5 The reliability of the preliminary flash estimate of euro area GDP

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Timely and reliable statistics are essential for economic analysis. This box reviews and assesses the reliability of Eurostat's preliminary flash estimate of quarterly GDP growth for the euro area, which was introduced at the beginning of 2016. The euro area's single monetary policy is dependent on timely, reliable and comparable indicators that accurately reflect economic developments. In this respect, national accounts provide a comprehensive and consistent picture of the economy, making them a cornerstone of monetary policy analysis. The introduction of a preliminary GDP flash estimate was therefore a welcome development in terms of the continuous efforts to improve Europe's statistical landscape. Importantly, however, increased timeliness should ideally be achieved without any loss of reliability, which is defined here as the closeness of that initial estimate to subsequent estimates. Information about reliability can help us to interpret initial estimates in terms of uncertainty surrounding data releases or help us to guess the direction of any future revisions. If economic indicators provide misleading signals regarding economic developments, which are later corrected by revisions, this may have adverse consequences for economic analysis.
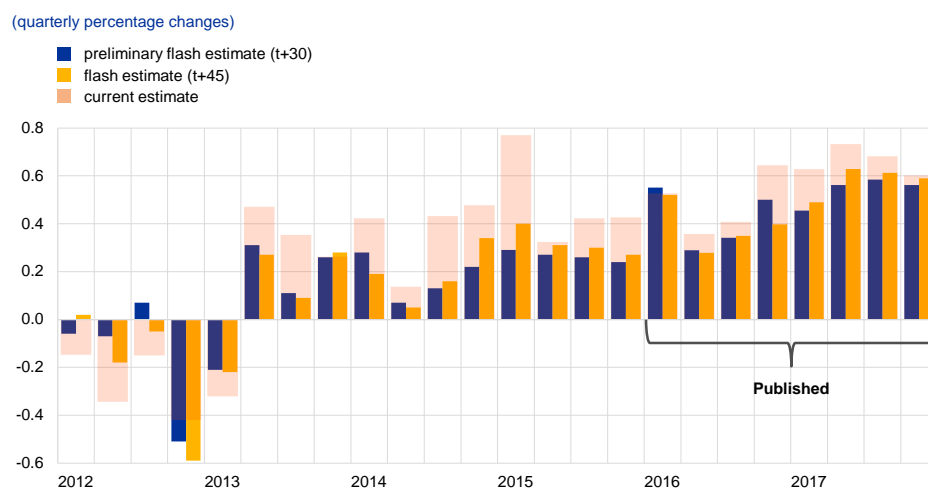
The introduction of the preliminary flash estimate brought the euro area's first GDP data release in respect of each reference period forward by some 15 days, with initial estimates being produced 30 – rather than 45 – days after the end of the reference quarter. Eurostat, in cooperation with the EU Member States, introduced the preliminary flash estimate of euro area and EU GDP on 29 April 2016 following a feasibility study.[19] In most countries, estimates at t+30 are largely based on the same methods that are used at t+45. However, owing to limited availability of data sources, the third month of the quarter is usually estimated or partially estimated by applying statistical modelling techniques that make use of available monthly information (e.g. short-term statistics, business surveys, price statistics and preliminary estimates of source data).[20] The preliminary flash estimate for the euro area is based on (i) national estimates for six countries (Belgium, Spain, France, Latvia, Lithuania and Austria – which account for some 40% of euro area GDP) which are publicly available at t+30 and (ii) national estimates for other countries that are provided to Eurostat on a confidential basis for the calculation of these European aggregates. Four euro area countries (Ireland, Luxembourg, Malta and Slovenia – which account for almost 4% of euro area GDP) do not produce estimates at t+30 or t+45, publishing their national accounts 60 days or more after the end of the reference quarter. The inclusion of data for those countries at a later stage and the incorporation of revised data for countries that have already submitted preliminary

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[19] See also Eurostat's website and the box entitled "Improved timeliness of the euro area quarterly GDP flash estimate: first experiences", *Economic Bulletin*, Issue 4, ECB, 2016.

[20] The precise estimation methods vary from country to country, but may include autoregressive distributed lags, dynamic factor models, temporal disaggregation techniques, forecasting models and multivariate models as shown in the Eurostat publications "Euro area and European Union GDP flash estimates at t+30" and "Overview of GDP flash estimation methods".

national estimates may have an impact on the final estimate for the reference quarter and therefore lead to its revision. Revisions may also reflect changes in the composition of the euro area and/or methodological improvements (such as the transition to the European System of National and Regional Accounts (ESA 2010) in September 2014).

Chart A

Estimates of euro area GDP

(quarterly percentage changes)

- ■ preliminary flash estimate (t+30)
- ■ flash estimate (t+45)
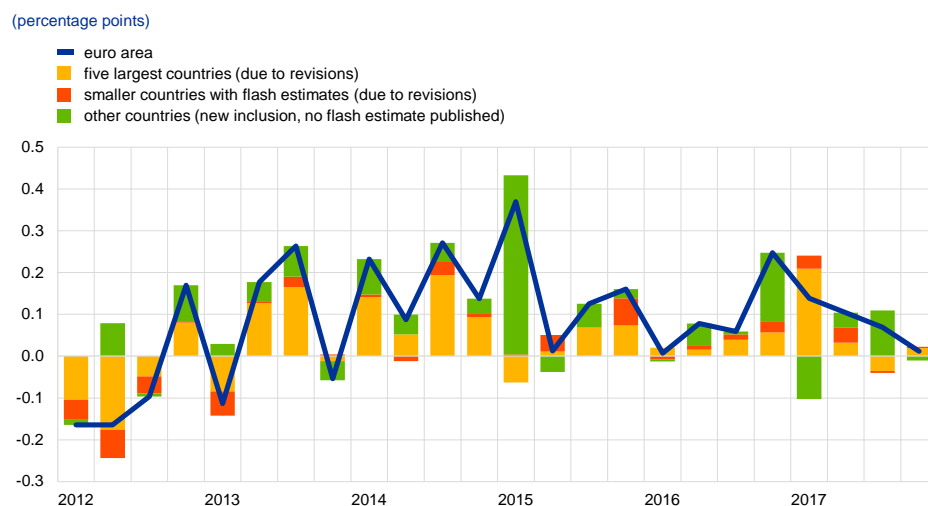- ■ current estimate

Source: Eurostat.
Notes: Eurostat's first preliminary flash estimate was published on 29 April 2016 and referred to the first quarter of 2016. Preliminary flash estimates for earlier periods are taken from the Eurostat publication "Euro area and European Union GDP flash estimates at 30 days". For the purposes of this analysis, estimates to two decimal places are used. "Current estimate" denotes the most recent data available in the ECB's Statistical Data Warehouse as at 7 March 2018. Flash estimates are based on the composition of the euro area at the relevant time, while the current estimate is based on the current composition of the euro area.

The preliminary flash estimate (at t+30) has performed well in comparison with the flash estimate (at t+45). Looking at the period from the first quarter of 2012 to the fourth quarter of 2017, there is no difference, on average, between the preliminary flash estimate and the flash estimate (see Chart A). Furthermore, even looking at individual quarters, there is no evidence of particularly large differences between the two estimates. This suggests that, despite the earlier release date, the reliability of the first estimate has been maintained. Ultimately, of course, the preliminary flash estimate and the flash estimate both need to be compared with the latest available GDP data, and the two perform equally well in this respect, with both estimates averaging 0.1 percentage point less than the latest available figures. As one would expect, the bulk of this revision stems from the five largest countries, given that they account for more than 80% of euro area GDP (see Chart B). However, smaller countries also have a role to play in this regard, either (i) as a result of revisions to their own flash estimates, or (ii) because countries that do not produce any data until 60 days or more after the end of the reference quarter are included in the euro area aggregate. Indeed, the four smaller countries that do not produce estimates at t+30 or t+45 made relatively large contributions to the revisions

that were made at euro area level, particularly in respect of the first quarter of 2015, the fourth quarter of 2016 and the third quarter of 2017.[21]

Chart B
Contributions to differences between the flash estimate at t+45 and the latest available data

(percentage points)

- euro area
- five largest countries (due to revisions)
- smaller countries with flash estimates (due to revisions)
- other countries (new inclusion, no flash estimate published)

Sources: Eurostat and ECB calculations.
Note: The five largest countries in terms of GDP are Germany, Spain, France, Italy and the Netherlands.

Euro area statistics have improved over the years, but a number of challenges still remain. The introduction of the preliminary GDP flash estimate at t+30 is one of the most significant improvements in the national accounts in recent years, bringing the first estimate forward without any losses in terms of reliability. The ECB regularly uses such estimates in its analysis and macroeconomic projections, benefiting from the improved timeliness of data. Other euro area countries are expected to start publishing preliminary flash estimates of GDP in the coming years,[22] but the number of countries publishing national estimates or detailed expenditure breakdowns at t+30 may not, in the short term, be sufficient to support a more thorough analysis of macroeconomic developments at euro area level so soon after the end of the reference quarter. In addition, the economic statistics that are used in conjunction with preliminary flash estimates are still less complete and less timely at euro area level than they are in a number of individual euro area countries and major trading partners outside the euro area (such as the United States). It is therefore important that the development of relevant euro area and country-level statistics continues and is prioritised accordingly. It is also important to enhance the quality of the source data that are used as inputs for preliminary flash estimates (e.g. short-term statistics

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[21] The revisions for those quarters were largely caused by the incorporation of Irish data in the euro area aggregate. The very significant role that is played by multinational companies in Ireland and the way that their holdings in terms of intellectual property products (intangible assets) are recorded have led to increased volatility in GDP growth rates in recent years.

[22] According to Istat's release calendar, Italy will publish its first preliminary flash estimate of GDP on 2 May 2018.

on services)[23]. These improvements will ultimately increase the reliability of preliminary flash estimates and make them more useful, thereby facilitating more detailed economic analysis.

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[23] See also the ECB Opinion on a proposal for a regulation of the European Parliament and of the Council on European business statistics amending Regulation (EC) No 184/2005 and repealing 10 legal acts in the field of business statistics (CON/2018/1), 2.1.2018.