

# EVALUATION OF AIREF'S MACROECONOMIC AND FISCAL FORECASTS

TECHNICAL DOCUMENT 3/23

Executive Summary

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Autoridad Independiente  
de Responsabilidad Fiscal

The mission of the Independent Authority for Fiscal Responsibility, AAI (AIReF) is to ensure strict compliance with the principles of budgetary stability and financial sustainability enshrined in Article 135 of the Spanish Constitution.

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# EXECUTIVE SUMMARY

By publishing this technical document, the Independent Authority for Fiscal Responsibility, A.A.I. (AIReF) maintains its commitment to analysing the quality of the macroeconomic and fiscal forecasts it has been making since 2015, incorporating the years 2021 and 2022 into the study<sup>1</sup>. Due to their nature, under normal circumstances forecasts are subject to great uncertainty, which has been extraordinarily accentuated in recent years because of the pandemic and the outbreak of the war in Ukraine and other geopolitical tensions. In this highly shifting context, the analysis of forecast errors becomes even more important as it makes it possible to identify those macroeconomic aggregates where AIReF's forecasts may be less accurate and remedy potential biases and weaknesses in the estimate process. This transparency exercise is in line with AIReF's core values and places it on a par with other independent fiscal institutions that already perform this type of exercise. This is in response to one of the OECD's main recommendations and to the content of AIReF's Strategic Plan 2020-2026.

## Macroeconomic forecasts

Forecasts of GDP growth, employment and inflation form the basis for the projections of public revenue and expenditure that are incorporated into budgetary plans. Unrealistic macroeconomic forecasts make it difficult to plan the budgetary process, comply with fiscal rules and, in short, ensure medium- and short-term fiscal discipline.

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<sup>1</sup> The detailed analysis of macroeconomic forecasts is limited to 2022.

Accordingly, EU Regulation 473/2013 establishes that the macroeconomic forecasts that serve as the basis for drawing up budgetary plans and stability programmes must be produced or endorsed by independent fiscal institutions, such as AIReF. Directive 2011/85/EU also establishes that the macroeconomic and budgetary forecasts contained in budgetary plans should be subject to regular evaluations to improve their quality and determine the potential existence of systematic biases.

In this regard, AIReF regularly includes in its reports an evaluation of the Government's forecasts based on a methodology developed to this end (see Report 21/22). Furthermore, with the aim of enhancing transparency, AIReF also performs an *ex-post* evaluation of its own forecasts, which are the basis for analysing the degree of realism of the Government's scenarios and, in the case of macroeconomic forecasts, to endorse them.

This evaluation exercise of AIReF's macroeconomic forecasts is undertaken using two approaches:

1. The short-term approach focuses on analysing the magnitude of the forecast error in 2022 with respect to the full-year estimate published by the Spanish National Accounts in April 2023<sup>2</sup> and the factors underlying this error. In particular, an analysis is made to distinguish the contribution to the forecast error of the external assumptions, of the revisions of the Spanish National Accounts figures and of other elements where errors are due to both the modelling of the macroeconomic aggregates used - which may be relevant given the difficulty in modelling the series of shocks experienced in recent years - to expert opinions and to surprises of a more genuine nature. The results suggest that the Spanish economy maintained a certain resilience in a very complex context characterised by the persistence of the economic implications of the pandemic and the war in Ukraine, which is reflected in GDP growth for 2022 that was higher than AIReF's spring forecast for that year. This outcome extends to the main demand aggregates. According to the

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<sup>2</sup>In contrast to the medium-term approach, this detailed approach takes the April 2023 data as this is the date of the Stability Programme Update and thus allows for an evaluation of the most up-to-date exogenous assumptions.

analysis performed, neither the revision of the Spanish National Accounts figures for 2021 (carry-over effect), nor the incorporation of data observed on external assumptions are sufficient to explain this positive surprise. In this regard, the good performance shown by exports of goods and services once the currently available Spanish National Accounts information is considered stands out compared with what the models would have estimated with the information observed on the external assumptions.

2. The medium-term approach is made with a longer time perspective based on a range of statistics that are commonly used to evaluate the quality of forecasts, following the methodological approach of Technical Document 2/2022 of February 18<sup>th</sup>, 2022<sup>3</sup>. The purpose is to analyse the magnitude of errors and the potential existence of biases and their persistence. The main conclusions drawn are as follows:
  - a. The incorporation of the years 2021-2022 entails hardly any changes to the statistical quality measures in AIReF's forecasts. The measures continue to be satisfactory in terms of efficiency, accuracy, and lack of bias.
  - b. AIReF does not commit systematic biases or errors when estimating GDP and its demand components in the current year. By incorporating the years 2021-2022, the tendency to overestimate the growth of private consumption and of exports and imports is mitigated. However, the tendency to underestimate employment growth in the current year is accentuated.
  - c. As regards the following year, the average errors increase due to the existence of a greater degree of uncertainty. Incorporating the years 2021-2022 corrects the optimism of export growth forecasts and the pessimism of employment. However, there is a tendency for gross fixed capital formation to be overestimated because, as AIReF has stressed in all its reports, it prepares its forecasts on the assumption that the revenue budgeted in the Recovery, Transformation and Resilience Plan (RTRP) will be fully executed,

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<sup>3</sup>See [Report 21/22](#). Unlike the short-term approach, this approach takes as a reference for each year the first publication of the full year available in the Spanish National Accounts flash estimate of January t+1.

while in practice there have been delays in this revenue reaching real activity.

- d. There continues to be an absence of persistent errors, except for gross fixed capital formation forecasts for the following year, where overestimates for the following year are often accompanied by actual overestimates in that year. This persistence is linked to the assumptions of full execution of the RTRP.
- e. Compared with other institutions, there are still no significant differences between the biases and the accuracy of the forecasts of the different institutions and AIReF. AIReF continues to forecast GDP growth in the current year with greater certainty, but it is less accurate in forecasting the evolution of the foreign sector in the current year and of gross fixed capital formation.

### Fiscal forecasts

The inclusion of years 2021 and 2022 in the analysis confirms the absence of any significant bias in AIReF's fiscal forecasts over the course of the whole period. Moreover, AIReF's forecasts were on average more accurate than those of the Government. Furthermore, in 2021 and 2022 they were also more accurate than the average of other analysts' deficit forecasts. In addition, in 2022 the widespread nature of the deviation of most of the institutions considered (pessimistic) was of the opposite sign to AIReF's (optimistic). AIReF's deviation during the two years analysed remained among the five most accurate.

The average public deficit forecast error was 0.9 points of GDP above the final figure observed in 2021 and 0.3 points of GDP below the final figure in 2022. In a context characterised by high uncertainty, the errors in 2021 and 2022 were mainly due to three competing factors: the adoption of measures at later points in time than when the forecasts were made, the materialisation of tax collection elasticities significantly above historical values and, in the case of the expenditure and revenue forecasts, a slower execution of the RTRP than initially expected.

AIReF continues to work on improving the weaknesses in the areas identified. In this regard, it is worth highlighting the breakdown of the variability of the main tax figures carried out in fiscal year 2023<sup>4</sup> to quantify the different factors that have caused the increase in revenue over the last two years.

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<sup>4</sup>See [Technical Document 2/23](#)

AIReF is also looking more closely at the mechanisms to monitor the regulatory measures that impact the forecasts and the monitoring of the execution of the RTRP. However, the limited availability of information on the impact of the plan in terms of the Spanish National Accounts for the revenue and expenditure of the General Government is beyond the scope of AIReF's analysis. Furthermore, due to their discretionary nature, it is not possible to anticipate the impact of unannounced measures on the forecasts.