

**Box 2. Carry-over effect and its impact on the growth of GDP**

The annual growth rate of GDP depends on two factors – GDP growth in the current year and its development in the previous year. The latter contributor is also called the carry-over effect and is calculated using seasonally and working day adjusted data. It shows the level of the GDP growth in the current year if the GDP growth within all quarters of the year was equal to 0 per cent. In other words, the volume of GDP of all quarters of a respective year should be equal to the level attained in the last quarter of the previous year. In such a case the actual GDP growth rate would be treated as the difference between the GDP growth rate and carry-over effect.

As an example could be used quarterly volumes of Lithuania’s GDP in 2006–2007 shown in Chart A. Lines A and C show average volumes of the quarterly GDP in 2006 and 2007 respectively. Line B shows the average GDP volume in 2007 if the GDP volume in all quarters of 2007 did not change (would remain at the level of the fourth quarter of 2006). The percentage difference between A and C values corresponds to the GDP growth rate in 2007 (9.8%), the percentage difference between A and B shows the carry-over effect (3.5%), while the percentage difference between B and C reflects the actual GDP growth rate within 2007 (6.3%). The ratio of the carry-over effect and actual GDP growth rate in 2007 complied with the historical average of 1996–2008. A positive impact of the carry-over effect on GDP is explained by the fact that GDP historically was constantly increasing. During the mentioned period, the carry-over effect itself made up on average about one third of Lithuania’s GDP development and complied with the euro area data.

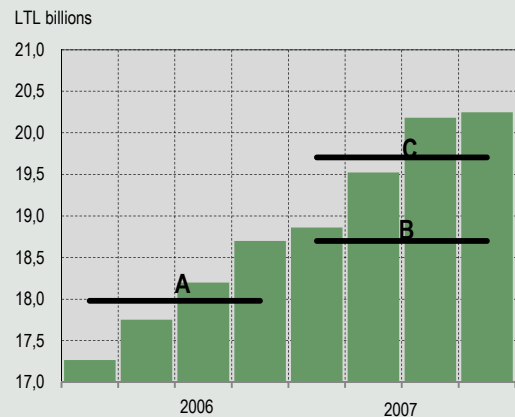
Chart B shows the breakdown of the annual change of Lithuania’s GDP in 2001–2011 into the carry-over effect and actual GDP growth rate in a respective year. The chart also shows the carry-over effect in 2012.

Looking into the GDP contributors of several recent years, it is evident that in 2008 the actual GDP growth rate was negative (–0.3%), however, due to the carry-over effect in that year GDP grew by 2.9 per cent. An immensely large 14.7 per cent GDP drop was registered in 2009. In that year the drop was seen in the actual GDP growth rate (–13.8%), the carry-over effect also reduced it (–1.0%). This occurred due to the fact that the GDP volume declined from the mid-

2008 and started to grow again only at the beginning of 2010. The latter contribution entailed a negative impact (–1.2%) of the carry-over effect on the GDP growth in 2010, while the GDP itself grew throughout 2010 (by 2.6%). GDP also grew in 2011 (5.8%), however the actual GDP growth rate was smaller (4.0%) because the carry-over effect after a break of two years increased GDP again (1.8%).

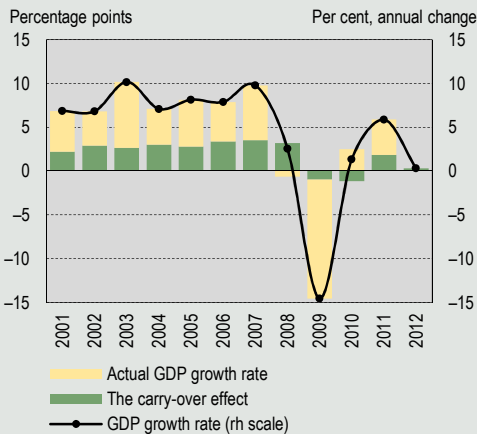
In 2012 the carry-over effect will have a minor impact on GDP growth (0.3%). However, it is not expected that actual GDP growth rate will be negative. The latest forecasts of international organisations and Lithuanian commercial banks suggest that in 2012 GDP should grow in the range of 2.0–3.5 per cent. This shows that in 2012 the actual GDP growth rate will be in the range of 1.7 and 3.2 per cent. Such growth of GDP is smaller than its long-term average. These estimations comply with the latest Bank of Lithuania forecast suggesting that Lithuania’s GDP will grow in 2012 by 2.2 per cent.

Chart A. 2006–2007 Lithuania’s quarterly GDP in volumes



Sources: Statistics Lithuania and Bank of Lithuania calculations.  
Note: data is seasonally and working day adjusted.

Chart B. Growth rate of Lithuania’s GDP



Sources: Statistics Lithuania and Bank of Lithuania calculations.