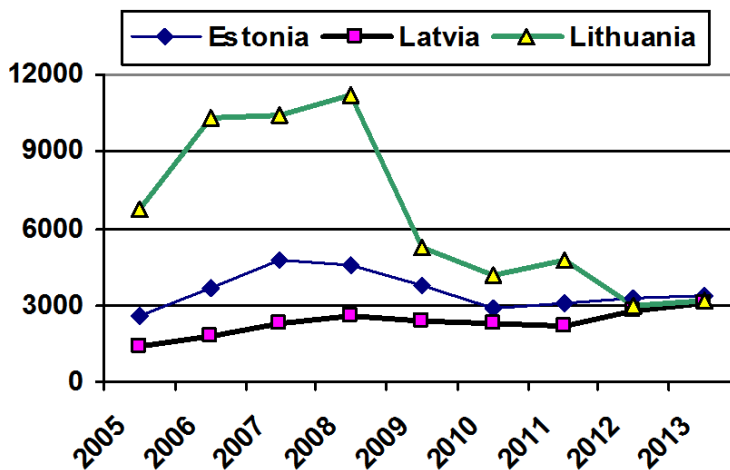


Fig 8: Number of enterprises of Baltic countries. Construction of buildings [36]

Table 4: Number of enterprises of Baltic countries. Construction of buildings [36]

	2005	2007	2008	2009	2010	2011	2012	2013
Estonia	2580	4792	4547	3794	2874	3048	3280	3376
Latvia	1354	2268	2573	2392	2288	2,205	2781	3039
Lithuania	6695	10391	11256	5214	4183	4721	3014	3136

Housing construction boom of countries was at various times: in Estonia in 2007, in Poland and Lithuania in 2008, and in Czech Republic in 2009. This was followed by great decline, in Lithuania as much 3.6 times. The record level of boom

years did not achieve any of them (all CEE enterprises). Exception was Latvia, its number of enterprises of construction of buildings was in 2013 2.2 times higher than in 2005.

5. 2. 2. Civil engineering

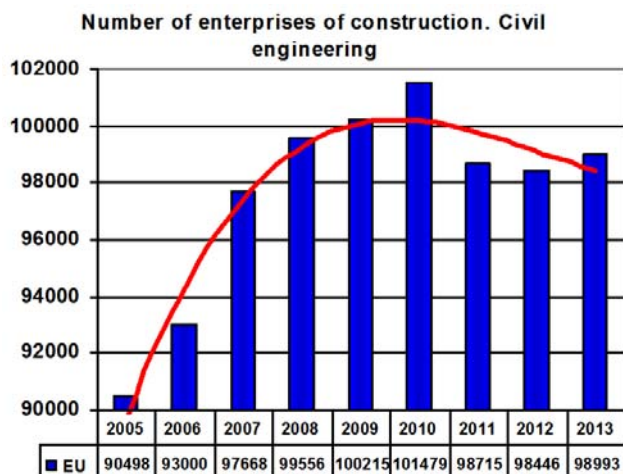


Fig 9: Number of enterprises of construction. Civil engineering of EU [36]

Table 5: Number of enterprises of EU countries. Civil engineering [36]

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Estonia	246	293	363	503	549	686	729	643	738
Latvia	287	341	388	513	522	549	592	738	854
Lithuania	210	227	253	289	288	291	301	321	317

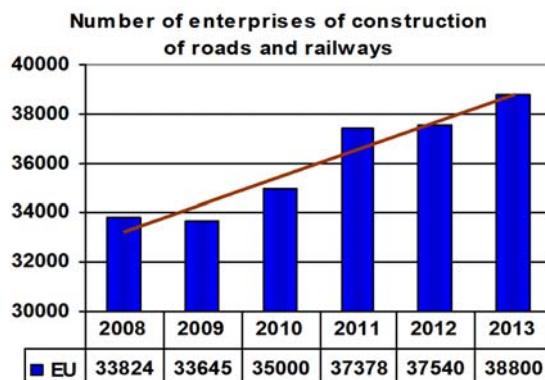


Fig 10: Number of enterprises. Construction of roads and railways of EU [36]

Table 6: Number of enterprises of EU countries. Construction of roads and railways [36]

	2008	2009	2010	2011	2012	2013
Estonia	173	201	208	203	194	197
Latvia	278	260	267	253	293	321
Lithuania	118	113	114	116	125	122

5. 2. 3. Specialised construction activities

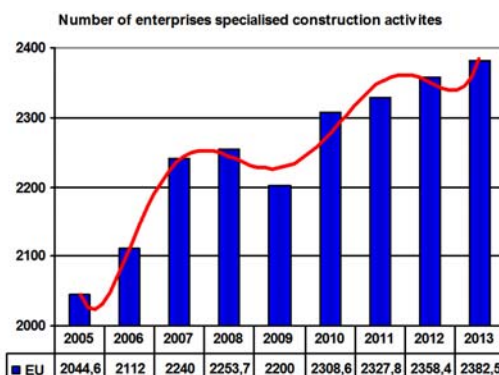


Fig 11: Number of enterprises, in thousand. Specialised construction activities of EU [36]

Table 7: Number of enterprises of EU countries. Specialised construction activities [48]

	2005	2007	2008	2009	2010	2011	2012	2013
Estonia	1608	2667	3267	3568	3886	4111	4453	4782
Latvia	2851	3938	4513	4223	4037	3783	4482	4923
Lithuania	5168	11109	10884	6610	7727	11973	16907	16977

5. 3. Construction Enterprises by Employment Size Class

Table 8: Number of enterprises by employment size class. Construction 2012 [37]

	0 - 9	10-19	20-49	50-249	250 >	Total
Estonia	7,542	507	238	79	10	8,376
Latvia	6,767	606	402	212	12	8,000
Lithuania	18,378	911	611	310	32	20,242

	0 - 9	10 - 19	20 - 49	50 - 249	250 >	Total
EU 28	3,074,204	129,439	56,080	20,000	2,100	3,280,371
share,%	93.67	3.94	1.71	0.61	0.06	100

Size class of construction, 2012, EU - 28

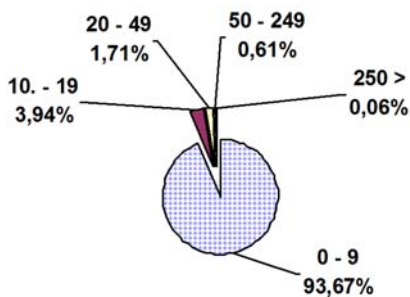


Fig 12: Enterprises by employment size class, construction, 2012, EU- 28 [37]

Size class of construction, 2012, Germany

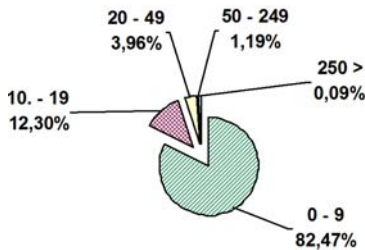


Fig 13: Enterprises by employment size class, construction, 2012, Germany [37]

Size class of construction, 2012, Estonia

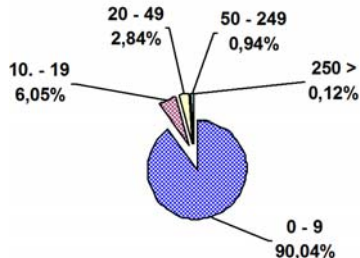


Fig 14: Enterprises by employment size class, construction, 2012, Estonia [37]

Figures show EU average, large state and small country differences. Also in this group of countries is large, nearly double the differences. However, all of these countries, the level is much lower than in Western European countries.

6. Gross Value Added of Construction Enterprises of European Union

6.1. Total Gross Value Added

We look at the total gross value added (at basic prices) the EU countries of construction companies.

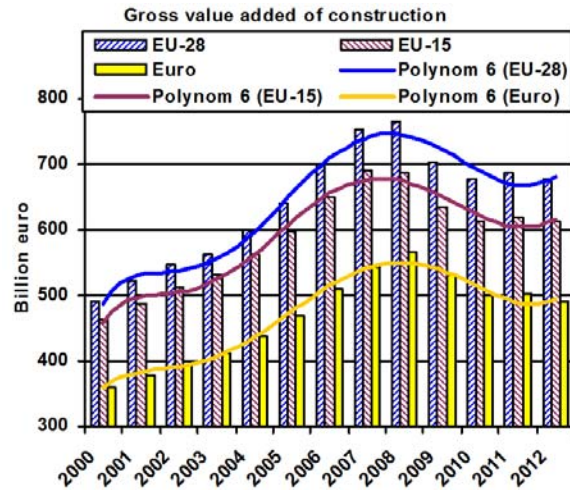


Fig 15: Gross value added of EU. Construction [36]

Trend lines of gross value added changes of EU:

$$\begin{aligned}
 &EU-28 \ y = -0,0049x^6 + 0,2484x^5 - 4,6859x^4 + 41,051x^3 - 169,52x^2 + 328,33x + 292,57; \ R^2 = 0,9785 \\
 &EU-15 \ y = -0,005x^6 + 0,2448x^5 - 4,4706x^4 + 38,08x^3 - 153,87x^2 + 294,53x + 284,69; \ R^2 = 0,9796 \\
 &Euro \ y = -0,0012x^6 + 0,081x^5 - 1,785x^4 + 17,116x^3 - 73,549x^2 + 150,22x + 266,31; \ R^2 = 0,9862
 \end{aligned}$$

All (of EU-28, of EU-15, Euro area 18) trend lines run almost parallel. However, in last years of construction boom in 2007 and 2008 were differences between the trend lines of EU-28 and EU-15 increased. This indicates that in new EU Member States construction activity developed relatively faster when in old the EU Member States (EU-15). This difference between of trend lines, or value added of construction was also retained during the crisis and after crisis. While in 2000 was share of the EU-15 94.05% of the EU-28 value added of construction, then in 2007 91.95% and in 2008 90.46%. However, the new the EU Member States, the absolute value added construction activity in comparison with the old the EU Member States, however small, less than 10%.

Table 9: Gross value added of EU countries. Construction ^[36]

	1995	2000	2007	2008	2009	2010	2011	2012
Bulgaria	440	620	2,096	2,753	2,766	2,219	2,156	2,012
Czech	3,087	3,809	8,098	9,446	9,162	9,918	9,513	8,619
Hungary	1,486	2,281	4,125	4,413	3,754	3,465	3,410	3,091
Poland	7,189	12,912	20,153	24,367	22,327	25,290	26,096	26,434
Romania	:	2,098	11,793	15,242	12,455	11,339	11,220	11,278
Slovenia	809	1,247	2,450	2,761	2,464	2,016	1,888	1,822
Slovakia	705	1,418	4,176	5,849	5,654	5,466	5,698	11,492

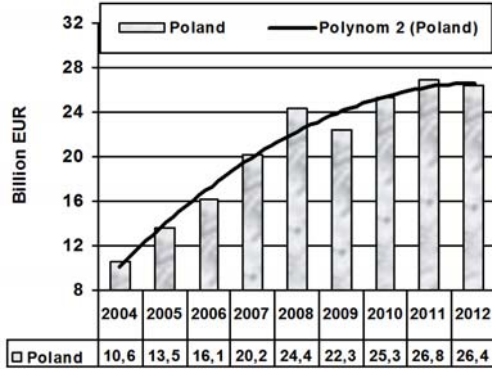


Fig 16: Gross value added of Poland. Construction ^[36]

Trend lines of gross value added changes of Poland:

$$y = -0,2403x^2 + 4,467x + 5,899; R^2 = 0,967$$

Poland was 2.5 times increase of GVA from 2004 to 2012.

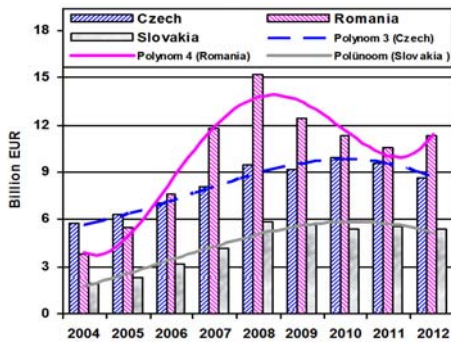


Fig 17: Gross value added of EU countries. Construction ^[36]

Trend lines of gross value added changes of EU countries:

$$Czech\ y = -0,0241x^3 + 0,2473x^2 + 0,084x + 5,3764; R^2 = 0,9755$$

$$Romania\ y = 0,0457x^4 - 0,9014x^3 + 5,5544x^2 - 10,05x + 9,2795; R^2 = 0,9551$$

$$Slovakia\ y = -0,0146x^3 + 0,1179x^2 + 0,5741x + 1,0675; R^2 = 0,9433$$

Record level of gross value added in CEE countries Czech Republic was in 2010 and Poland in 2011, but in forward was a small decline. Record level of Bulgaria was in 2009, forward was decline. Record level of Hungary, Romania, Slovenia and Slovakia was in 2008, forward was decline.

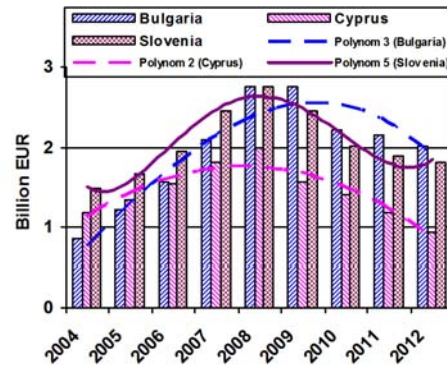


Fig 18: Gross value added of small new EU countries. Construction ^[36]

Trend lines of gross value added changes of EU countries:

$$Bulgaria\ y = -0,0042x^3 - 0,0061x^2 + 0,5802x + 0,1987; R^2 = 0,8946$$

$$Cyprus\ y = -0,0471x^2 + 0,437x + 0,753; R^2 = 0,8756$$

$$Slovenia\ y = -0,0002x^5 + 0,0116x^4 - 0,1728x^3 + 0,9567x^2 - 1,7422x + 2,4507; R^2 = 0,9612$$

Table 10: Gross value added of Baltic countries. Construction ^[36]

	1995	2000	2004	2007	2008	2009	2010	2011	2012
Estonia	169	326	602	1511	1421	858	736	893	1180
Latvia	170	511	658	1923	2080	1335	855	987	1224
Lithuania	324	661	1190	2896	3261	1589	1461	1810	1775

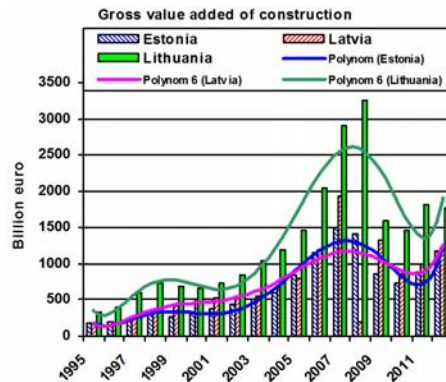


Fig 19: Gross value added of Baltic countries. Construction ^[36]

Trend lines of gross value added changes of Baltic countries:
 Lit $y = 0,0235x^6 - 1,2383x^5 + 24,345x^4 - 220,94x^3 + 940,3x^2 - 1608,2x + 1216,7$; $R^2 = 0,8674$
 Lat $y = 0,0084x^6 - 0,4418x^5 + 8,7219x^4 - 80,898x^3 + 360,99x^2 - 641,22x + 522,49$; $R^2 = 0,5776$
 Est $y = 0,0125x^6 - 0,6476x^5 + 12,539x^4 - 112,71x^3 + 482,79x^2 - 864,05x + 669,64$; $R^2 = 0,9385$

The Baltic countries gross value added was before the European Union accession relatively small. Next to European economic crisis was impressive growth. Record level of Estonia was in 2007 and of Latvia and Lithuania in 2008, but in forward was big decline. From record level to 2012 was it in Estonia 21.8%, in Latvia 41.2% and in Lithuania 45.6%.

6.2. Gross Value Added by Employment Size Class

Table 11: Value added at factor cost of enterprises. Construction by employment size class, 2012 ^[37]

	0 - 9	10 - 19	20 - 49	50-249	250 >	Total
EU	183,888	67,900	72,463	79,259	89,400	492,897
%	37.31	13.78	14.70	16.08	18.14	100

Table 12: Value added at factor cost of enterprises. Construction by employment size class, 2012 ^[37]

	0 - 9	10 - 19	20 - 49	50 - 249	250 >	Total
Bulgaria	180.9	115.8	237.3	463.9	245.0	1,242.9
Czech	2,133.5	517.0	817.3	1,262.1	1,295.3	6,025.2
Estonia	290.7	149.1	202.2	170.9	103.2	916.1
Croatia	316.5	140.1	220.2	368.3	369.8	1,414.9
Latvia	111.0	84.7	155.9	315.4	89.9	756.9
Lithuania	121.9	94.3	163.2	323.9	248.6	951.9
Hungary	822.2	303.5	321.2	444.3	303.5	2,194.8
Poland	4,080.8	1,183.6	1,892.3	3,472.7	2,696.0	13,325.3
Romania	825.4	369.0	552.5	1,302.5	1,106.6	4,156.1
Slovenia	508.7	230.3	220.5	212.6	68.9	1,241.0
Slovakia	1,276.7	257.0	337.1	351.3	245.3	2,467.3

In CEE-8 Poland, Czech, Hungary, Slovenia and Slovakia and in Baltic countries Estonia were value added at factor cost higher in size class 0-9 than 250 and more. In Bulgaria, Latvia, Lithuania and Romania were higher in size class 50-249, and in Croatia size class 250 and more.

Total were of new EU member states biggest share of value added at factor cost microenterprises (0-9), who gave a third of the total value added at factor cost.

More detailed analysis how has total European non-financial companies go out of the economic crisis, what are the lessons from the economic crisis, of the enterprises in the Europe countries, what are their problems have in the authors' earlier works.

Taking into account this publication and the previous work of the authors ^[1, 11 - 33] have made the following conclusions and suggestions.

7. Conclusions

- In 2014 there has been principle change - the world's economic (GDP by PPP) leader has increased China and India surpassed Japan.
- The EU would come first in nominal GDP and second in GDP (PPP) in the world.
- The EU-28 and the euro area emerged from the crisis, as evidenced by the positive GDP growth in 2015.
- Before the crisis, all CEE-8 countries experienced large increases. All of the states experienced great GDP decline in 2009, except Poland, which was the only EU country, where the economy did not decline.

Size class of value added construction, 2012, EU28

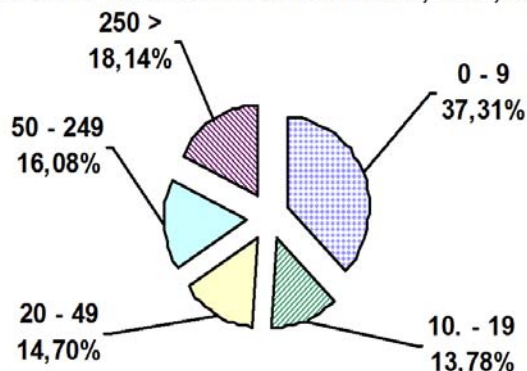


Fig 20: Value added at factor cost of enterprises. Construction by employment size class, 2012, EU- 28 ^[37]

The largest share of value added at factor cost of construction enterprises was size class 0-9 (37.3%).

- In 2014 economic growth of CEE-8 countries, only Croatia (-0.4%) was in decline.
- The development of the Baltic countries economy before and after the crisis was one of the fastest in the EU, but in 2009 were very big fall of real GDP.
- The construction boom in EU was in 2007 and in 2009 sharp decline.
- In 2013 the EU has not reached the level of enterprises of construction of 2007.
- From 2005 to 2013 were in Bulgaria, Czech Republic, Poland, Romania, Slovenia and Slovakia great increases of enterprises of construction; in Croatia and Hungary had a big loss.
- In all three Baltic countries was great, nearly double, growth of enterprises of construction.
- New EU Member States construction activity developed relatively faster when in old the EU States, but it share the absolute value added of construction activity in comparison with the old the EU States, was small, less than 10%.
- Poland was 2.5 times increase of gross value added in enterprises of construction from 2004 to 2012. Record level of gross value added in enterprises of construction in CEE countries Czech Republic was in 2010 and Poland in 2011, Bulgaria in 2009, and Hungary, Romania, Slovenia and Slovakia in 2008.
- Record level of gross value added in enterprises of construction of Estonia was in 2007 and of Latvia and Lithuania in 2008, but in forward was big decline.

- The largest share of value added at factor cost of construction enterprises was size class 0-9 (37.3%).
- In CEE-8 Poland, Czech Republic, Hungary, Slovenia, Slovakia and Estonia were value added at factor cost higher in size class 0-9 than 250 and more. In Bulgaria, Latvia, Lithuania and Romania were higher in size class 50-249, and in Croatia size class 250 and more.
- Total were of new EU member states biggest share of value added at factor cost microenterprises (0-9), who gave a third of the total value added at factor cost.
- Pre-crisis level by labour productivity exceeded in 2012 only Belgium, Estonia, Luxembourg, Greece, Finland, Sweden, Norway and Switzerland.
- Apparent labour productivity was the highest in Norway (84.4), Switzerland (85.7), United Kingdom (67.6), Denmark (53.3) and Sweden (55.5). In 2009 was it in Ireland 117.6.
- In CEE-8 countries was greater apparent labour productivity in 2012 in Slovenia (19.9) and in Baltic States in Estonia (21.1). It was lower in Bulgaria (8.3), Romania (10.1) and Lithuania (10.2).
- In principle, the construction companies of the Baltic countries as a whole exited the economic crisis successfully, some sooner, some later. On the other hand, the crisis meant the death of thousands of companies and a rise in unemployment.
- To get a more accurate overview of what were the lessons learnt by countries as a result the economic crisis, other key indicators in their interconnection should be observed as well. A more detailed analysis of various types of construction would also provide a more accurate picture.

8. References

1. Tanning, L.; Tanning, T. (2007). *Uus Euroopa Liit - 27 (New European Union-27)*. Tallinn, 530 p.
2. Political Europe. CIA https://www.cia.gov/library/publications/the-world-factbook/graphics/ref_maps/political/pdf/europe.pdf
3. Former Soviet Union (FSU). Appendix b: international organizations and groups. The World Factbook. CIA <https://www.cia.gov/library/publications/the-world-factbook/appendix/appendix-b.html>
4. CIA's Analysis of the Soviet Union, 1947-1991 <https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/cias-analysis-of-the-soviet-union-1947-1991/index.html>
5. Instruments of soviet control. Historical Review Program. CIA. pp. 1-44 <https://www.cia.gov/library/publications/historical-collection-publications/wartime-statutes/wartime-statutes.pdf>
6. Tanning, L. (2006). *Euroopa probleem – Teine maailmasõda (European problem - The Second World War)*. Tallinn, 600 p.
7. *Soviet Union Economy – 1991*. Source: 1991 CIA World Factbook http://www.theodora.com/wfb1991/soviet_union/soviet_union_economy.html
<http://www.photius.com/rankings/index.html>
8. Russia. The World Factbook. CIA. Retrieved 1 February 2013. <https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html>
9. Recession. Merriam-Webster Online Dictionary. Retrieved 19 November 2008. available at: <http://www.merriam-webster.com/dictionary/recession>
10. Recession definition. Encarta World English Dictionary [North American Edition]. Microsoft Corporation. 2007. Retrieved 19 November 2008. available at: <http://encarta.msn.com/encnet/features/dictionary/DictionaryResults.aspx?refid=1861699686>
11. Tanning, L.; Tanning, T. (2015). Gross Value Added Analyses of Construction Enterprises in New European Union Member States Before and After Economic Crisis. *International Journal of Business and Industrial Marketing*. American Association for Science and Technology, USA, 1(3), 53 – 63.
12. Tanning, L.; Tanning, T. (2015). Analysis of the Resource Productivity of New Members of the European Union. *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport*. Science and Education Publishing. USA, 3(1), 21 - 31.
13. Tanning, L.; Tanning, T. (2014). Central and Eastern European Countries before and after the 2008 Financial Crisis: Economic Overview and Transportation Companies. *Journal of Business Theory and Practice*. Scholink INC., United States, 2(2), 221 - 246.
14. Tanning, L.; Tanning, T. (2014). Gross Value Added per Person Analyses of Transportation Companies of new European Union countries in 2005 – 2011. *SOP Transactions on Marketing Research*, USA, 1(2), 1 - 15.
15. Tanning, L.; Tanning, T. (2014). How former post-socialist countries have been the economic crisis? *SOP Transactions on Economic Research*, USA, 15 - 33.
16. Tanning, L.; Tanning, T. (2013). Labour Productivity Analyses in Central and East European and Baltic Countries. *PARIPEX – Indian Journal of Research*, 2(8 Aug), 53 - 55.
17. Tanning, L.; Tanning, T. (2013). The Economic Crisis Lessons from Europe. Enterprise Size Class Analyses of Transportation Companies of the Baltic Countries before and After the Economic Crisis. *American International Journal of Contemporary Research*, Vol 3(10), 13 - 24.
18. Tanning, L.; Tanning, T. (2013). The Gross Added Value of Transportation Enterprises in the Poland and Other Central and Eastern European Countries. *Indian Journal of Applied Research (IJAR)*, 9, 136 - 137.
19. Tanning, L.; Tanning, T. (2013). Turnover Analyses of Transportation Companies of the new European Union states Before and After the Economic Crisis. *The Economic Crisis Lessons from Europe*. American International Journal of Social Science, 2(7), 37 - 48.
20. Tanning, L.; Tanning, T. (2013). The Professionals Saved the Estonian Economy (Economic Lessons from the Crisis). *International Journal of Arts and Commerce*, 2 (5), 16 - 26.
21. Tanning, L.; Tanning, T. (2013). Gross Value Added per Person Analyses of Transportation Companies of Estonia, Latvia and Lithuania in 2005 – 2011. *Nova Journal of Engineering and Applied Sciences*. Nova Explore Publications. Canada, 1(1 Dec), 11 – 30.
22. Tanning, L.; Tanning, T. (2013). The Lithuania companies working efficiency before and after the economic crisis. *Greener Journal of Business and Management Studies*, 3(3), 132 - 142.
23. Tanning, L.; Tanning, T. (2012). Baltic States Problem - Labour Market; Analysis Employment, Unemployment and Vacancies of Estonia; Improved Beveridge Curve. *International Journal of Business and Social Science (USA)*, No. 21, 36 - 56.

24. Tanning, T.; Tanning, L. (2013). The Baltic States Companies Working Efficiency Before and After the Economic Crisis. *Journal of International Scientific Publications: Economy and Business*, 7, 342 - 363.
25. Tanning, T.; Tanning, L. (2013). The Turnover of Transportation Companies in the European Countries of the Former Eastern Bloc Before and After the Economic Crisis. *Tem Journal - Technology, Education, Management*, 3, 253 - 260.
26. Tanning, T.; Tanning, L. (2013). Turnover analyses of transportation companies of the Baltic States. The economic crisis lessons. *International Journal of Arts and Commerce*, 2(10), 114 - 124.
27. Tanning, T.; Tanning, L. (2013). The quality and motivation of the workforce. *Journal of Technology, Education, Management, Informatics*, 1, 35 - 42.
28. Tanning, T.; Tanning, L. (2012). Modernized Beveridge curve. *Journal of Technology, Education, Management, Informatics*, Vol.1 (4), 258 - 269.
29. Tanning, T. (2014). How have ex-post-socialist countries done in the economic crisis? The power and freedom in the structure of global trends of development of economical and legal systems and management techniques. *Economics, Jurisprudence and Management Sciences*. IASHE. London <http://gisap.eu/node/52330>
30. Tanning, T. (2014). Separation and cohesion the example of new the European Union Member States. Economic lessons from integration. Isolation and unification vectors in the social development coordinate system. *Economics, Jurisprudence and Management Sciences*. IASHE. London <http://gisap.eu/node/41586>
31. Tanning, T. (2014). Labour market analysis of the former Soviet Bloc countries. The power and freedom in the structure of global trends of development of economical and legal systems and management techniques. *Economics, Jurisprudence and Management Sciences*. IASHE. London <http://gisap.eu/ru/node/52327>
32. Tanning, T. (2013). Companies Working Efficiency and Economic Crisis the Example of Baltic States. *Global Research Analysis (GRA)*, India, 2(6), 213 - 215.
33. Tanning, T. (2013). Top Specialists Rescued the National Economy - Economic Lessons from the Crisis. *PARIPEX - Indian Journal of Research (PIJR)*, 3(5), 253 - 255.
34. Country Comparison: GDP (Purchasing Power Parity). CIA. 2 May 2015 <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2001rank.html>
35. Real GDP growth rate – volume. Code: tec00115. Eurostat. Last update: 19.06.2015 <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tec00115>
36. Annual detailed enterprise statistics for construction (NACE Rev. 2, F). Code: sbs_na_con_r2. Structural business statistics (sbs). Eurostat. Last update: 11-06-2015 http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs_na_con_r2&lang=en#
37. Construction by employment size class (NACE Rev. 2, F). Code: sbs_sc_con_r2. Eurostat. Last update: 11-06-2015 http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs_sc_con_r2&lang=en