Lithuanian Journal of Statistics *2012, vol. 51, No 1, pp. 80-87*
Lietuvos statistikos darbai *2012, 51 t., Nr. 1, 80–87 p.*
www.statisticsjournal.lt

GROSS DOMESTIC PRODUCT AND LABOUR FORCE DEVELOPMENT TENDENCIES IN THE BALTIC STATES, 2000 - 2011

Einārs Ulnicāns
Scientific Institute for Regional Studies, Rezekne Higher Education Institution.
Address: Atbrīvošanas aleja 90, Rēzekne, LV-4601, Latvia.
E-mail: ulnicans@gmail.com

Received: August 2012 Revised: September 2012 Published: November 2012

Abstract. The article with calculations analyses the development tendencies of gross domestic product, employment, unemployment, labour productivity and loss of unemployment in the Baltic States during 2000 - 2011. The results of the calculations are explained in the description of these trends and their obvious and possible causes. A brief concept of the theoretical background and the main formula for the calculation of labour productivity is provided as well. Conclusions are drawn about the overall character of the development trends. The overall trends of economic development are similar in all three countries. Gross domestic product, employment and labour productivity were growing until 2007. From 2008 to 2010 they fell as a result of the economic crisis, but in 2011 all the indicators began rising again. Major changes in movement, including negative changes, are more frequently observed in Lithuania and Estonia. Differences between the countries appear in nuances, especially in Lithuania.

Keywords: Gross domestic product, employed persons, unemployed persons, labour productivity, loss of unemployment, Baltic States.

1. Introduction

Gross domestic product (GDP) is one of the main indicators which characterizes the economic situation in a country or in any of its regions. The labour force is one of the resources that creates gross domestic product. There is an interconnection between gross domestic product and the labour force - the relationship of the first indicator to the second can determine the level of labour efficiency over a specified period.

The aim of this article is to briefly describe the essence and the main numerical development trends of the labour force, gross domestic product and a basic indicator of labour efficiency – labour productivity in Latvia, Lithuania and Estonia.

The selected research time period is from 2000 to 2011. During this period GDP and employment had originally entered into a specific, development and sustainable growth phase (until 2008), but then experienced a reduction in the economic situation (2009 – 2010), and a resumption of growth in 2011. In studying GDP and employment trends, the author used data from the main institutional online statistical databases in all the Baltic States. In Estonia it is a database of the Government agency Statistics Estonia. In Latvia – a database of the Central Statistical Bureau of Latvia. And in Lithuania – a database of the Department of Statistics (Statistics Lithuania). Databases of the statistical bureau of European Union (EU) – Eurostat are used as well. Gross domestic product figures are constructed as chain-linked volume measures, and are converted to euros (EUR) in accordance with the relevant national currency rate in 2012, with the exception of Estonia, which is already in the eurozone and whose official statistics are accordingly calculated in euros. Problems were caused by the fact that the Latvian GDP figures in the statistical databases are available as chain-linked volume measures with the reference year 2000, but the Estonian and Lithuanian figures with the reference year 2005. For this reason among all three countries only indications of proportions and changes are directly comparable. GDP volume and labour productivity are directly comparable only between Estonia and Lithuania. Employment and unemployment data are obtained by all national statistical institutions via randomly sampled Labour Force Survey (LFS). Labour productivity and all figures of proportion and changes are calculated by the author. Change indicators are calculated against the previous year.

2. Labour force and gross domestic product

One of the principal markets functioning in any country is the labour market with a supply-demand relationship. Labour supply at the national level is basically described by the number of population that is actively involved in the labour market and offer their labour or operational capability. The population involved in the labour market is the economically active population. The economically active population is divided into employed persons and unemployed persons. Employed persons are those who are working. Their labour supply is satisfied.

In the context of the LFS, an **employed person** in the EU is a person aged 15 and over (or 16 and over in Iceland and Norway) who during the reference week performed work - even if just for one hour a week - for pay, profit or family gain. Alternatively, the person was not at work, but had a job or business from which he or she was temporarily absent due to illness, holiday, industrial dispute or education and training [10.]. This definition follows the guidelines of the International Labour Organization (ILO). According to the ILO definition, the employed population is all persons who during the reference week did any work for cash payment or compensation in goods or services. Self-employed persons with a business, farm or those who are undergoing professional practice are also considered as employed. Persons who are in temporary absence from work due to the prenatal or maternity leave, as well as, due to the childcare leave of up to 3 months duration, are classified as employed, if after the end of the leave their return to their previous work is guaranteed. The number of employed includes also those persons who are working to produce goods for own consumption, and their work is an important source of livelihood for the person or the family [8.].

In contrast, the unemployed are people who want to work, but for some reason are unable to do so for the time being. An **unemployed person** is defined by Eurostat, according to the guidelines of the ILO, as: 1) someone aged 15 to 74 (in Italy, Spain, the United Kingdom, Iceland, Norway - 16 to 74 years); 2) without work during the reference week; 3) available to start work within the next two weeks (or has already found a job to start within the next three months); 4) actively having sought employment at some time during the last four weeks[10.]. In Latvia unemployed persons (or jobseekers) are persons, whether registered at the State Employment Agency or not, who meet the above four conditions simultaneously [8.]. The economically inactive population, people of working age who are not actively looking for the job, are not considered part of the labour force.

At the national level, the outcome of total labour in relation to other economic factors is gross domestic product. Gross domestic product represents the total value of final products and services produced within the country's territory during a year. GDP is calculated on the basis of data on domestic production, expenditure and income at current and constant prices [4.]. This is the most objective indicator describing the level of economic development in a country. And the standard of living a country is usually judged by its level of economic development. GDP dynamics therefore provide a considered description of a country's economic development and trends in its standard of living. Moreover, this indicator is also comparable among countries, and the GDP comparison allows the drawing of reliable conclusions regarding diversity levels of economic development and the prosperity of the countries.

If gross domestic product describes the economic development of a country then the economic factors invested in creation of it have a certain return or effect. The key indicator describing any production - not only at the macroeconomic level, but also at the level of economic activity or individual company - is productivity, the characteristic indicator of the effect.

Labour efficiency is described by the labour productivity. **Labour productivity** measures the amount of goods and services produced by each member of the labour force or the output per input of labour. It can be measured in a variety of ways. For structural indicators, it may be measured by GDP, either per employed person or per hour worked. In both cases, it is then expressed as an index [10.]. The author has used the number of employed people to calculate labour productivity.

3. Trends in the Baltic States

Gross domestic product in all the Baltic countries has experienced continuous growth until 2007 (2008 in Lithuania) (Table 1, indicator 1). The GDP growth rates in Latvia, Lithuania and Estonia at that time were among the largest in the EU, reaching their peak in 2005-2006 (Table 2, indicator 1). None of the three countries have prevailed in the GDP growth rates – each has been leader in this indicator at some time period. In 2008 all three countries ran into economic crisis. The reductions in the economic indicators reached their worst in 2009 and continued also in 2010. GDP dynamics between the Baltic countries during the crisis show some differences. For example, in Lithuania a GDP

decline against the previous year was experienced only in 2009. In Estonia the GDP decrease continued for two years – in 2008 and 2009, while in Latvia a small GDP decrease continued also in 2010. Consequently Lithuania has most quickly managed to halt the decline of its key economic indicator, while Estonia experienced the strongest resumption of the GDP growth at the end of crisis (the highest GDP increase in 2010). In 2011 the GDP of all the three countries was growing again, at similar paces, returning to the levels of 2006. However, the economic recovery is slow. Significant employment problems are still present in certain economic sectors. All the Baltic countries, especially Latvia, must continue also to reduce the backwardness of their living standards compared to the European Union's leading countries.

The number of **employed persons** in all three countries also experienced a steady rise before the crisis (Table 1, indicator 2). The growth is persistent but not uniform (Table 2, indicator 2). This can be partly explained by the fact that the number of employed persons according to the LFS is calculated by statistical estimation (from a random sample) and not taken from specific lists or databases. The reduction of growth in the number of employed persons in all three countries was experienced during two time periods – in 2004 (the year when Latvia, Lithuania and Estonia joined the EU) and in 2008 (the year in which the first signs of economic crisis were observed). During the crisis the number of employed persons decreased, especially in 2009. And here small differences in nuance between the countries are also present. For example, the number of employed persons in Lithuania started to decrease already from 2008 (in Latvia and Estonia – from 2009). Despite this, the country's GDP during this year continued to rise. This means that regarding to labour productivity in Lithuania, unlike the other Baltic countries, growth was still going on in 2008. In 2011 employment started to grow again, especially in Estonia. It should be noted that transnational migration processes can also affect the dynamics of employment indicators (just like any other population-related indicators). The migration level from the Baltic States in the 21st century is high, and its figures are still being recalculated and updated (at least in Latvia).

If the number of employed persons grew during the economically favourable years, the number of **unemployed persons** is steadily decreased (Table 1, indicator 3). Unlike the number of employed persons, the number of job seekers sometimes experienced a common trend - a decline in all three countries from 2005 to 2007 (Table 2, indicator 3). Especially in Lithuania, where the number of unemployed persons decreased in three consecutive years, by more than 20% a year. As a result of these trends the level of unemployment in Lithuania fell from the highest level in the Baltic States (at the beginning of the 21st century) to the lowest (before the economic crisis). During the years of crisis the number of unemployed persons steadily increased. Here, too, unlike the trends in the number of employed persons, a common trend can be observed in all the Baltic countries – a sustained increases at very similar paces. Of course, there are differences in the details. For example, in Lithuania the number of unemployed persons increased more rapidly than in the other two countries at the beginning (2008) and at the end of the crisis (2010), but in Estonia – at the highest point of the crisis (2009). In 2011 the number of unemployed persons decreased again, particularly in Latvia and Estonia. However, it still remains near the levels of 2000 - 2001 and is considered high.

Table 1. Gross domestic product, labour force and its efficiency in the Baltic States, 2000 – 2011
[1-3, 5-7 and the author's calculation based on these data]

Year	1.GDP, chain-linked volume, mln EUR			2.Employed persons, aged 15-74, thsd			3.Unemployed persons (jobseekers), aged 15-74, thsd		
	Latvia (reference year 2000)	Lithuania (2005)	Estonia (2005)	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia
2000	6710.4	14412.8	7914.5	939.0	1392.3	572.5	158.3	273.7	89.9
2001	7203.5	15378.4	8411.7	960.0	1349.8	577.7	144.6	284.0	83.1
2002	7723.9	16429.9	8963.5	989.0	1404.7	585.5	134.5	224.4	67.2
2003	8310.9	18118.3	9659.6	1006.9	1435.9	594.3	119.2	203.8	66.2
2004	9047.1	19453.4	10272.3	1017.7	1434.2	595.5	118.6	184.4	63.6
2005	9962.9	20969.1	11181.7	1033.2	1473.4	607.4	102.4	132.9	52.2
2006	11074.2	22606.5	12310.8	1087.6	1497.3	646.3	79.9	89.3	40.5
2007	12137.4	24821.1	13233.2	1119.0	1531.9	655.3	72.1	69.0	32.0
2008	11739.8	25544.0	12747.4	1124.1	1518.1	656.5	91.6	94.3	38.4
2009	9658.4	21753.6	10929.9	986.7	1413.9	595.8	200.7	225.1	95.1
2010	9626.1	22066.9	11177.3	940.9	1342.3	570.9	216.1	291.1	115.9
2011	10152.5	23363.2	12030.8	970.5	1368.7	609.1	176.4	248.8	86.8
Year	4.Labour productivity, EUR per 1 employed (1.: 2.)			5. Loss of unemployment, mln EUR (4. * 3.)			6. Loss of unemployment, proportion in GDP, %		
	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia
2000	7146.3	10351.8	13824.5	1131.3	2833.3	1242.8	16.9	19.7	15.7
2001	7503.6	11393.1	14560.7	1085.0	3235.6	1210.0	15.1	21.0	14.4
2002	7809.8	11696.4	15309.1	1050.4	2624.7	1028.8	13.6	16.0	11.5
2003	8253.9	12618.1	16253.7	983.9	2571.6	1076.0	11.8	14.2	11.1
2004	8889.8	13563.9	17249.9	1054.3	2501.2	1097.1	11.7	12.9	10.7
2005	9642.8	14231.8	18409.1	987.4	1891.4	961.0	9.9	9.0	8.6
2006	10182.2	15098.2	19048.1	813.6	1348.3	771.4	7.3	6.0	6.3
2007	10846.6	16202.8	20194.1	782.0	1118.0	646.2	6.4	4.5	4.9
2008	10443.7	16826.3	19417.2	956.6	1586.7	745.6	8.1	6.2	5.8
2009	9788.6	15385.5	18344.9	1964.6	3463.3	1744.6	20.3	15.9	16.0
2010	10230.7	16439.6	19578.4	2210.9	4785.6	2269.1	23.0	21.7	20.3
2011	10461.1	17069.6	19751.8	1845.3	4246.9	1714.5	18.2	18.2	14.3
Year	7. Absolute growth of GDP, mln EUR			7.1. incl. changes of the number of employed persons			7.2. incl. changes of labour productivity		
	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia
2001	493.1	965.6	497.2	150.1	-440.0	71.9	343.0	1405.6	425.3
2002	520.4	1051.5	551.8	217.6	625.5	113.6	302.8	426.0	438.2
2003	587.0	1688.4	696.1	139.8	364.9	134.7	447.2	1323.5	561.4
2004	736.2	1335.1	612.7	89.1	-21.5	19.5	647.1	1356.6	593.2
2005	915.8	1515.7	909.4	137.8	531.7	205.3	778.0	984.0	704.1
2006	1111.3	1637.4	1129.1	524.6	340.1	716.1	586.7	1297.3	413.0
2007	1063.2	2214.6	922.4	319.7	522.4	171.4	743.5	1692.2	751.0
2008	-397.6	722.9	-485.8	55.3	-223.6	24.2	-452.9	946.5	-510.0
2009	-2081.4	-3790.4	-1817.5	-1435.0	-1753.3	-1178.6	-646.4	-2037.1	-638.9
2010	-32.3	313.3	247.4	-448.3	-1101.6	-456.8	416.0	1414.9	704.2
2011	526.4	1296.3	853.5	302.8	434.0	747.9	223.6	862.3	105.6

Table 2. Gross domestic product, labour force and its efficiency, changes in the Baltic States, 2001 – 2011 (percentage over the previous year) [Author's calculations using data from Table 1]

Year	1. GDP chain-linked volume			2.Employed persons			3. Unemployed persons (jobseekers)		
	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia
2001	7.3	6.7	6.3	2.2	-3.1	0.9	-8.7	3.8	-7.6
2002	7.2	6.8	6.6	3.0	4.1	1.4	-7.0	-21.0	-19.1
2003	7.6	10.3	7.8	1.8	2.2	1.5	-11.4	-9.2	-1.5
2004	8.9	7.4	6.3	1.1	-0.1	0.2	-0.5	-9.5	-3.9
2005	10.1	7.8	8.9	1.5	2.7	2.0	-13.7	-27.9	-17.9
2006	11.2	7.8	10.1	5.3	1.6	6.4	-22.0	-32.8	-22.4
2007	9.6	9.8	7.5	2.9	2.3	1.4	-9.8	-22.7	-21.0
2008	-3.3	2.9	-3.7	0.5	-0.9	0.2	27.0	36.7	20.0
2009	-17.7	-14.8	-14.3	-12.2	-6.9	-9.2	119.1	138.7	147.7
2010	-0.3	1.4	2.3	-4.6	-5.1	-4.2	7.7	29.3	21.9
2011	5.5	5.9	7.6	3.1	2.0	6.7	-18.4	-14.5	-25.1

Year	4.Labour productivity			5. Loss of unemployment		
	Latvia	Lithuania	Estonia	Latvia	Lithuania	Estonia
2001	5.0	10.1	5.3	-4.1	14.2	-2.6
2002	4.1	2.7	5.1	-3.2	-18.9	-15.0
2003	5.7	7.9	6.2	-6.3	-2.0	4.6
2004	7.7	7.5	6.1	7.2	-2.7	2.0
2005	8.5	4.9	6.7	-6.3	-24.4	-12.4
2006	5.6	6.1	3.5	-17.6	-28.7	-19.7
2007	6.5	7.3	6.0	-3.9	-17.1	-16.2
2008	-3.7	3.8	-3.8	22.3	41.9	15.4
2009	-6.3	-8.6	-5.5	105.4	118.3	134.0
2010	4.5	6.9	6.7	12.5	38.2	30.1
2011	2.3	3.8	0.9	-16.5	-11.3	-24.4

The number of employed persons and their **labour productivity** are factors affecting the GDP changes. If the total changes of gross domestic product during time period (Table 1, indicator 7) are known, then the influence of each factor on these changes can be found (Table 1, indicator 7.1 and 7.2). The GDP absolute growth as a result of the change in the number of employed persons (indicator 7.1) is calculated as the multiplication of the difference (or absolute growth) of the number of employed persons and the labour productivity from the base period. The gross labour productivity in these calculations is expressed in thousandths. For example, the first three years for Latvia:

$$\Delta_{\text{chain (employed)}}' = (960.0 - 939.0) * 7.1463 = 150.1 \text{ mln EUR}$$

$$\Delta_{\text{chain (employed)}}'' = (989.0 - 960.0) * 7.5036 = 217.6$$

$$\Delta_{\text{chain (employed)}}''' = (1006.9 - 989.0) * 7.8098 = 139.8$$

etc.

The GDP absolute growth resulting from the absolute productivity changes (indicator 7.2) is calculated simply as difference between the total absolute growth of GDP and GDP growth as a result of the changes in the number of employed persons:

$$\Delta_{\text{chain (productivity)}}' = 493.1 - 150.1 = 343.0 \text{ mln EUR}$$

$$\Delta_{\text{chain (productivity)}}'' = 520.4 - 217.6 = 302.8$$

$$\Delta_{\text{chain (productivity)}}''' = 587.0 - 139.8 = 447.2$$

etc.

The largest productivity is consistently in Estonia, it is clear, notwithstanding the fact that Estonia has a different GDP reference year (compared with Latvia). Lithuania is equally stable in taking second place, Latvia – third. Labour productivity has a continuous rising trend until 2007 (Table 1, indicator 4; Table 2, indicator 4). The highest

productivity growth in 2000-2007 was observed in Lithuania - by 56.5% (in Latvia – 51.8%, Estonia – 46.1%). In addition, labour productivity in Lithuania also continued to grow in 2008, when in the other Baltic countries it had already started to decrease. Consequently, the labour productivity growth rate almost always turns out to be the main GDP growth determinant (indicator 7.2), prevailing over the number of employed persons which is subject to cyclical fluctuations. If the number of employed persons decreases, a new qualitative leap in labour productivity countervails it. In turn, if the number of employed people increases, labour productivity growth consistently turns out to be even higher and results in an increased GDP growth rate. However there are certain cases when the number of employed persons grew faster than productivity. For example, in Lithuania in 2002 and in Estonia in 2006. The increase in the number of employed persons then was the main GDP growth factor and economic development temporarily entered into an extensive phase. In 2008 the situation changed as both GDP and labour productivity began to decrease (except in Lithuania). The number of employed persons in Latvia and Estonia during that year slightly increased by inertia, but their productivity started to decrease. As a result GDP did not increase anymore and productivity became an incentive factor for the GDP decrease. In 2009 the number of employed persons in Latvia and Estonia decreased faster than labour productivity. This means that reduction in the number of employed persons more affected the reduction in GDP or more started to dominate with a negative sign. In Lithuania it was vice versa that year – productivity decreased faster than the number of employed persons. GDP was more affected by the decrease in labour productivity. In 2010 labour productivity in all three countries increased again, returning to the level of 2008. Although the number of employed persons in 2010, at a slower pace however, continued to decline, GDP slightly increased (in Latvia it actually remained at the 2009 level). Therefore the GDP growth was clearly reached at the expense of growth in labour productivity. In 2011 both employment and labour productivity increased. However, in Latvia and Estonia the number of employed persons increased more than productivity. This suggests that return of work efficiency in these countries could be increased and employment is not always of full value. In Lithuania the situation is different again – in 2011 employment growth was slower than elsewhere in the Baltic States. But it was compensated by a higher growth of labour productivity. As a result, a key GDP growth incentive factor is productivity and from the economic theory point of view this is a more appropriate strategy for economic improvement. Still, it should be noted that notwithstanding the positive trends, labour productivity in the Baltic States is still significantly below the EU average level. But the gap is decreasing. According to Eurostat data, labour productivity in Latvia in 2000 was about 40% of the EU average level, in Lithuania – 43% and in Estonia – 47%. In 2010 these figures were respectively 55%, 63% and 70% [9.]. In terms of labour productivity, Estonia in 2010 already competed with some Central European countries (Poland, Hungary). But the Latvian indicator was the third lowest in the EU - it was lower only in Bulgaria and Romania.

When multiplying productivity with the number of job seekers, the **losses resulting from unemployment** can be calculated**.** It is a hypothetical indicator, which indicates how much GDP could still grow if all the jobseekers would immediately get a job and, therefore, create this product. If the labour market is functioning normally in a country, the nature of this indicator is more informational than analytical, since in the market economy conditions full employment does not exist in practice and among the economically active population there will always be some job seekers. We can calculate how this indicator might be less, but in point of fact it is impossible to reduce it to zero under market economy conditions. These losses resulting from unemployment (Table 1, indicator 5; Table 2, indicator 5) show a distinct increase during those time periods when pace of reduction in the number of unemployed persons is getting slower . For example, like in 2004. And, of course, when the number of unemployed persons increases – in 2008 - 2010. Losses resulting from unemployment can be compared with the GDP volume (Table 1, indicator 6). The highest percentage amount of losses compared to GDP was observed in 2010 – at the final stage of crisis. During this year labour productivity increased and was relatively high. However, unemployment also remained comparatively high and it led also to large resulting hypothetical losses. Labour productivity growth does not mean much in development of a country, if the unemployment level remains high.

4. Conclusions

1. Overall GDP and employment trends in all three Baltic States are similar. During the time period from 2000 to 2007 or 2008 GDP, the number of employed people and labour productivity increased. From 2008 (or 2009) to 2010 there was a decrease in all the indicators. All three countries went through an economic crisis, reaching its low point in 2009. A feature of 2011 is an improvement in the indicators as the economies began to recover. The GDP growth pace

in Latvia, Lithuania and Estonia from 2000 to 2007 was higher than the average in the European Union. This made it possible to reduce the backlog comparing with more developed European Union countries. The opposite trends – decreases during the economically favourable years and increases during the crisis – are seen in the number of jobseekers and hypothetical losses due to unemployment, like other negative economic processes.

2. Statistical differences between the Baltic States and conclusions on the basis thereof are observed only in the details. For example, Lithuania managed to maintain GDP growth the longest since it decreased against the previous year only in 2009. On the other hand, Estonia shows the fastest growth of GDP in 2010 – the final stage of the crisis. Labour productivity in Lithuania in 2008, with the emergence of the first indications of crisis, still continued to increase, but the number of employed persons had already started to decrease. In Latvia and Estonia there was an opposite development trend. Estonia at the same time experienced the sharpest growth in the number of unemployed persons at the high point of the crisis, in 2009. During the same year, 2009, the number of employed persons in Latvia and Estonia decreased faster than labour productivity, but in Lithuania it was the other way around. In 2011 the number of employed persons in Latvia and Estonia increased more than labour productivity, but in Lithuania it was the other way around again.

3. The most significant statistical difference between the Baltic States is that labour productivity is always highest in Estonia, with Lithuania is taking second place and Latvia is consistently having the lowest indicator. From the point of view of the dynamics of the statistical indicators, economic development in Lithuania and Estonia are often with faster leaps and falls, and these two countries in certain indicators are more often taking first place than Latvia. Estonia on a continuous basis is considered to be economically the most developed country among the Baltic States. While Lithuania pretty often is able to change indicators at the pace that from time to time is leading as well. For example, in terms of unemployment levels before the crisis. Changes in the statistical indicators in Latvia are more moderate, and this country rarely stands out among the others. Frequently it takes the last (or the worst) place (in comparable indicators). However, an improvement in the economic situation is present also in Latvia, and basically is not unique when compared with Lithuania and Estonia.

References

1. *Gross domestic product.* Database of Central Statistical Bureau of Latvia. Table IKG01. Online: http://www.csb.gov.lv/en/dati/statistics-database-30501.html-0, further http://data.csb.gov.lv/Dialog/varval.asp.. (cited 2012.08.08)
2. *Gross domestic product (GDP)*. Database of Statistics Lithuania. Table M2010201. Online: http://www.stat.gov.lt/en/pages/view/?id=1350, further http://db1.stat.gov.lt/statbank/VarVal.. (cited 2012. 08.08)
3. *Gross domestic product and Gross national income by quarter ,year ,adjustment and indicator*. Database of Statistics Estonia. Table NAA012. Online: http://www.stat.ee/en , further http://pub.stat.ee/px-web.2001/Dialog/varval.asp.. (cited 2012. 08.08)
4. *Gross domestic product. Detailed information.* Database of Central Statistical Bureau of Latvia. Table IKG01. Online: http://www.csb.gov.lv/en/dati/statistics-database-30501.html-0,further http://data.csb.gov.lv/Dialog/DATABASEEN.. (cited 2012.10.08)
5. *Labour force, employment and unemployment by age, place of residence, sex, year.* Database of Statistics Lithuania. Table M3030901. Online: http://www.stat.gov.lt/en/pages/view/?id=1350, further http://db1.stat.gov.lt/statbank/VarVal.. (cited 2012. 08.08)
6. *Labour status of population aged 15-74 by sex, age group, indicator and year*. Database of Statistics Estonia. Table ML 330. Online: http://www.stat.ee/en , further http://pub.stat.ee/px-web.2001/Dialog/varval.asp.. (cited 2012. 08.08)
7. *Population by labour status and sex.* Database of Central Statistical Bureau of Latvia. Table NBG01. Online: http://www.csb.gov.lv/en/dati/statistics-database-30501.html-0,further http://data.csb.gov.lv/Dialog/varval.asp.. (cited 2012.08.08)
8. *Population by labour status and sex. Detailed information.* Database of Central Statistical Bureau of Latvia. Table NBG01. Online: http://www.csb.gov.lv/en/dati/statistics-database-30501.html-0,further http://data.csb.gov.lv/Dialog/DATABASEEN.. (cited 2012.09.08)
9. *National accounts - GDP*. Eurostat homepage. Table: Labour productivity(based on PPS), 2000 – 2010(1).png Online: http://epp.eurostat.ec.europa.eu/statistics_explained/.. (cited 2012. 09.08)
10. *Thematic glossaries.* Eurostat homepage. Online: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Thematic_glossaries (cited 2012. 10.08)

BENDROJO VIDAUS PRODUKTO IR DARBO JĖGOS RODIKLIŲ KITIMO TENDENCIJOS BALTIJOS ŠALYSE 2000–2011 METAIS

Einārs Ulnicāns

Santrauka. Straipsnyje skaičiuojamos ir analizuojamos bendrojo vidaus produkto, užimtumo, nedarbo, darbo našumo ir nedarbo sukeltų nuostolių kitimo tendencijos Baltijos šalyse 2000–2011 metais. Skaičiavimo rezultatai aiškinami aprašant šias tendencijas, akivaizdžias ir galimas jų priežastis. Aptariamas teorinis pagrindas ir pateikiamos pagrindinės darbo našumo skaičiavimo formulės, išvados apie bendras ekonomikos tendencijas, kurios visose trijose šalyse panašios. Bendrojo vidaus produkto, užimtumo ir darbo našumo rodikliai, iki 2007 metų augę, 2008–2010 metais dėl ekonominės krizės mažėjo, o 2011 metais vėl pradėjo didėti. Dinamiškas kitimas, įskaitant neigiamus pokyčius, dažniau stebimas Lietuvoje ir Estijoje.

Reikšminiai žodžiai: bendrasis vidaus produktas, užimti gyventojai, bedarbiai, darbo našumas, nedarbo sukelti nuostoliai, Baltijos šalys.