

Lithuania - new economic leader of Baltic countries

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Abstract: The aim of this article is to analyse the economic development before and after the economic crisis of Europe of Baltic countries (Lithuania, Latvia, Estonia). The aim is also to analyse the economic development of the former Soviet Bloc countries or other new EU member states from Central and Eastern Europe (CEE-8) and to compare them on the level of the old Europe (EU-15) and CIS-4. We analysis at how the economic crisis has affected economic development. We will look by gross domestic product (GDP), GDP per capita, and GDP growth rate. Before and after the economic depression, the Baltic States were successful. The Baltic countries had highest growth rates in GDP in Europe. These countries were called the Baltic Tigers. How have these countries done in the economic crisis of Europe of 2008 - 2009 years?

Keywords: Baltic countries, economic development, economic crisis, suggestions.

INTRODUCTION

For an introduction, let us look at the background of Baltic countries –Lithuania, Latvia and Estonia. The Baltic States are northern European countries east of the Baltic Sea. Baltic countries are located in Northern Europe and have a seaside; thanks to that they are able to interact with many European countries.

In 1940 the Soviet Union an illegal occupied and annexed the Baltic States.

They were a half century of Soviet-bloc countries. This will help to understand better the economic backwardness of the Western European countries.

After the Baltic countries had restored independence (1991), integration with Western Europe was chosen as the main strategic goal. Today they are liberal democracies and their market economies in recent years have undergone rapid expansion in the early 2000s.

The current government of Estonia has pursued relatively sound fiscal policies, resulting in balanced budgets and low public debt. A balanced budget, almost non-existent public debt, flat-rate income tax, a free trade regime, a competitive commercial banking sector, innovative e-services and even mobile-based services are all hallmarks of Estonia's market economy.

The Estonia's index of economic freedom is world ranked 11th in the 2014 and regional ranking 4th. Lithuania is 21th (11) and Latvia 42th (19). By comparison, the United States index of economic freedom is the 12th.

Before and after the economic depression, the Baltic States were successful. The Baltic countries had highest growth rates in GDP in Europe between 2000 and 2007, during periods of economic boom. Hence, these countries were called the Baltic Tigers. The term is modeled on four Asian Tigers.

The United Nations lists the Baltic States as countries with a "Very High" Human Development Index (HDI). The Human Development Index is a composite statistic of life expectancy, education, and income indices used to rank countries into four tiers of human development. In 2014 HDI: 33. Estonia; 35. Lithuania; 48. Latvia.

The Baltic States are members of the EU and the NATO since 2004. They were been the only former-Soviet countries to join either NATO or the EU at that time.

Total population of Baltic States are 6 406 155 (2011); area 175,116 km² or 67,523 sq mi; total GDP (PPP) (2013) \$145.202 billion; GDP (PPP) per capita \$22,666.

Free movement of workers within the EU is the basic document and it should be a favorable impact on

the EU economy. But on the other hand mostly one-way intra-EU migration hinders development of these countries, where labour moves and created a fairly large social tensions. After the opening of the EU labour markets, some EU countries started facing the problem of partial work force drain to richer countries with higher wages. This problem is also in other new EU Member States. Baltic countries labour productivity, wages, and other economic indicators are lagging behind Western European operators. Why?

The economic development in the Baltic countries has been analysed. The situations before the crisis, during the crisis and after the crisis will be viewed. The growth of the entire economy, measured using GDP, will be viewed.

METHODOLOGY

The CEE-8 countries are Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovakia, and Slovenia; CIS-4 countries are Russia, Ukraine, Belarus and Kazakhstan.

The techniques and labour market survey definitions used by the authors have been specified in Eurostat [1].

GDP is an indicator for a nation's economic situation and a measure of the economic activity. It reflects the total value of all goods and services produced. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries, and calculations on a per head basis allows for the comparison of economies significantly different in absolute size [2].

Economic growth is defined as a production increase of an output of a production process. In order to calculate GDP growth rate in constant prices, GDP in current prices is converted to the prices of the previous year and changes in volume are determined based on the level of the reference year. The calculation of the annual *growth rate* of GDP volume is intended to allow comparisons of the dynamics of economic development both over time and between economies of different sizes. For measuring the growth rate of GDP in terms of volumes, the GDP at current prices are valued in the prices of the previous year and the thus computed

volume changes are imposed on the level of a reference year. Price changes therefore do not affect the growth rate of GDP. Accordingly, price movements will not inflate the growth rate [3].

GDP per capita in constant prices constant prices GDP is found and the ratio of the average population. Often used in constant prices GDP as an indicator of the wealth of nations, as it reflects the average real income in this country. However, the tool does not provide a complete overview of economic well-being. For example, GDP does not reflect much of the unpaid work in households, nor does it take into account negative effects of economic activities, such as damage to the environment. GDP per capita in constant prices is based on rounded figures[4].

GDP per person employed is intended to give an overall impression of the productivity of national economies expressed in relation to the EU-27 average. The volume index of GDP per capita in PPS is expressed in relation to the EU-27 average set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries. The index, calculated from PPS figures and expressed with respect to EU27 = 100, is intended for cross-country comparisons rather than for temporal comparisons[5].

The *theoretical bases* of labour productivity have been brought in more detail in the authors' earlier works [6 - 20]. All *figures* are the authors' illustration.

ANALYSES OF GROSS DOMESTIC PRODUCT

The growth of the entire economy, measured using gross domestic product (GDP), will be viewed.

Analyses of GDP of countries of advanced and largest economies

For an introduction, let us look at the background of advanced economies countries. Further will be reviewed Baltic countries GDP development and forecasts.

Table 1. Real GDP growth rate of largest economies. Percentage change [21]

	1996–2005	Percentage change on previous year								Projections		
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2019
USA	3.4	2.7	1.8	-0.3	-2.8	2.5	1.8	2.8	1.9	2.8	3.0	2.2
Euro area	2.1	3.3	3.0	0.4	-4.4	2.0	1.6	-0.7	-0.5	1.2	1.5	1.5
Germany	1.2	3.9	3.4	0.8	-5.1	3.9	3.4	0.9	0.5	1.7	1.6	1.3
Japan	1.0	1.7	2.2	-1.0	-5.5	4.7	-0.5	1.4	1.5	1.4	1.0	1.1
China	9.2	12.7	14.2	9.6	9.2	10.4	9.3	7.7	7.7	7.5	7.3	6.5
India	6.4	9.3	9.8	3.9	8.5	10.3	6.6	4.7	4.4	5.4	6.4	6.8

The economy (GDP) of the United States has generally developed quicker than that of the European Union; 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 (+0.2%), 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.

The IMF's forecast [34] shows that the development of advanced economies will stabilise in the coming years, but the growth will be several times lower than that of China and India. The development of these two Asian countries has been several times higher than that of *advanced economies*. The development of the economies of other East Asian countries has also been very fast. A topical problem stems from here for the USA and EU countries – increasing competitiveness.

Analyses of GDP of Baltic countries

Table 2. Real GDP growth rate of Baltic countries [21]

	1996–2005	Percentage change on previous year								Projections		
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2019
Estonia	6.9	10.1	7.5	-4.2	-14.1	2.6	9.6	3.9	0.8	2.4	3.2	3.7
Latvia	6.9	11.0	10.0	-2.8	-17.7	-1.3	5.3	5.2	4.1	3.8	4.4	4.0
Lithuania	6.2	7.8	9.8	2.9	-14.8	1.6	6.0	3.7	3.3	3.3	3.5	3.8

Among advanced economies or Euro area countries are the five CEE and Baltic countries.

Before the economic crisis, the GDP growth of these economies was very high, several times higher than the average of the *countries with advanced*

economies. In the crisis year of 2009, the situation was the opposite – the relative drop in the GDP was considerably larger than in *advanced countries*. This is especially true in the case of Latvia and Estonia. Especially the GDP growth of Latvia was one of the highest in the EU after the crisis.

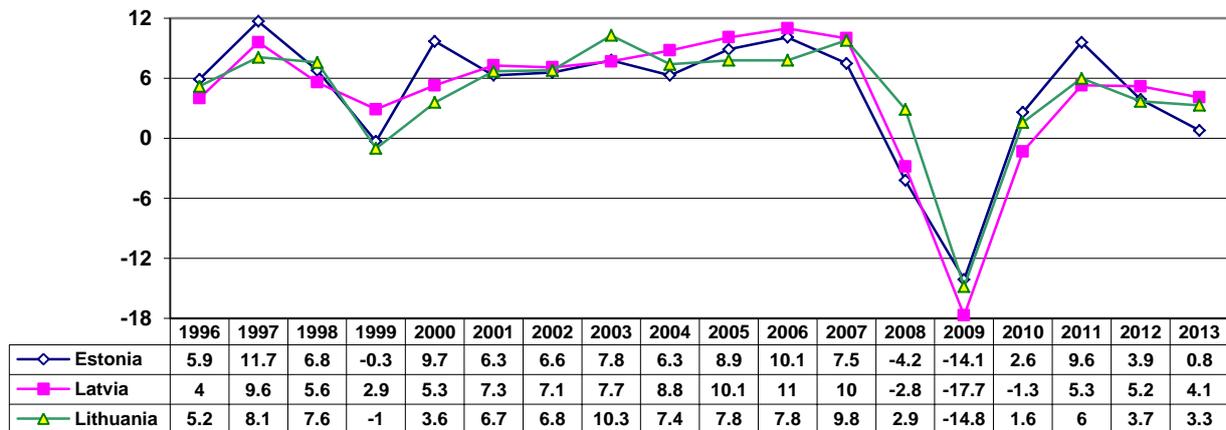


Figure 1. Real GDP growth rate – volume. Percentage change during the previous year. [22]

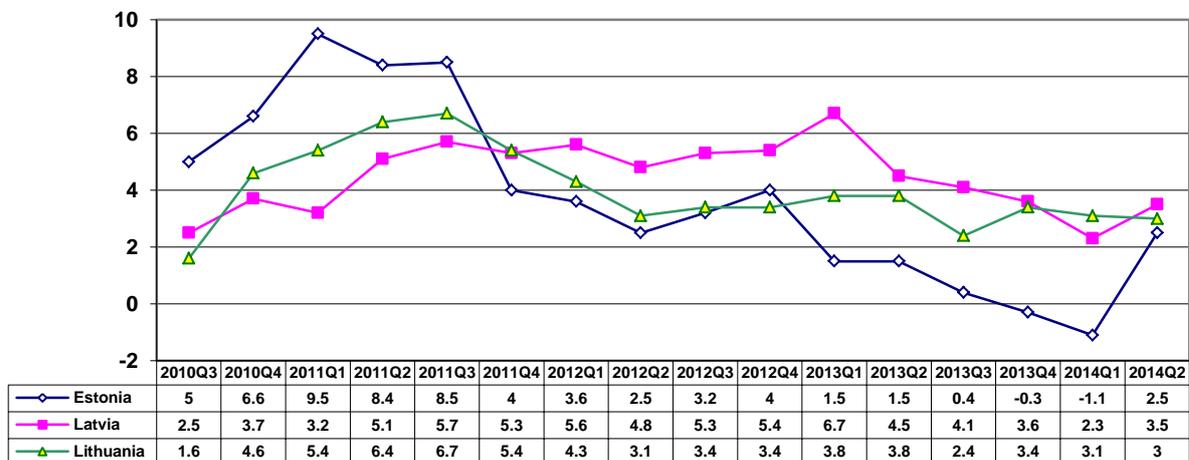


Figure 2. GDP percentage change compared with the same quarter of the previous year [23]

Figure shows the decline in GDP 2009th and economic growth in the coming years of Baltic States.

A small decrease in GDP was also in Estonia and Lithuania in 1999. The Baltic countries GDP fell strongly in 2009, but in subsequent years was the growth rate as before the economic crisis.

The trend line shows the cyclical development of the Baltic countries economy (GDP). In addition to the economic decline during the years 2008 – 2009, there was also a decline in 1999. If an annual real GDP increment of more than 10% can be considered excellent, then the result in 2009 (14.1%) was one of the largest in the world.

The development of the Estonian economy before and after the crisis was one of the fastest in the

EC. Yet, the crisis led to a very deep recession, which was one of the greatest in the world, as well as in the EC, and lasted for nine quarters. 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 2012 are highest in the EC. However, in 2013 only 0.8%. [6]

The trend line of Estonia is steadily declined since 2011Q2 and only in 2014Q2 was the decent GDP growth. Also GDP growth of Latvia and Lithuania is decreased in the past. Latvia and Lithuania's economy developed rapidly, but Estonia in 2013Q4 and 2014Q1 was step backwards (minus).

Table 3. Gross domestic product at market prices. PPS per inhabitant [24]

	2002	2007	2008	2009	2011	2013
Est	10200	17500	17200	14900	17400	18600
Lat	8400	14300	14600	12700	15000	17300
Lit	9100	15500	16100	13600	16900	19100

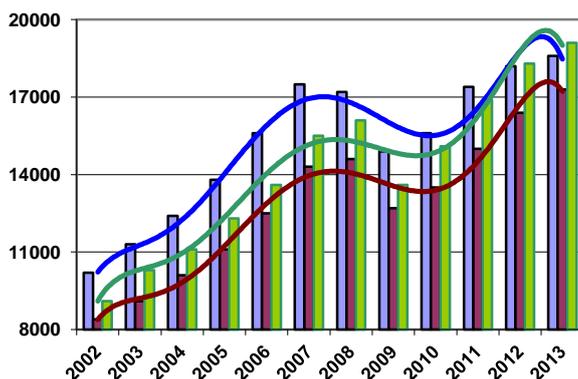


Figure 3. GDP at market current prices. PPS per inhabitant [24]

The 2007 level exceeded Lithuania and Latvia only in 2011 and Estonia in 2012.

The trend lines GDP (PPS) per inhabitant:

$$Estonia \ y = -0,7278x^6 + 26,445x^5 - 360,48x^4 + 2286,3x^3 - 6903,2x^2 + 10389x + 4785,6; \\ R^2 = 0,9682 \tag{1}$$

$$Latvia \ y = -0,6393x^6 + 23,604x^5 - 328,37x^4 + 2140x^3 - 6670x^2 + 10091x + 3129,5; \\ R^2 = 0,9799 \tag{2}$$

$$Lithuania \ y = -0,7258x^6 + 26,847x^5 - 376,26x^4 + 2495,7x^3 - 8058,5x^2 + 12781x + 2237,9; \\ R^2 = 0,9704 \tag{3}$$

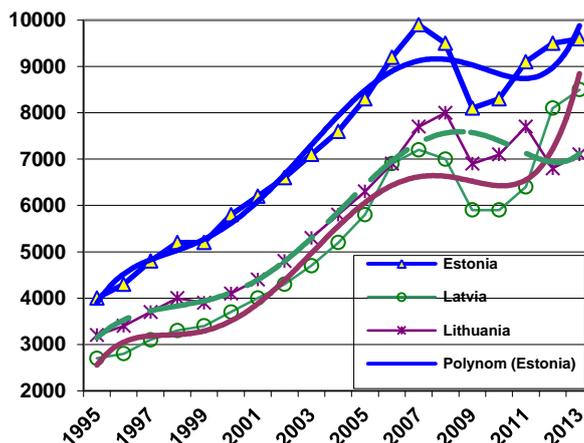


Figure 4. Real GDP per capita, euro per inhabitant, 1995 – 2013 [5]

GDP per capita (PPP) is an important indicator of a state's standard of living, which takes into account price level differences. The figure shows that the economy was the highest during the years 2007 - 2008. A larger or smaller recession took place in 2009, which

is called the crisis year. In the following years economy grew. In 2011, the U.S., as well as the EU 27 as a whole, including Germany, Sweden, Latvia and Lithuania, reached a record level per capita. Finland and Estonia were short of the 2007 - 2008 level. [24]

The trend lines *real GDP per capita*:

$$\text{Est } y = 0,1016x^5 - 4,7524x^4 + 76,919x^3 - 512,06x^2 + 1694,7x + 2636,5; \\ R^2 = 0,9603 \quad (4)$$

$$\text{Lat } y = 0,1224x^5 - 5,6236x^4 + 90,097x^3 - 590,44x^2 + 1715,6x + 1345; \\ R^2 = 0,9549 \quad (5)$$

$$\text{Lit } y = 0,0034x^6 - 0,1272x^5 + 0,8085x^4 + 16,069x^3 - 201,26x^2 + 869,14x + 2456,9; \\ R^2 = 0,9736 \quad (6)$$

Between 1995 and 2007, GDP per capita in constant prices in Estonia increased by 2.48 times, by 2.31 times in Lithuania and 2.67 in Latvia. The economic crisis significantly brought down the levels

and in 2011, Lithuania was the only country that managed to exceed pre-crisis levels, in fact, Estonia and Latvia were also short of the level of the year 2007 and 2008.

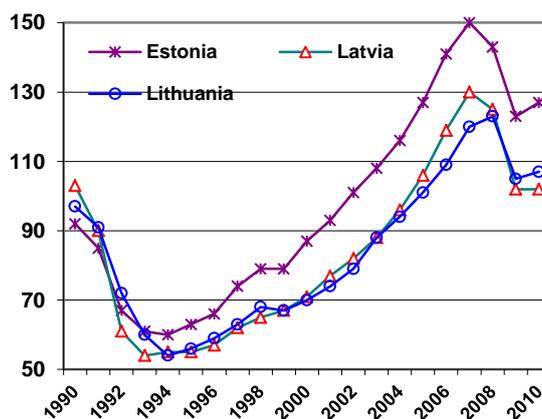


Figure 5. GDP change during transition in % of GDP from 1989 level [25]

Next will be reviewed GDP change during transition in % of GDP from pre-transition 1989 level. The figure illustrates that after the disintegration of the socialist countries, i.e. the Soviet Union and

Yugoslavia, the levels of the economies (GDP) of all these countries declined for several years. This was followed by an increase, which was also affected by the economic crisis. The bottom two trend lines show that

Russia and Ukraine experienced the biggest difficulties. Development was faster in Poland, Slovakia and Slovenia, and Estonia of the Baltic States. The economy of Poland has developed approximately twice faster than that of Russia and approximately three times faster than the economy of Ukraine.

Of the post-socialist countries, after the disintegration of the SU in 1992, Latvia had 61%, Estonia 67%, Russia 79%, etc. left of the GDP level of 1989. Of the parts of the former Yugoslavia, Croatia had 60%, etc. left in 1993. The decline continued in the following years. The level of the Baltic States dropped. In 1994, it was 60% in Estonia, 55% in Latvia, and 54% in Lithuania. The decline of Russia and Ukraine, however, continued, in 1998, it was: Russia 53% and Ukraine 39%. The decline was lower in the satellite countries that were not members of the SU, in Poland 82%, in Czech Republic 87%, in Hungary 85%, in

Slovakia 83%, etc. in 1991. Their following development was also faster.

As a rule, it took more than 10 years to exceed the level of 1989. Estonia exceeded the level of 1989 in 2002 and Latvia in 2005, while in 2010 Russia had reached 98% and Ukraine 63% of 1989. The levels of 1989 were first exceeded by Poland (1996), Slovakia (1998), and Slovenia (1998). In 2010, Poland achieved 187%, Slovakia 162%, Slovenia 144%, and Czech Republic 138%. Estonia was the most successful of the former Soviet Union countries with 127%. But Russia and Ukraine still did not reach the level of 1989 in 2010. [25]

This is the background for the transition to market economy of post-socialist countries, which was, however, very varied. It must also be added that the development did not occur linearly, but with upturns and declines (crises).

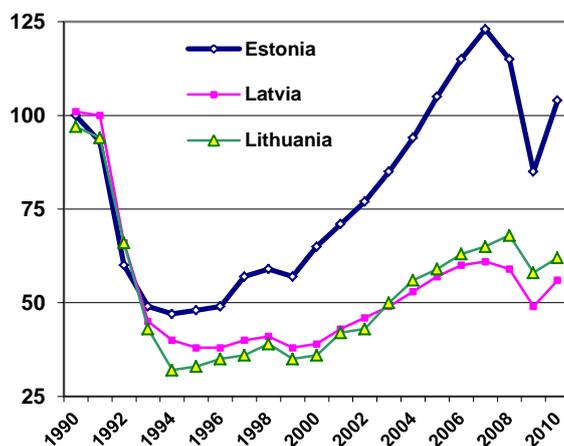


Figure 6. Industrial output change during transition from 1989 level [25]

If we also analyse changes in the level of industrial production in the period of the transfer (1989 – 2010), the development was the biggest in Poland 225%, Hungary 187%, and Slovakia 140%. The decline of industry in the years following the disintegration of the Soviet Union was the largest in the Baltic States: 32% remained of the level of 1989 in Lithuania, 38% in Latvia, and 47% in Estonia, but also 44% in Russia and 49% in Ukraine. 8 of the 13 analysed post-socialist countries still did not reach the level of 1989 in 2010, whereat Russia had reached 77% and Latvia 56%. The figures show that the decline in industrial production of the former Soviet Union countries lasted twice longer than in the post-socialist (CEE) countries that had not belonged in the Soviet Union. Of the former Soviet Union countries, only Estonia was above the level of 1989, as well as Ukraine in three years. However, the decline of 2009 was the largest in Estonia, Ukraine, and Hungary. The decline of all others was quite small[25].

Taking into account this publication and the previous work of the authors [6 - 20] have made the following conclusions and suggestions.

CONCLUSIONS AND SUGGESTIONS

Conclusions

1. Lithuania rose an economic leader in the Baltic States by GDP.
2. In the Baltic States Lithuania has the economy of the largest volume (GDP) and the highest GDP per capita.
3. The economic indicators of Baltic countries are different, both in absolute and in relative terms.
4. The quality of life is the highest in Slovenia of the CEE-8 countries and in Estonia of the Baltic States. The level of most of these countries is considerably higher than the wages and other indicators of quality of life in Russia. However, the level of the CEE-8 and the Baltic countries lags far behind the levels of the EU-15 and the USA.

5. Companies came out of the economic crisis by a surge of hiring professionals, engineers and customer service staff.

6. Companies were brought out of the economic crisis by the growth of labour productivity.

7. The importance of large companies, especially those with 250 and more employees, was decisive.

To increase the efficiency of the economy (labour productivity) must be taken into account:

A. By the employee.

a. Objective factors (different innate abilities, talents, working and living conditions).

b. Subjective factors (self-realization, motivation, commitment, a desire to work better, ambition, education, qualification, a variety of mental and physical abilities, laziness, negligence, drunks, the courage to set high goals and the desire to strive for them).

B. By the employer (the company).

a. Objective factors [better organization of work, using more efficient machinery and equipment, innovation, improving working conditions (lighting, noise, humidity, temperature, air composition, etc.), natural conditions, material possibilities].

b. Subjective factors [moral (cheering, encouragement, etc.) and material incentives (salary, bonuses, bonus payments, etc.), creating conditions for up-skilling and re-training, the work environment (working collective, i.e. co-workers, etc.), not overly demanding, behaviour with the staff (guaranteeing human integrity, name-calling, etc.), taking internal tensions to the minimum, a desire to develop the company and increase its fame, the educational level and experiences (information capital) of the management leadership, the ambition of the company's management].

C. Several of the factors for raising mental and physical work productivity are different. Typically, an increase in the company's productivity depends more on the employees that do mental work (engineers, economists, etc.). It is important to establish an optimal relationship between the groups. The excellent drawings for a machine designed by an engineer will still usually be finished in metal by workers.

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

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 key indicators would also provide a more accurate picture.

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