

ANNEX 1. Economic convergence and its impact on prices

Monetary policy of the Eurosystem and economic convergence of the country has a long-term impact on inflation rates. The purpose of the Eurosystem is to maintain price stability in the euro area, however the Central and Eastern European (CEE) countries are the exceptions, where due to economic convergence inflation rates may be higher than in the old EU Member States. This is influenced not only by participation in the EU common market, which stimulates the convergence of prices and wages, but also the relatively more rapid pace of economic growth of less developed EU countries. This annex analyses how economic convergence influences inflation in Lithuania and other EU states.

1. Monetary policy of the Eurosystem and economic (income level) convergence

The main factor to determine certain inflation levels over the medium-term and especially the long-term period is monetary policy. The key purpose of the Eurosystem, which consists of the ECB and euro area national central banks, is to maintain price stability within the euro area. Price stability is defined as being lower than 2%, but close to this level, annual inflation within the entire euro area in the medium-term according to the HICP. Therefore, the aim is to prevent too rapid growth of prices and negative outcomes that might be caused by a prolonged period of particularly low inflation or deflation.⁷

In Lithuania, inflation over the long-term period has been also significantly influenced by price convergence, which arises from the Lithuanian economy's high openness to foreign trade, participation in the EU common market and economic (income) convergence, i.e. the process over the course of which Lithuania is becoming more advanced as an economy. The economic development of not only the EU but also euro area countries is not equal. This is evident when comparing the old and the new EU Member States: the economies of EU Member States that joined the EU in 2004 and later (their structure, living standards, labour productivity, etc.) essentially remain developing and are on the path of becoming similar to the economies of the old EU Member States over time. In such circumstances, the economies of all EU Member States, especially of the new ones, including their price developments, are affected by two significant economic processes. Participation within the EU common market promotes and accelerates the convergence of prices and wages. The relatively more rapid economic growth of the less developed EU states gives additional stimulus to their inflation. At the same time, the more robust economic growth of these countries influences the catch-up of their income level to the more developed EU states, i.e. economic convergence.

In the presence of international trade, price convergence, stimulated by participation in the EU common market, has a more pronounced impact on prices for goods, however the free movement of labour also creates preconditions for the convergence of wages, which in turn affects service prices. More intensive international competition leads to prices being more similar in the market of goods than in the market of services of different countries. With the prices for goods becoming similar, their development is then determined by common factors, thus the inflation of a certain group of products in different countries does not differ much (in a way, inflation is 'imported'). Since there is a considerable amount of services that are not traded internationally, service prices are less affected by such mechanism. However, the other cornerstone of the EU common market, namely the free movement of labour, creates preconditions for convergence of wages. This puts upward pressure on labour costs, which makes services more expensive in new EU Member States and thus stimulates price convergence for services that are not traded internationally.

Economic (income) convergence is another important factor that determines a more rapid increase in wages, living standards and price levels in the less developed EU states than in the old EU states, underpinned by the fact that labour productivity of the exporting (goods) sector outpaces that of the non-exporting (services) sector⁸. As labour productivity in the exporting sector increases, wages of persons working in this sector increase as well. This causes pressure on the wage growth in the non-exporting sector and stimulates the growth of prices within it. As a result, headline inflation increases.

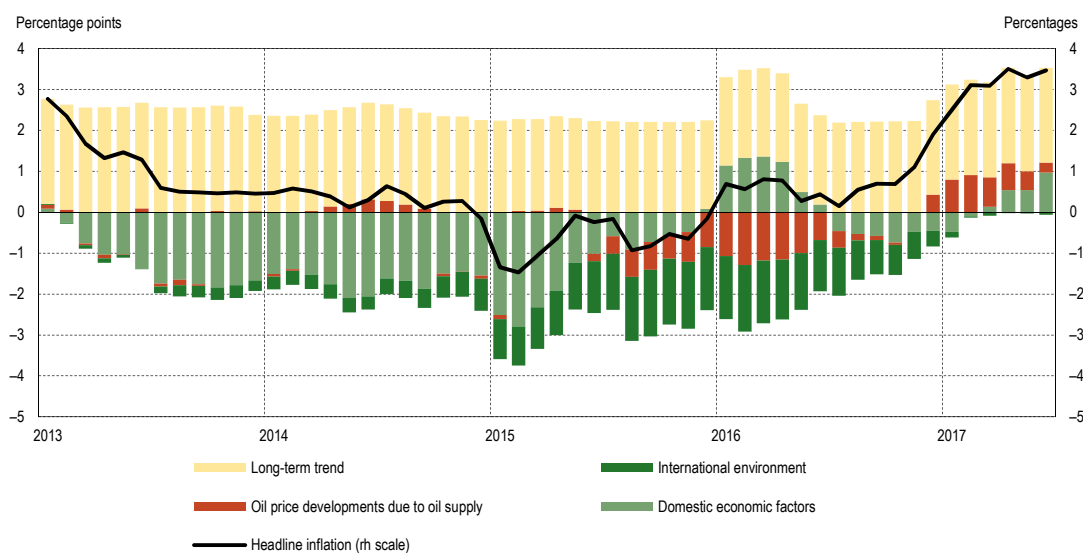
Economic research results (Halpern, Wyplosz 2001; Egert 2002; Mihaljek, Klau 2004) show that due to economic integration and convergence, price growth in the developing countries might be significantly (up to 3 percentage points) faster than in the developed ones. The results presented by the more recent research (Konopczak 2013) show that the inflation rate in CEE countries may be about 1–3 percentage points higher compared to the old EU Member States due to economic convergence. In Lithuania, the share of inflation, which is related mostly to monetary policy and convergence factors, has been assessed by Julius Stakėnas (2018). His research shows that a significant part of headline inflation is influenced by long-term trends. According to the data of 2001–2017, this trend on average might have affected 2.3 percentage points of inflation annually (see Chart A). The trend discussed is directly related to monetary policy and convergence factors, which are independent from short-term changes (e.g. oil or food commodity price fluctuations).

⁷ In other words, the aim is not only to protect the purchasing power of the euro (and thus savings denominated in euro), but also to ensure the efficient operation of the price system, so as to avoid deflationary spirals, occurring when prices constantly decrease. As a result, consumers postpone consumption whilst companies postpone investment, and, consequently, this increases the risk of economic stagnation.

⁸ In economic theory it is known as the Balassa-Samuelson effect (and closely related Baumol and Bowen effect).

However, inflation is not always close to the long-term trend as it is also influenced by various short-term economic factors, the international economic environment being one of them. For example, due to the sluggish growth of the global economy in the post-crisis period, the international environment had a dampening effect on inflation in Lithuania. As a result, in 2015 headline inflation in Lithuania was even negative. However, in the second half of 2016 the global economy noticeably improved, which in turn put upward pressure on inflation. The situation within the labour market is another factor having an impact on inflation. For example, during the post-crisis period unemployment level was higher and the bargaining power of employees was lower, thus the pressure on prices was not caused by the wage development. Later, when unemployment scaled back and there was a lack of qualified employees, labour costs began to increase significantly. This put upward pressure on inflation during the first half of 2016 and in 2017. Another important factor is oil price developments. The price of oil, which decreased in 2015 and picked up in the second half of 2016, had a noticeable effect on inflation.

Chart A. Factors of headline annual inflation in Lithuania (econometric analysis)



Sources: Eurostat and Bank of Lithuania calculations.

2. Economic convergence in Lithuania, the Baltic States and the EU

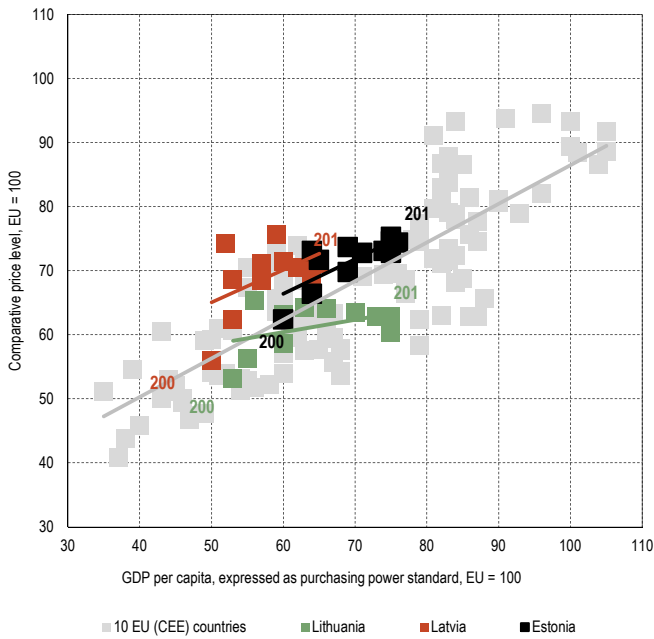
One of the most important factors of inflation determination is economic convergence. In order to better understand its rate and scope it is necessary to compare its trends within similarly developed EU states. The effect of economic integration and convergence on price levels in CEE countries between 2005 and 2016 is illustrated in Chart B. The horizontal axis indicates the level of GDP per capita in each state adjusted according to purchasing power standard⁹ compared to the average within the EU¹⁰. The vertical axis shows the relative price level within each state: the higher the value, the higher the general price level in the country compared with the average level of the EU. The indicators discussed are strongly positively correlated, which is expressed by the grey line in the middle: the higher the income level in the state, the higher its price level. In addition, this trend shows the direction of convergence within CEE countries: over time CEE countries reach a higher level of GDP per capita and a higher price level.

Taking into account the level of economic development (income) in Lithuania, it is obvious that the general price level in Lithuania, compared to other CEE countries, apparently is not as relatively high. Analysing the situation in the Baltic States between 2005 and 2016, particularly the convergence rate of GDP per capita, it may be noted that in recent years price level in Lithuania was growing at a slower pace compared with the general experience of CEE countries, as it is shown in Chart B (green and grey lines respectively). Differently than in Lithuania, the GDP growth per capita was followed by a higher increase in price level in Latvia and Estonia between 2005 and 2016. In this period, the relative price level picked up by about 15 percentage points in Latvia and about 13 percentage points in Estonia, whilst in Lithuania the increase was less than 10 percentage points. In the meanwhile, GDP per capita went up by 15 percentage points in Latvia and Estonia, whilst in Lithuania – by 22 percentage points. According to the data of 2016, GDP per capita adjusted according to purchasing power standard in Lithuania was similar to that of Estonia (75% of the EU average) and higher than in Latvia (65%). However, the price level in Lithuania in 2016 was about 63% of the EU average and was lower than in Estonia (75%) or Latvia (71%). Thus, although average annual inflation in Lithuania was relatively high and stood at 3.7% in 2017 (in 2016 the average annual inflation was 0.7%) it could be stated that in 2017 the price level in Lithuania approached the average price level within the EU but remained lower than in Latvia and Estonia, where average annual inflation in 2017 stood at 2.9% and 3.6% respectively.

⁹ Adjustment according to purchasing power standard is aimed at taking into consideration price differences within countries and thus increase comparability of economic indicators calculated on the basis of the nominal value (e.g. the euro) between countries.

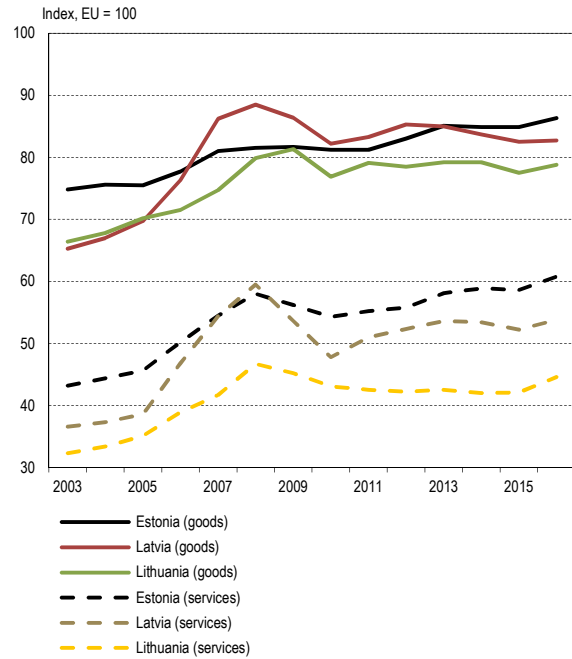
¹⁰ In this case, income convergence is indicated as the change of GDP per capita according to the horizontal axis, moving from left to right.

Chart B. Comparison of GDP per capita (expressed in the purchasing power standard) between 2005 and 2016 and the general price level within 13 CEE countries



Sources: Eurostat and Bank of Lithuania calculations.

Chart C. Comparison of goods and services price level in Lithuania, Latvia, and Estonia between 2003 and 2016

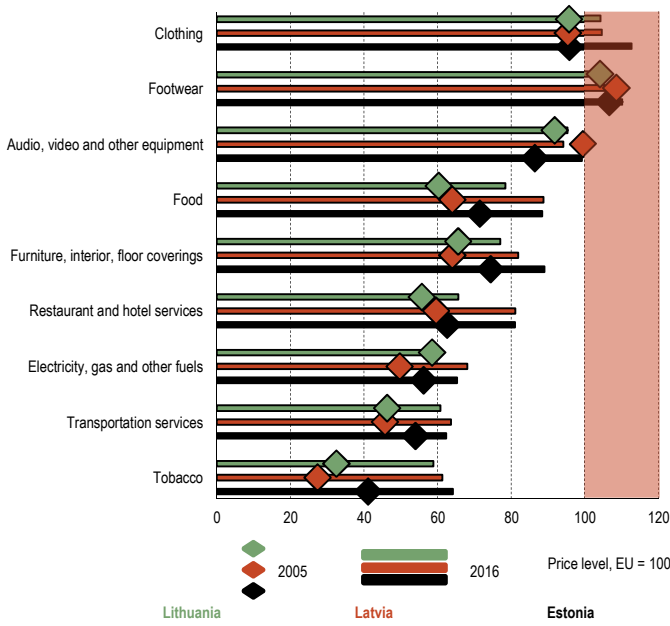


Sources: Eurostat and Bank of Lithuania calculations.

The difference between the average price level in the EU and Lithuania is essentially conditioned by service prices. Eurostat data shows that in 2016 the general price level for services in Lithuania was noticeably lower than in Latvia and Estonia and approximately twice lower than the respective EU price average (see Chart C). At the same time, prices for goods, whose convergence is particularly influenced by international trade, reached about 80% of the respective EU average. An analogous conclusion can be made when comparing particular groups of goods and services.

A more detailed comparison of prices for particular groups of goods and services confirms the overall trend that prices for goods have been closer to the average price levels of the EU than those of service prices for a long time (see Chart D). Since there is free trade within the EU and it is strongly related to trade in goods, their prices eventually converge between the EU states. At the same time, some of the prices for goods may already be very close to the average EU level since they are also affected by other factors such as the share of imported goods within a particular group of goods. Also, Lithuania has a significantly lower level of economies of scale than the major EU states, thus merchants may set higher prices to partially compensate the higher costs of sales. Coming back to particular groups of goods and services, it is evident that in Lithuania, clothing and footwear prices are above the average EU price level (according to the data of 2016, these figures were above the EU average by 4.3% and 2.7% respectively). It should be noted that this has been observed since 2008. Thus, it is not just a recent trend. In 2016, prices for food, which account for quite a large part of the residents' basket of goods and services, reached almost 80% of the EU price level. However, there are such goods and services that cost about 40% less for the Lithuanian consumer than for the average EU consumer (e.g. transportation services, electricity, gas and other fuels and tobacco). The comparison of price levels in the Baltic States in 2005 and 2016 shows that the largest price increases were for tobacco, food and transportation services. However, having compared price levels of particular groups of goods and services between the Baltic States it becomes evident that, according to the data of 2016, the price level of those goods and services in Lithuania was not higher than in Latvia or Estonia.

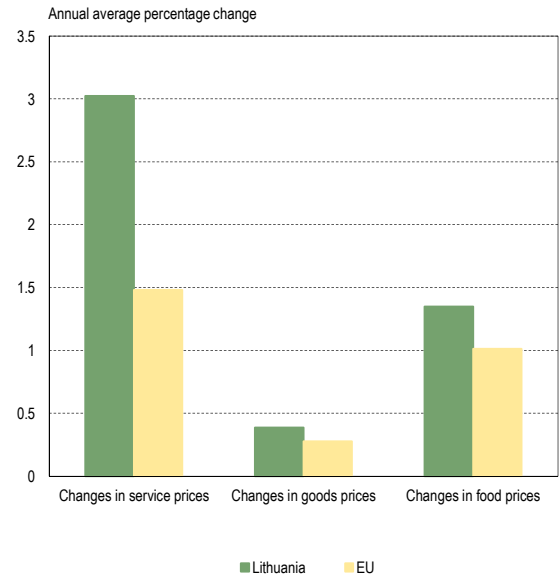
Chart D. Price level of some goods and services in Lithuania, Latvia and Estonia compared to the average of the EU in 2005 and 2016



Sources: Eurostat and Bank of Lithuania calculations.

Note: groups of goods, of which the price level in certain years exceeded that of the EU, are presented in

Chart E. Average service, goods (including food) and food price growth in Lithuania and the EU in 2013–2017



Sources: Eurostat and Bank of Lithuania calculations.

Over the long-term, changes in the price level of services should be affected more by factors related to economic convergence, whilst the dynamics of prices for goods should mostly be affected by global factors and trends. That might be envisaged, taking into account that the price level of goods is much closer to the EU average than that of services. The data of 2013–2017 basically confirms such expectations as well: as opposed to goods and food prices which in Lithuania showed a slightly higher increase compared with the EU average, the increase in service prices was two times higher than in the EU (see Chart E).

References

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