

## **GDP SEASONAL AND WORKING-DAY ADJUSTMENT**

### **Why is Estonia's economic growth released by Statistics Estonia different from the one released by Eurostat?**

The Gross Domestic Product (GDP) is released both unadjusted (raw data) and seasonally and/or working-day adjusted. The GDP growth rates are calculated both on the basis of adjusted and unadjusted values. The Eurostat release on the GDP growth rates of EU28 is not based on a special study by Eurostat, but presents the figures sent by national statistics institutions of the EU Member States.

As the GDP-related data are usually made available to the public via press releases, a comparison of the publication time and content of press releases issued by Statistics Estonia and Eurostat is provided below:

There is one press release by Statistics Estonia about the GDP growth rates:

1. The GDP estimate is published two months after the end of observed quarter, where unadjusted year-to-year growth rate (quarter compared with the same quarter of previous year — e.g. 2nd quarter 2010 compared with 2nd quarter of previous year) and the seasonally and working-day adjusted GDP quarter-to-quarter growth rate (e.g. 2nd quarter 2010 compared with 1st quarter 2010) are presented.

There are three press releases by Eurostat about the GDP growth rates:

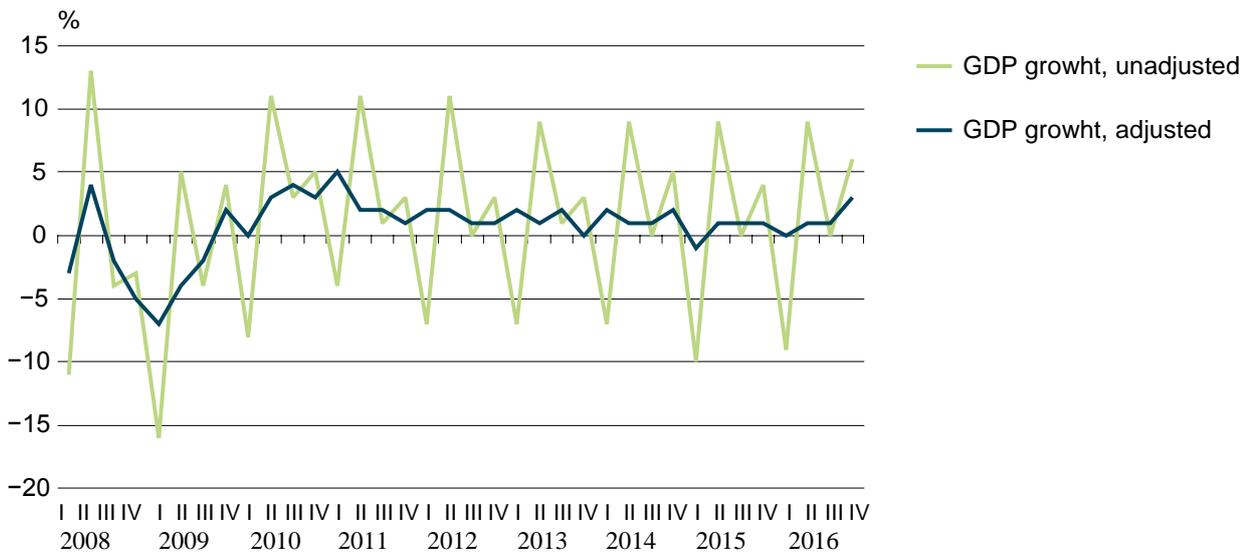
1. The first is the preliminary GDP flash estimate, published on 30th day after the end of observed quarter, where the estimate on the economy of the EU and its member states, are presented. Due to its small size there is no separate estimate for Estonia.
2. The second press release is the revised flash estimate of the GDP quarterly growth rate, published on 45th day after the end of observed quarter, where Eurostat bases its estimate on the GDP growth rates published by the member states by that time.
3. The third press release is the so-called first quarterly estimates of the GDP quarterly growth rate, published on 65th day after the end of observed quarter, where the seasonally and working-day adjusted GDP both year-to-year and quarter-to-quarter growth rates are used for Estonia. These are the same data about the quarter-to-quarter growth rate published in Statistics Estonia's press release about the GDP year-to-year growth published only in the Statistical Database on Statistics Estonia's website two months after the end of observed quarter.

### **What is the GDP seasonal and working-day adjustment?**

**Seasonal adjustment** of time series is a process for determining and eliminating seasonal factors in order to convert conditions of the compared periods more similar.

Differences in the number of working days (e.g. public holidays) between the compared periods are eliminated by **working-day adjustment**.

**GDP quarter-to-quarter growth rate, based on unadjusted and seasonally and working-day adjusted data, 1st quarter 2008 – 2nd quarter 2016**



Regression analysis is used for seasonal and working-day adjustment of the GDP. In Estonia the TRAMO/SEATS method suggested by Eurostat is used to achieve that. The same method is used for both GDP and its components. The specific model used for each time series is decided on case by case basis. As the goal of the seasonal and working-day adjustment is the elimination of seasonal effects between quarters, it can happen that the adjusted annual GDP does not match the unadjusted annual GDP.

**In which cases is the unadjusted and in which cases is the seasonally and working-day adjusted GDP growth used?**

Seasonal adjustment is important for presenting the GDP quarter-to-quarter growth rates as strong seasonality is characteristic of neighboring quarters (economic activeness of several economic activities is different in neighboring quarters mainly due to seasonality and weather conditions). For the year-to-year growth rates, the majority of EU Member States present the GDP unadjusted growth rates in their respective press releases. Also in case of Estonia, Statistics Estonia recommends to use an unadjusted figure of the quarterly GDP year-to-year growth rate.

The GDP growth rates of time series based on unadjusted and seasonally and working-day adjusted data are published in the Statistical Database of Statistics Estonia's website [www.stat.ee](http://www.stat.ee): Economy – National accounts – Gross domestic product (GDP) – Gross domestic product at market prices.