

## ACCURACY OF SHORT-TERM ECONOMIC PROJECTIONS DURING THE PANDEMIC: THE IMPORTANCE OF THE CUT-OFF DATE

Pablo Aguilar, Samuel Hurtado and Alberto Urtasun

This early-release box was published on 7 June

Since the onset of the COVID-19 pandemic, the outlook for economic activity in the short term has been subject to extraordinary uncertainty. Specifically, the exceptional nature of this shock (which is completely unconnected to previous economic dynamics), the marked severity of its economic and social impact and the extraordinary nature of the measures rolled out to contain the spread of the virus and mitigate its adverse effects on economic activity have posed considerable challenges for short and medium-term macroeconomic forecasting.

Addressing these challenges has required significant changes in the way projection exercises are conducted.<sup>1</sup> Thus, for instance, since the outbreak of the health crisis numerous institutions (including the Banco de España), in an attempt to reflect the high uncertainty that has characterised the macroeconomic and epidemiological setting, have opted to draw up a number of alternative scenarios on the basis of different assumptions as to the course of the pandemic, the severity of the containment measures and, in some cases, other factors such as the effectiveness of economic policies. Moreover, in these exceptionally volatile circumstances, the use of various high-frequency indicators – for example, relating to changes in mobility, electricity consumption or card payments – has gained importance in projection exercises. These indicators provide almost-real-time signals on the dynamism of economic activity, as opposed to the more usual monthly activity indicators. However, high-frequency indicators generally provide a noisier signal and are, therefore, less useful in ordinary times when economic activity shows greater inertia.

Despite these methodological innovations, forecasting economic activity in the short term is still an extraordinarily complex task, as evidenced by the larger-than-usual forecasting errors observed since the beginning of 2020. This can be seen in Chart 1, which shows, from 2016, the deviation between the GDP growth rate for the current quarter estimated in the Banco de España's projection exercises and the rate published by the National Statistics

Institute (INE) in its flash Quarterly National Accounts estimate. Indeed, since 2020 Q1, taking as reference the baseline scenario of the Banco de España's projections, the average quarterly forecasting error in absolute terms was one percentage point (pp), well above the deviation of 0.1 pp observed on average for 2016-2019.<sup>2</sup>

In this setting, this box explores to what extent the recently observed larger forecasting errors may have been influenced by the behaviour of economic activity between the cut-off date in each of these projection exercises and the end of the quarter for which GDP is estimated. In particular, the hypothesis assumed is that, since the onset of the pandemic, in an exceptionally volatile economic and health situation, not having information on activity for the last weeks of the quarter (from the projection cut-off date onwards) could have played a very significant part in the forecasting errors observed, especially compared with other quarters prior to the pandemic when economic activity was much less volatile.

To assess the validity of this hypothesis, this box uses an indicator developed by the Banco de España, specifically the Daily Economic News Sentiment Indicator (DENSI). This indicator aims to measure changes in economic sentiment in Spain drawing on news in the press, and is able to approximate, with noise but practically in real time, the behaviour of GDP in the short term.<sup>3</sup> Using the DENSI, which is a daily indicator, it is possible to construct a measure that approximates the changes occurring in the behaviour of economic activity in the time elapsed between the cut-off date for each of the Banco de España's projection exercises and the relevant quarter-end. In other words, the DENSI provides for an assessment of significant changes in economic activity in the final stretch of the quarter in which the forecasts are drawn up, that could not be taken into account in the projection exercise as the changes occurred after the cut-off date.

Chart 2 shows, for each projection exercise, the number of days between the cut-off date for the projections and the quarter-end, while Chart 3 depicts the average change

1 See M. Izquierdo (2021), "Developments in the projections of the main macroeconomic variables in 2020", Box 8, "Quarterly Report on the Spanish Economy", *Economic Bulletin* 1/2021, Banco de España.

2 Since the spring of 2020, the Banco de España has been publishing several scenarios (usually three) in each projection exercise. The exception was the September Quarterly Report, when only two scenarios were published; in that case, what was then referred to as scenario 1 is considered the baseline scenario.

3 See P. Aguilar, C. Ghirelli, M. Pacce and A. Urtasun (2021), "Can news help measure economic sentiment? An application in COVID-19 times", *Economics Letters*, Vol. 199.

## ACCURACY OF SHORT-TERM ECONOMIC PROJECTIONS DURING THE PANDEMIC: THE IMPORTANCE OF THE CUT-OFF DATE (cont'd)

in the DENSI during that period, where a positive change denotes an improvement in sentiment.<sup>4</sup> In the light of this evidence, two aspects can be highlighted. First, that in the June and December projection exercises, the Broad Macroeconomic Projection Exercises (BMPE) that are conducted jointly with the other Eurosystem national

central banks, the forecasts are generally drawn up earlier in the quarter. Since in these exercises the period between the cut-off date for the projections and the quarter-end is longer, the DENSI is more likely to reflect more significant changes that were not taken into account when the projections were made.

Chart 1  
SHORT-TERM GDP FORECASTING ERRORS (a)

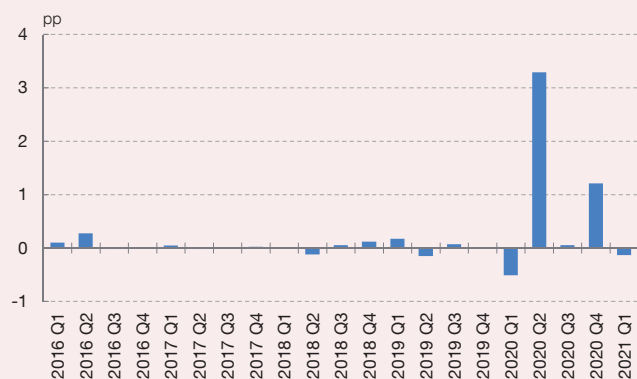


Chart 2  
DAYS FROM PROJECTIONS CUT-OFF DATE TO QUARTER-END

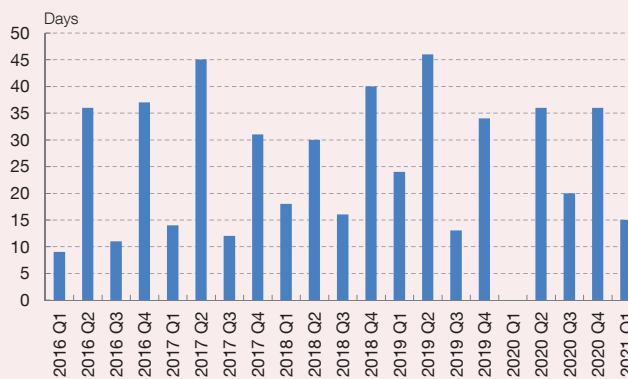


Chart 3  
DENSI REVISION BETWEEN PROJECTIONS CUT-OFF DATE AND QUARTER-END (b)

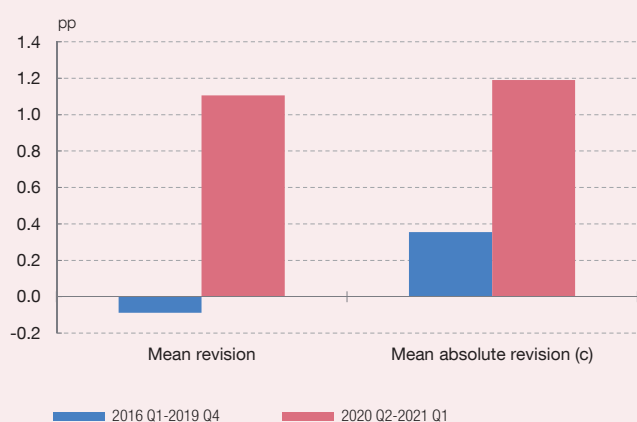
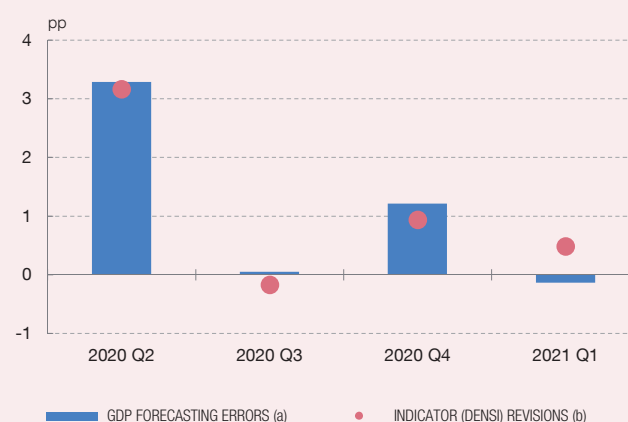


Chart 4  
GDP FORECASTING ERRORS AND INDICATOR (DENSI) REVISIONS



SOURCES: INE and Banco de España.

- a Difference between the quarter-on-quarter GDP growth rate published by INE in its flash QNA estimate and the rate forecast by the Banco de España in its macroeconomic projection exercise.  
 b Difference between the DENSI calculated with all the information for the quarter and that calculated solely with the information available at the projections cut-off date. Normalised to the scale of the GDP forecasting errors, in percentage points.  
 c Average of the absolute value of the revisions.

4 Calculated as the difference between the average of the DENSI for the full quarter and the average for the days elapsed in the quarter up to the cut-off date for the projection exercise. In the case of 2020 Q1, faced with the exceptional situation caused by the onset of the pandemic, the Banco de España decided to delay the publication of its forecasts from March, when they are traditionally published, to April. In consequence, in that case, the cut-off date for the projection exercise was after the quarter-end, and hence the change in the DENSI was zero.

**ACCURACY OF SHORT-TERM ECONOMIC PROJECTIONS DURING THE PANDEMIC: THE IMPORTANCE OF THE CUT-OFF DATE** (cont'd)

Second, consistent with the considerable volatility in economic activity perceived since the start of the health crisis, the changes observed in the DENSI between the cut-off date for the projections and the quarter-end have been much greater than those observed in pre-pandemic exercises. This is especially true for the projection exercises conducted in June and December 2020. As Chart 4 shows, the fact that, in those periods, the quarter-end information, which was not included in the analysis, pointed to a clear improvement in economic activity explains, to a certain extent, the underestimation in those projection exercises of the GDP growth rate in the current quarter.

To sum up, the analysis presented here highlights the fact that, since the start of the pandemic, against the backdrop of high volatility in economic activity, the number of days between the cut-off date for the projection exercise and the quarter-end appears to have had a significant impact on the accuracy of the forecasts for the GDP growth rate in the short term. In the specific case of the short-term projections for the GDP growth rate in the current quarter, this analysis may also reveal the cost incurred, in terms of lower forecasting accuracy, as a result of their being drawn up and published considerably in advance of the official GDP flash estimates that the INE publishes approximately 30 days after the close of the corresponding quarter.