

Report on the Macroeconomic Forecasts in the Draft Budgetary Plan for 2017

Executive summary:

AIReF, on the basis of exogenous assumptions and defined policies, endorses the Government's macroeconomic forecast. AIReF deems the Government macroeconomic scenario accompanying the 2017 Draft Budgetary Plan to be prudent overall.

The growth breakdown reflected in the Government scenario is deemed plausible, with domestic demand as the main driver of the economy together with a marginally positive contribution from the external sector. Among the components of domestic demand, private consumption is still the primary growth force, aided by the upturn in employment and stability in favourable monetary conditions. In turn, the forecast development in Government consumption is seen as plausible, in line with the restraint in expenditure included in the deficit reduction targets for 2017. Concerning investment, the Government's updated forecasts, with respect to those presented in the October Draft Budgetary Plan, envisage a slowdown that is viewed as prudent and consistent with the potential macroeconomic impact of the announced tax measures. The external sector contribution is also considered to be feasible, as it stands on –moderately– positive terrain and is in line with AIReF's internal forecasts. Lastly, growth of prices envisaged in the Government scenario has remained on a recovery path, although at a prudent pace in light of the most recent information available.

Risks stemming from the external environment are deemed more severe than those contemplated in the Government macroeconomic scenario. Risks from the exterior environment are

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

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underestimated as a whole, in view of the latest forecasts for world growth and trade, and the same applies to the price of commodities.

There is genuine uncertainty over estimating the impact of the cyclical recovery and of the announced measures regarding revenue forecasts. Given the uncertainty over the cyclical revenue gain for 2017 and the inherent difficulty in estimating the impact on tax revenue by the measures announced, there is a need for effective monitoring of tax revenues in order to assess the adequacy of these measures in line with the committed targets.

Based on its analysis, AIReF postulates two recommendations:

1. **The INE should ensure at all times internal consistency among the annual and quarterly National Accounting estimates,** correcting the current mismatch between the publication of the revised annual national accounting series and the full quarterly national accounting series consistent with the annual series.
2. **The Government should adopt and make public the necessary measures to correct the significant biases observed in the forecasts for government consumption over the last four years.**

AIReF submits to the Government three suggestions for good practices:

1. To accompany the macroeconomic outlook with a “no policy change” scenario and another quantifying the economic impact from the measures adopted or envisaged, to better understand the forecasts and to make explicit at all times the connection between the macroeconomic outlook and the budget scenario.
2. To integrate key forecasting elements in a simplified national accounting framework.
3. To offer a broader range of information on the relevant methodologies, assumptions and parameters for underlying the forecasts.

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1. Introduction

In its report on Macroeconomic forecasts associated to the Draft Budgetary Plan submitted by the Government last October, AIReF endorsed the macroeconomic outlook deeming the forecasts to be realistic but subject to risks, both from external assumptions and from the impact of potential restraining budgetary measures aimed at meeting the deficit target of 3.1% of GDP in 2017.¹ Compliant with EU regulations, the Government of Spain published its Draft Budgetary Plan for 2017 in October. Given the provisional status of the caretaker government, the document was based on a scenario without economic policy measures for 2017, with a public deficit forecast of 3.6% of GDP, half a percentage point above the target of 3.1% agreed with the European authorities. In this context, AIReF published the required report on the macroeconomic outlook accompanying the Draft Budgetary Plan. The Macroeconomic forecasts were deemed likely overall, and were endorsed, despite having pointed out two major risks: Firstly, potential risks deriving from the performance of the external environment, and secondly, the existing uncertainty over budget measures to be adopted in 2017 with the aim of complying with the deficit target and its potential impact on domestic demand dynamics.

In reply to the specific request by the European Commission, the Spanish Government will submit an update to the mentioned document containing the necessary measures to ensure compliance with the deficit targets for 2017. The European Commission, in its Opinion on the Draft Budgetary Plan submitted by Spain for 2017, has invited Spain to present an updated draft including the measures necessary for compliance with the targets agreed beforehand by Decision of the Council on 8 August 2016.² As soon as the Government has been formed, the Ministry of Economy, Industry and Competitiveness has stated its intention of updating the Draft Budgetary Plan for 2017 with an accompanying package of budgetary measures allowing the deficit forecast to be adjusted down to the agreed target and modifying the macroeconomic outlook it is grounded on.

In line with previous occasions, and considering AIReF's mandate, this report assesses the macroeconomic forecasts associated to the Draft Budgetary Plan update for 2017. The macroeconomic forecasts incorporated in the Public Administrations' draft budgets must be accompanied by a report by AIReF, indicating their endorsement by the latter, as provided for in the Organic Law creating the AIReF. This report fulfils this mandate, within ten days of submission of the information, as set forth in article 9.1 of the AIReF Statutes.

¹The most recent report is available on the AIReF website:

https://airef.es/system/assets/archives/000/001/733/original/2016_11_08_Report_on_the_Macro_Forecasts_2017.pdf?1478596503

² http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/dbp/2016/es_2016-11-16_co_en.pdf



The assessment of the macroeconomic forecasts is conducted from a double focus, analysing *ex-post* the biases shown in previous years' forecasts and assessing *ex-ante* the realism of the forecasts in the Draft Budgetary Plan update for 2017. As in previous editions, this report consists of two main sections, one for an assessment of the previous years' forecasts (Section 2) and another for a detailed analysis of the forecasts as of 2016 (Section 3). Section 4 gives an overview of the findings and conclusions drawn from this assessment, and offers three suggestions for good practices and two specific recommendations.

2. Macroeconomic forecasts for the period 2013 to 2016

2.1 Criteria for comparing forecasts

The macroeconomic forecasts for preceding years are examined in order to gauge whether past errors suffered from significant bias.³ To this end, Government forecasts for the main macroeconomic variables are compared against those of other private and public independent institutions, and also against the observed results. The criteria applied in the comparison between Government forecasts and those prepared by other forecasters are the same as in previous years.⁴

The bias in a variable is defined as the difference between two forecasts for that variable. In assessing whether the biases in Government forecasts for the range of variables that define its macroeconomic scenario have been significant in recent years, the Government's initial forecasts (G) are compared against private institutions' most recent forecasts published in the consensus forecast (C) and against the observed results (R), or with the Government's most updated forecast if the results have not yet been calculated.

Bias in the forecasts for the range of macroeconomic variables is deemed significant if it is systematic –that is, repeated in consecutive years–, large and not justified by a better approximation to the observed results. No analysis is made, however, of the possible reasons for these biases. A bias is large when the Government forecast falls without the interquartile range of the distribution among the panel of forecasts.⁵ Government forecasts' deviation from the consensus forecast will be deemed unjustified when the absolute forecast error is larger than that of the consensus forecast; that is, if $|G-R| > |C-R|$.

In comparing different forecasts it is essential to take into account the information available at the time of drafting each forecast and the specific assumptions made in each case, given that these two elements may have a considerable effect on the differences observed in the forecasts. Understanding the reasons for these differences is key to assessing the presence of biases in the government's forecasts ex-ante, that is, at the time they were made.

³ Article 14.4 of the Organic Law creating the AIReF requires this report to include an assessment of whether the macroeconomic forecasts display any considerable bias over a period of four consecutive years, according to the COUNCIL DIRECTIVE 2011/85/EU, of 8 November 2011, on the requirements applicable to member States' budget frameworks.

⁴These criteria can be viewed in the latest report published:

http://www.airef.es/system/assets/archives/000/001/017/original/1_Informe_PGE_INGLES.pdf?1441746537

⁵ The interquartile range is a dispersion measure defined as the difference between the first and third quartile, thus encompassing 50% of observations close to the mean.

2.2 Retrospective analysis of forecasts

The forecasts for the years 2013-2016 were analysed in the report on macroeconomic forecasts in the 2017 General Government Budget.⁶ The conclusions drawn therefrom are unaffected by the changes made by the Government to the macroeconomic forecasts assessed in this report.⁷

The study of past forecasting errors may be useful in drafting an informed scrutiny of past forecasts, paying special attention to the lines and forecasting periods for which the Government has made the greatest forecasting error. Of the forecasts for the current year and the following year, included in the 2013-2016 Budget, approximately one half have shown large forecasting errors (i.e. errors that *ex-ante* fell without the interquartile range of the consensus forecasts).⁸ In fact, 50% of those large errors were found to be unjustified *ex-post* on comparison against the observed data.

Earlier aggregate data masked a rather heterogeneous forecasting performance on an individual level. Overall, the smallest concentration of large errors is to be found in the external sector, private consumption and GDP. Moreover, the highest relative quantity of errors is mainly found in gross capital formation and, to a lesser degree, in the unemployment rate, public consumption and the deficit-to-GDP ratio. Furthermore, the conclusions may vary substantially if the existing differences in determining whether these large errors are justified *ex-post* are taken into account. For instance, lines such as gross capital formation seem to be among the most difficult to forecast a priori, and large errors are observed in three out of four of cases analysed. However, only 17% of these are unjustified by data *ex-post*.

Another major factor potentially hidden by joint examination of errors is the difference in complexity arising from forecasts for the current year and forecasts for the year ahead.⁹ This is why 35% of the previous year's forecasts for the current year show large and unjustified biases *ex-post*, whereas the current year's forecasts for the current year are much more accurate, correcting their biases by more than half, as only 15% of the forecasting points present large and unjustified biases *ex-post*. In some lines, this difficulty is even more marked. For example, in the case of exports or the deficit-to-GDP ratio, the conditioned likelihood of error *ex-post* increases twofold when passing from forecasting the current year to forecasting the

⁶https://airef.es/system/assets/archives/000/001/733/original/2016_11_08_Report_on_the_Macro_Forecasts_2017.pdf?1478596503

⁷As there are no data observed for 2016 for the time being, the data used, as in previous reports, are the most recent Government forecasts available. Regarding the last forecasts to be assessed, for 2016 the Government has made no changes of sufficient importance to vary the conclusions over the magnitude of forecasting errors.

⁸To learn more about the assessment methodology and the definitions for large error and *ex-post* justification, see the [Report on macroeconomic forecasts in the Draft General Government Budget for 2016](#).

⁹ The forecasts accompanying the draft budget or the Draft Budgetary Plan are usually drawn up using the information available up until September or October.

following year. And in the case of private consumption or GDP, this likelihood increases from nil to 50%.

Generally speaking, the macroeconomic forecasts have shown no significant biases, with the exception of public consumption and, to a lesser degree, the deficit-to-GDP ratio. As shown in Table 1, there has been a systematic, optimistic bias in the forecasts for public consumption over the last four years, on a one-year horizon. The Government's forecast for public consumption has incorporated a normative element that, as in the preceding years, could not be regarded as the "most likely hypothesis". The initial forecasts for public consumption incorporated in the draft General State Budget feature a restrictive bias, which may be seen as large as it falls without the interquartile ranges, and these deviations were not found to be justified *ex-post* by a better approximation to the observed results.

The biases found in public consumption forecasts gave rise, in AIReF's previous report, to a recommendation to the Government urging it to adopt and make public the necessary measures to correct the large biases detected in public consumption forecasts over the last four years, in compliance with article 4.6 of Directive 2011/85 on budget frameworks.

Table 1. Errors and biases in the forecast for the main macroeconomic variables

(4 observations per year, unless otherwise specified)

	<i>Last year's forecasts for the current year</i>		<i>This year's forecasts for the current year</i>	
	<i>Large</i>	<i>of which justification is</i>	<i>Large</i>	<i>of which justification is</i>
GDP	2	1	1	-
Private consumption	2	1	-	-
Public consumption	4	4	1	1
GFCF	3	-	3	1
Exports	1	1	2	1
Imports	1	-	2	-
Unemployment	3	1	2	1
Deficit-to-PIB	3	3	2	1
All items	19/32	11/19	13/32	5/13

Source: Drafted by AIReF using data from INE, MINECO, Bank of Spain, EC, IMF, OECD and FUNCAS.

3. Macroeconomic forecasts: analysis *ex-ante*

3.1 Criteria for analysis of forecasts

The aim of subjecting the Spanish Government's forecasts to analysis *ex-ante* is to assess whether they are realistic, and whether they define the most likely macroeconomic scenario or one that is more prudent.¹⁰ First of all, therefore, the forecasts are checked for any bias by comparing them against those of other institutions, as in previous years. The methods, parameters and assumptions underpinning the forecasts are revised, as far as the available information allows, and a check is made to determine whether the most updated information was used for the forecasts.

An analysis is conducted to establish how realistic the forecasts are for each variable, using models that establish a statistical relationship between the different variables and with behavioural equation models that relate each variable to their fundamental determinants.¹¹ These partial results for the likelihood of forecasts for each variable are subsequently integrated into a macroeconomic scenario that guarantees the internal consistency of the set of related variables in the national accounts, as well as the risks that exist in that scenario.

The overall assessment of the results from these comparative checks concludes whether or not the macroeconomic scenario contained in the Spanish Government's Draft Budgetary Plan for 2017 is deemed the most likely or a more prudent scenario. A more prudent scenario would contemplate the materialisation of some of the risks identified in the baseline scenario, that are detrimental to economic activity and the correction of existing imbalances.

3.2 General remarks

The Government's forecasts for the macroeconomic scenario in 2017 make use of the most updated short-term information on indicators available, and the most recent national accounting data available at the time of submitting the scenario. On 14 September, INE published an updated Annual National Accounting series for the period 2012-2015, whose quarterly allocation has not been revised until 28 October. This update has been taken into account in the Government macroeconomic scenario, in contrast with the previous occasion. However, considering the date of submission of the macroeconomic outlook, it has

¹⁰Article 14.3 of the Organic Law creating the AIReF requires this report to include an assessment of the forecasts' compliance with the COUNCIL DIRECTIVE 2011/85/EU, of 8 November 2011, on the requirements applicable to member States' budget frameworks. This directive, in article 4.1, requires that budgetary planning is based on the most likely macro-budgeting scenario or a more cautious scenario.

¹¹ The models used and their use in forecasts analysis are described in the annex on methodology to previous years' reports.

not been possible to take the national accounting data for the third quarter published by INE on 24 November into account in updating the official forecasts. As stated in AIReF's previous report, and although in this report its effect is smaller, there is still a need to ensure at all times the internal consistency between annual and quarterly national accounting estimates to allow the most recent statistical information to be used as the basis for macroeconomic forecasts. This requirement is of particular importance as this stage of INE's revisions coincides with the time of year in which the General State Budget is drafted and validated.

The main innovation in the macroeconomic outlook update underpinning the Draft Budgetary Plan Update for 2017, with respect to the plan presented by the Government in October, lies in the addition of the measures announced on 2 December, aimed at guaranteeing compliance with the deficit target of 3.1% of GDP in 2017. The macroeconomic forecasts included in the Draft Budgetary Plan for 2017 presented by the Government in October 2016, previously analysed by AIReF, assumed a "no policy change" scenario for 2017, and did not take into account any specific implementation plans for fiscal policy. The new outlook published on 2 December is presented, however, as the basis for a budget scenario that is compatible with achieving the deficit target for 2017 and comprises the latest budget measures announced.

The *ex-ante* analysis of the forecasts focuses on the period 2017, as per EU Regulation No. 473/2013 of the European Parliament and the Council. The 2017 Draft Budgetary Plan presented by the Government in October was based on a macroeconomic outlook projected to 2017, in line with EU Regulation 473/2013 on common provisions for monitoring and assessment of draft budgetary plans. The macroeconomic outlook update submitted in December this year, in addition to information referring to 2017, provides medium-term projections reaching 2019, the horizon for the current Stability Programme Update. This additional information is likewise analysed, but from a structural approach and with the purpose of detecting potential behavioural changes in the relations between the main variables in the medium term.

Publication of the official forecasts does not provide the following: (i) sufficient information on the underlying methods and parameters;¹² (ii) a "no policy change" macroeconomic outlook and a separate, sufficiently detailed quantification of the impact from the adopted or envisaged measures; and (iii) the integration of key elements to the forecasts within a simplified national accounting framework. As pointed out in all AIReF's previous reports on macroeconomic forecasts, although the methodology employed in drafting the forecasts is standard, with well-tested models and equations, details of the models used by

¹²Article 4.5 of Directive 2011/85/EU requires member States to publish the relevant methodologies, assumptions and parameters underpinning their macroeconomic and budget forecasts. The most recent Stability Programme Update, however, included a table (pages 18-20) explaining grosso modo the methodology employed. This is an initial, but clearly insufficient, step toward increasing the transparency and comprehension of forecasts for the public. See http://www.mineco.gob.es/stfls/mineco/comun/pdf/160509_np_estabilidad.pdf

the Government have not been published. Lastly, the minimum information necessary to assure and make explicit the connections among the main variables in the macroeconomic scenario, and between these and the budget scenario; the integration of the main outlook variables with the granularity befitting the simplified national accounting framework, and a detailed, separate assessment of the macroeconomic impact of the budget measures on the forecasting horizon are likewise lacking.

3.2 Assumptions on the international environment

The basic hypotheses underpinning the macroeconomic scenario in the Draft Budgetary Plan for 2017 are deemed likely. The Draft Budgetary Plan for 2017 contains balanced assumptions in the light of the latest forecasts by international organisations and the recent developments in commodities and debt markets (see tables C.1 and C.3 at annex). Following the lines proposed in the Stability Programme Update 2016-2019 (SPU) last April, the 2017 Draft Budgetary Plan outlines a slowing growth scenario among major trading partners and, consequently, a smaller knock-on effect for the Spanish economy. With regard to crude oil prices, the Draft Budgetary Plan has upwardly revised forecasts, in consonance with the trend in futures markets. Nevertheless, actions such as the recent agreement by the OPEC to cut back production represent potential risks to further price rises. Lastly, assumptions made relating to the interest rate curve have remained relatively constant, both in the short and long term.

The mild slowdown foreseen in the world economy and European partners with regard to previous forecasts is in line with the progressive global downturn forecast by the leading international organisations. In the last forecasting exercise, conducted in November 2016, the European Commission reduced slightly its forecasts for growth in the eurozone, mainly due to not having the exceptional support of external factors it has benefited from until recently. A clear example of these factors are low energy prices, that have begun to rise. This implies curtailing the boost to household purchasing power from this factor. In the same manner, the depreciation of the euro since 2014 has helped European exporters to gain market quota last year, but further gains are not expected given that the weighted exchange rate for the euro has appreciated recently. Monetary policy, however, supports growth and is expected to continue to do so for the next few years, while fiscal policy seems to be relaxing and is not expected to return to a restrictive status. As for the effects of Brexit, during these early months the eurozone economy appears relatively resilient, but the strong rise in political uncertainty is expected to persist and to become a drag on economic activity across the entire forecasting horizon, especially after the referendum on the modification of Italy's Constitution. Beyond expected developments in the United Kingdom and Italy, political uncertainty has increased in the context of growing discontent with globalisation and its impact on revenue sharing in advanced economies.

The hypotheses regarding the performance of Government debt securities are prudent, in line with short- and long-term market expectations. The 10-year interest rate on

Government debt forecast in the Draft Budgetary Plan is expected to be 1.7 pp in 2016 and 1.9 pp by 2017. These forecasts are substantially above the implicit returns in futures markets (1.6 and 1.7 pp for 2016 and 2017, respectively) and would entail an increase in the risk premium with respect to Germany's 10-year benchmark. This hypothesis is seen as prudent as it assumes the progressive normalisation of monetary conditions in the Spanish economy (in line with a potential recovery in the trend in prices) while the markets foresee monetary stimuli, in response to negative developments over the last few months, such as Brexit, or slower than expected growth in advanced economies.

The path followed by oil prices, though not out of line with futures markets and forecasts by the main international organisations, may be optimistic, especially in the light of recent events. The hypothesis for crude oil prices has been revised up with respect to SPU 2016-2019, in agreement with the trend in the price of crude oil (Brent barrel), which has risen more than 50% since the minimum of \$28.15 per barrel in February 2016. Concretely, for 2016 and 2017 the figures in the Draft Budgetary Plan envisage oil prices rising to around \$50/barrel, returning to 2015 levels. Nevertheless, the most immediate repercussion from the latest agreement by OPEC to reduce production has led to a slight rise in futures on Brent, placing them at around \$55/barrel for next year.

Despite the balanced external scenario presented in the Draft Budgetary Plan Update, it should be pointed out that future risks point towards a potential deterioration. In the coming quarters, certain contingencies might materialise causing a negative impact on the Spanish economy's external environment. First of all, on a European level, continuing uncertainty and prolonged negotiations on the UK's exit from the European Union could have an additional negative effect on growth in the eurozone, deteriorating agents' confidence and, in turn, commercial transactions and investment flows. Secondly, as mentioned by the OECD in its latest forecasts report (see OECD Interim Economic Outlook, November 2016), several factors at the global level pose an additional risk in the current context of sluggish growth: on the one hand, the slowdown in world trade which, if maintained, may further hamper productivity and, consequently, the growth outlook in the medium and long term; on this point, the foreseeable generalisation of protectionist measures is crucial, as these may be particularly damaging to world exports. On the other hand, the prevalence of major distortions in financial markets (in prices of financial and real estate assets or in financial institutions' business models, for instance), that may cause interest rates on Government debt to be maintained for prolonged periods at exceptionally low levels, both short- and long-term (35% of Government debt in advanced countries presents negative returns, according to OECD data). Lastly, the rapid recovery of oil prices may dampen domestic demand by limiting private agents' disposable income.

3.3 GDP and components of demand in 2017

In this section, owing to the recent delivery of the previous official macroeconomic forecasts (October) and the corresponding report issued by AIReF, it has been seen fit to focus on the differences shown between the two scenarios submitted by the Government. This comparison is shown in Table C2.

It is noteworthy to mention the upward revision of GDP growth in 2017, from 2.3% previously forecast to 2.5% in the current forecast. This modification has been strongly influenced by the upward revision for 2016, and the ensuing knock-on effect. In any case, these forecasts for GDP growth, though a little more optimistic, are more or less in line with the latest forecasts available from EC, Bank of Spain, OECD (2.3%) and International Monetary Fund (2.2%), albeit slightly above the upper limit in the interquartile range for forecasts by the panel (see the graphs in G.2). These may also be deemed likely by AIReF, as they are well within the likelihood distribution in the models employed in their assessment (see graphs in G.1).

In the composition of growth, the most outstanding point is the downward revision of the contribution to domestic demand, which is offset by the positive contribution from external demand. Within the former, the magnitude of increase in private consumption is maintained, supported by the healthy performance of the labour market, the reduction in household indebtedness, favourable credit conditions and better consumer confidence. Investment, for its part, has slowed its expansion, especially in construction, but also in equipment. Regarding the latter, an optimistic profile seems to be kept up in the light of the models used by AIReF for its assessment. Nevertheless, these cannot be classified as unlikely since they are also slightly below the interquartile range for forecasts by the panel of private bodies (see the graphs in G.2). Finally, exports growth is revised up and the growth of imports is revised down, as suggested in the previous report by AIReF, and which has led to a positive impact on the contribution of external demand to GDP growth. However, both of these forecasts are still above the interquartile range in the panel of private forecasts.

Public consumption has not been revised, and its growth of 0.9% for 2017 is still considered to be likely and compatible with the forecasts for 2017. It falls within the interquartile range for private and public forecasts, though close to the lower limit. It is worth highlighting that insufficient detailed information has been available to assess the measures underpinning this trend in public consumption. In turn, growth of the public consumption deflator for 2017 (+0.4%) is substantially smaller than that of the economy overall (1.5%) or that of the trend in salaries (1.3%), suggesting an implicit adjustment in public employees' remuneration lower than the one expected in the private sector¹³.

¹³ It is worth noting that the effect on the growth rate of employee compensation in 2016, with the 2012 salary bonus being returned, represents a downward bias on the public consumption deflator in 2017.

Regarding the Government forecast for labour market developments, this is now on a more optimistic scenario, above the interquartile range in the forecasts panel, but in line with recent employment indicators and the upward revision of real growth, which are corroborated by the models used by AIReF. This dynamic trend in job creation causes moderation in productivity per employee. Prices and costs, moreover, are barely affected and maintain their growth trend, albeit with a gentle dynamic and within the confidence interval.

Finally, the forecast for the budget balance has been revised from 3.6% of GDP forecast in October to reach compliance with the target in 2017 (3.1% of GDP), on incorporating the impact of the recent budget measures announced. Consensus by the private and public institutions before having knowledge of the latest package of budget measures announced on 2 December was at a deficit of 3.6% and 3.5% of GDP respectively, above the target of 3.1% of GDP in 2017. Therefore, the macroeconomic forecasts against which the forecasts in the Draft Budgetary Plan update are compared do not consider the potential negative macroeconomic impact of new budgetary measures. At the time of drafting this report, two areas of uncertainty remain in relation to the announced measures, that add a cautionary note to the Government deficit forecast for 2017. On the one hand, uncertainty over the implementation of the measures and their final impact on revenue, especially those dealing with the fight against fraud; on the other hand, uncertainty regarding the business sector's financial capacity (liquidity and credit buffers) to absorb the direct impacts from a range of measures (estimated at some €7,000m) without passing them on to decisions on investment.¹⁴

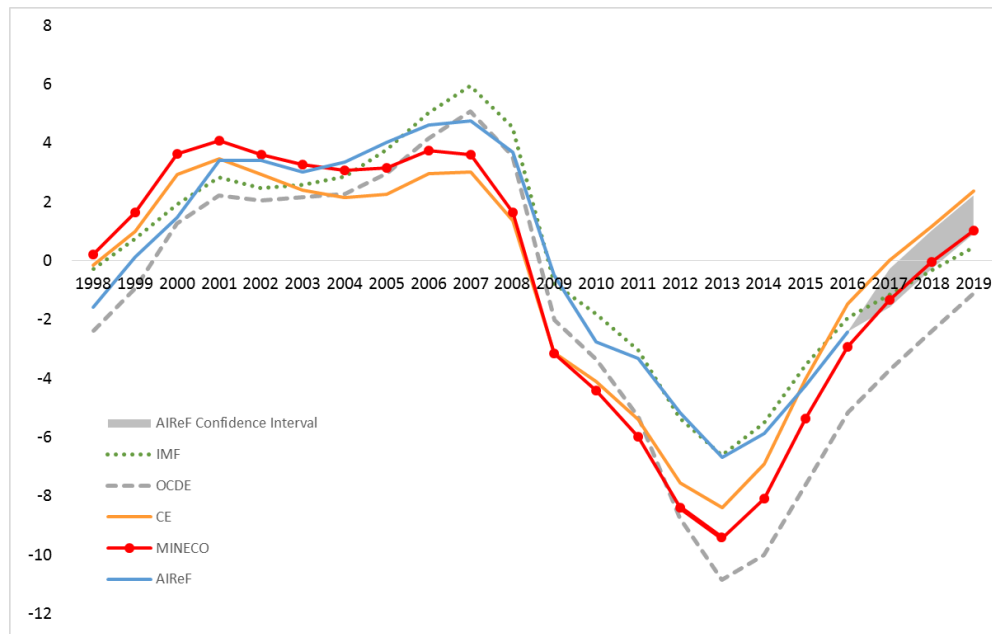
3.4 Cyclical position and the dynamics of the labour market

3.4.1 Cyclical position

The cyclical position of the Spanish economy given in the 2017 Draft Budgetary Plan Update appears to reach its potential in 2018, bringing forward by one year the closure of the output gap regarding stability programme estimates. In accordance with the updated outlook, the output gap for 2016 stands at -2.9%, disappearing gradually to a value of virtually zero in 2018. This dynamic is in line with the latest calculations by the leading international institutions and falls within the confidence interval estimated by AIReF (see chart 1).

¹⁴ The estimated impact on enterprises is derived from the sum of the impact of reforms relating to Corporate Tax (limitation of negative tax bases and deductibility of losses on own funds) and the limitations to delaying payments to the Public Administration.

Chart 1. Output gaps for the Spanish economy (% potential GDP)



Sources: SPU 2016-2019, OECD Economic Outlook November 2016, IMF WEO October 2016 and EC winter 2016

Note: the interval for AIReF's estimates is obtained by taking as amplitude the mean of the absolute revisions from the one-sided and the two-sided estimates provided by the Kalman filter.

The output gap dynamics estimated by AIReF would imply a correction to the fiscal balance of between 6 and 8 tenths of a percentage point of GDP as yearly average for the period 2017-2019; this estimate is consistent with the average correction of 7 tenths of a percentage point implicit in the 2017 Draft Budgetary Plan. Starting from semi-elasticity of the cyclical balance to the output gap slightly above 0.5, the cyclical component of the fiscal balance (the part explained by the cyclical position of the economy) is expected to decrease over the forecasting horizon at an average annual rate of around 7 tenths of a percentage point of GDP, reaching a surplus position by 2019. The cumulative gain by effect of automatic stabilisers in terms of smaller deficit during the period studied matches the estimates published by the main bodies used as reference. The residual component of the deficit observed as of 2018 could be considered, therefore, as structural, and the fiscal measures adopted, permanent in nature, may contribute to its correction.

To sum up, the output gap path incorporated to the Draft Budgetary Plan Update is feasible, despite its initial size. As usual, these estimates are relatively uncertain and may be subjected to major revision, though there is strong consensus over the points referring to closing the output gap which is even greater than that of dating the turning points in the cycle.

3.4.2 Dynamics of the labour market

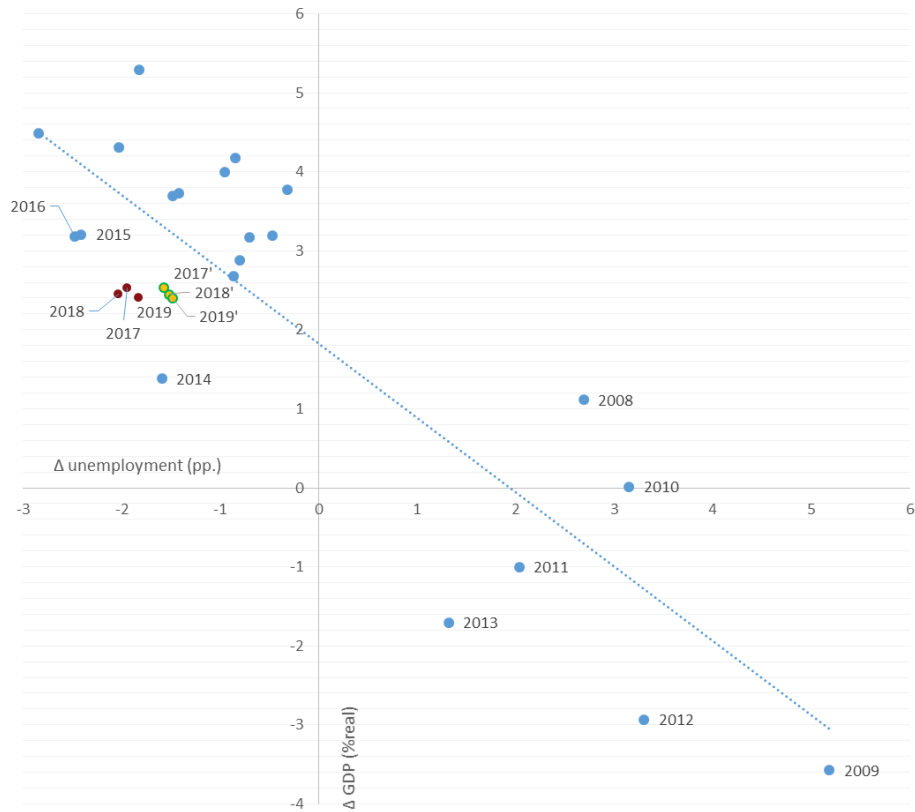
One of the most outstanding aspects in the medium-term forecasts lies in maintaining a solid real growth rate in the region of 2.5%, accompanied by intense job creation at a slightly lower rate throughout the period, departing more and more from the main international organisations' forecasts until 2019 and following paths that border the upper limit of the confidence intervals in AIReF's models. Although the Draft Budgetary Plan Update for 2017 foresees a certain slowdown, this trend does not continue over subsequent years. In contrast, the leading international organisations, as well as AIReF's own models, foresee a gradual slowing in growth and job creation, to reach rates close to 2% toward 2018-2019.

The influence of economic growth on the rapid and sustained reduction of the unemployment rate is equally noteworthy, and may turn out to be too optimistic. Although it is true that the latest labour reform seems to have had a significant impact on estimates for the coefficients associated with the Okun curve for the Spanish economy (relationship between variation in unemployment and GDP growth), the cumulative gain in terms of reduced unemployment may be upwardly biased.¹⁵ Following recent estimates, elasticity in unemployment rate variation as compared to variations in real GDP appears to have increased significantly as a result of the labour reform, but is expected to settle at levels that are below those implicit in the official Government forecasts; 0.7 rather than 0.8, respectively.¹⁶ This difference in the assumption consisting of the transferral of growth to the reduction in unemployment generates a yearly gap of around 0.4 pp (see chart 2 for this comparison), reaching in the cumulative figures for the period 2017-2019 a difference of more than 1 pp.

¹⁵ Empirical evidence available since the implementation of the labour reform in 2012 allows its potential impact to be estimated on the growth threshold necessary for reducing unemployment (constant on the Okun graph) and on the influence of higher growth on smaller rates of unemployment (gradient steeper slope of the line on the graph or, alternatively, a higher elasticity of unemployment with respect to real GDP).

¹⁶ See Cuerpo et al. (2017, to be published soon). "Unpleasant labour arithmetics: a tale of the Spanish 2012 labour market reform," Book on Structural Reforms, Routledge, Taylor & Francis.

Chart 2. Okun's law for the Spanish economy



Sources: INE, Draft Budgetary Plan update and AIReF estimates.

Note: the projections envisaged in the Government scenario are represented with red dots and labels for the years 2017-2019, whereas forecasts made using the estimated coefficients are represented by yellow dots, and labelled 2017',-2019'.

4. Conclusions, endorsement and recommendations

The Government's forecasts are generally realistic, and prudent in some aspects, but subject to risks and uncertainties. First of all, are the risks associated to exogenous assumptions on which the macroeconomic projections are based, which are deemed more severe than those envisaged in the Government macroeconomic scenario. Risks deriving from the exterior environment are considered underestimated overall, given the more recent forecasts for growth and world trade, as well as the most recent information on future commodity prices and the rally on Government bonds yields. Secondly, there is genuine uncertainty over the cyclical revenue gain and over the implementation of the budgetary measures announced for 2017 and their impact on tax collection and on the economy.

AIReF, on the basis of exogenous assumptions and defined policies, endorses the Government's macroeconomic forecast. AIReF deems the Government macroeconomic scenario accompanying the 2017 Draft Budgetary Plan to be prudent overall.

The growth breakdown reflected in the Government scenario is deemed plausible, with domestic demand acting as the main driver of the economy together with a marginally positive contribution from the external sector. Among the components of domestic demand, private consumption is still the primary growth force, aided by the upturn in employment and the stability in favourable monetary conditions. In turn, the forecast evolution in Government consumption is seen as plausible, in line with the restraint in expenditure included in the deficit reduction targets for 2017. Concerning investment, the Government's updated forecasts, with respect to those presented in the October Draft Budgetary Plan, envisage a slowdown that is viewed as prudent and consistent with the potential macroeconomic impact of the announced tax measures. The external sector contribution is also considered to be feasible, as it stands on moderately positive terrain and is in line with AIReF's internal forecasts. Lastly, growth of prices envisaged in the Government scenario has remained on a recovery path, although at a prudent pace in the light of the most recent information available.

Based on its analysis, **AIReF formulates two recommendations:**

1. **The INE should ensure at all times internal consistency among the annual and quarterly national accounting estimates**, correcting the current mismatch between the publication of the revised annual national accounting series and the full quarterly national accounting series consistent with the annual series, as was customary until 2015.
2. **The Government should adopt and make public the necessary measures to correct the significant biases observed in the forecasts for government consumption over the last four years.**

AIReF likewise submits to the Government **three suggestions for good practices:**

1. To accompany the macroeconomic outlook with a "no policy change" scenario, and another quantifying the economic impact from the measures adopted or envisaged, to better understand the forecasts and to make explicit at all times the connection between the macroeconomic outlook and the budget scenario.
2. To integrate key forecasting elements in a simplified national accounting framework.
3. To offer a broader range of information on the relevant methodologies, assumptions and parameters underlying the forecasts.

ANNEX: TABLES AND CHARTS

Tables

C.1) Basic hypotheses for the 2016-2019 scenario

Basic assumptions underlying the Macroeconomic Scenario in the 2017 Draft Budgetary Plan.

Annual percentage change, unless otherwise indicated

	2015	2016 (F)	2017 (F)	2018 (F)	2019 (F)
Short-term interest rates (Euribor at three months)	0.0	-0.3	-0.3	-0.3	0.0
Long-term interest rates (Government debt at 10 years, Spain)	1.8	1.7	1.9	2.2	2.5
Exchange rate (USD/EUR)	1.1	1.1	1.1	1.1	1.1
World GDP growth, excluding the eurozone	3.2	3.0	3.4	3.5	3.6
GDP growth in the eurozone	1.9	1.7	1.5	1.7	1.8
Oil prices (Brent, USD/barrel)	52.2	43.0	50.2	52.4	52.4

(F) Forecast

Sources: Central European Bank, European Commission and Ministry of Economy and Competitiveness

C.2) Government macroeconomic forecasts

GOVERNMENT MACROECONOMIC SCENARIO

	2015	FORECASTS OCTOBER 2016		FORECASTS NOVEMBER 2016				DIFFERENCES (NOV-OCT)	
		2016	2017	2016	2017	2018	2019	2016	2017
Real GDP by demand components (% var)									
Final consumption expenditure	2.6	2.8	2.2	2.8	2.2	2.1	2.0	0.1	0.1
-Final consumption expenditure of households (a)	2.9	3.3	2.6	3.4	2.7	2.5	2.4	0.1	0.1
-Final consumption expenditure by government	2.0	1.0	0.9	1.0	0.9	0.7	0.7	0.0	0.0
Gross capital formation	6.5	5.4	4.1	4.5	3.3	3.4	3.6	-0.8	-0.8
-Gross fixed capital formation	6.0	5.4	4.2	4.6	3.4	3.5	3.6	-0.8	-0.8
Construction	4.9	4.3	3.9	2.8	2.6	2.8	3.0	-1.5	-1.3
-Dwellings	3.1	4.2	3.8	3.5	3.8	4.0	4.0	-0.7	0.0
-Other buildings and constructions	6.4	4.3	4.0	2.2	3.0	5.0	5.0	-2.1	-1.0
Capital goods and biological resources	8.8	8.0	5.2	7.5	5.0	4.8	4.9	-0.5	-0.2
Intellectual property products	3.6	3.5	2.5	3.9	2.0	2.5	2.4	0.4	-0.5
-Changes in inventories (contribution in pp)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic demand (contribution to GDP growth)	3.3	3.2	2.5	3.1	2.4	2.3	2.2	-0.1	-0.1
Exports of goods and services	4.9	5.4	5.7	5.8	5.9	5.7	5.7	0.4	0.2
Imports of goods and services	5.6	7.0	6.7	6.0	5.9	5.8	5.8	-0.9	-0.7
Net foreign demand (contribution to GDP growth)	-0.1	-0.3	-0.2	0.1	0.1	0.1	0.2	0.4	0.3
GDP	3.2	2.9	2.3	3.2	2.5	2.4	2.4	0.3	0.2
GDP at current prices: billions of euros	1,075.6	1,114.7	1,155.4	1,117.1	1,162.2	1,209.3	1,257.9	2.4	6.8
GDP at current prices: % var	3.7	3.6	3.7	3.9	4.0	4.0	4.0	0.2	0.4
PRICES (% var)									
GDP deflator	0.5	0.7	1.3	0.7	1.5	1.6	1.6	-0.1	0.2
Private final consumption expenditure deflator	-0.2	-0.2	1.2	-0.2	1.4	1.5	1.5	-0.1	0.2
LABOUR COSTS AND EMPLOYMENT (% var)									
Compensation per employee (labour cost)	0.4	0.8	1.2	0.8	1.3	1.5	1.6	0.0	0.1
Total employment (b)	3.0	2.7	2.2	2.9	2.4	2.3	2.3	0.2	0.2
Productivity per employee (b)	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.0
Unit labour costs (ULC)	0.2	0.6	1.0	0.5	1.1	1.3	1.5	-0.1	0.1
<i>Memorandum items (Labour Force Survey data)</i>									
Unemployment: % economically active population	22.1	19.7	17.8	19.6	17.6	15.6	13.8	-0.1	-0.1
FOREIGN SECTOR (% GDP)									
Balance of current operations with the rest of the world	1.3	1.7	1.5	2.0	1.8	1.7	1.7	0.3	0.3
Net lending (+) / borrowing (-) vis-à-vis the rest of the world	2.1	2.4	2.1	2.5	2.3	2.2	2.1	0.2	0.1
(a) Households and ISFLSHs									
(b) Full-time equivalent employment									
SOURCE: INE and Ministry of Economy and Competitiveness									

C.3) Forecasts by international organisations

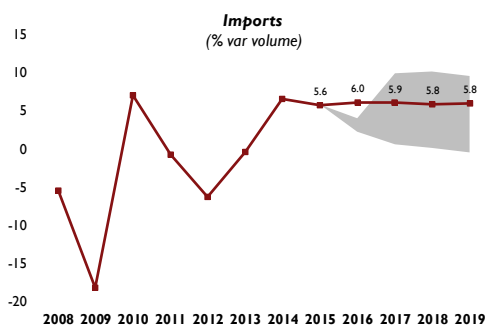
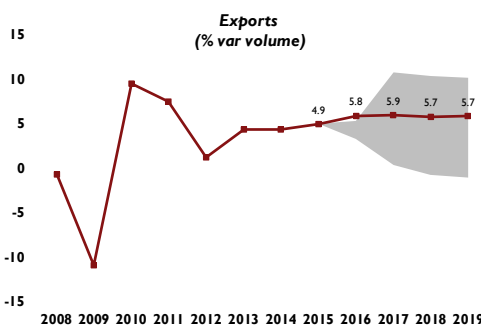
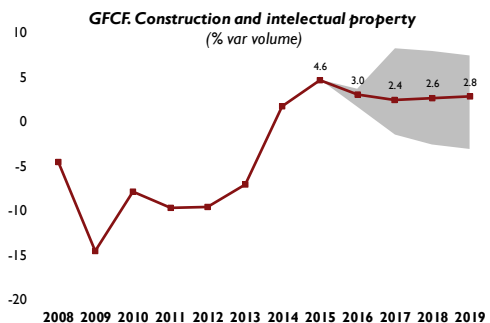
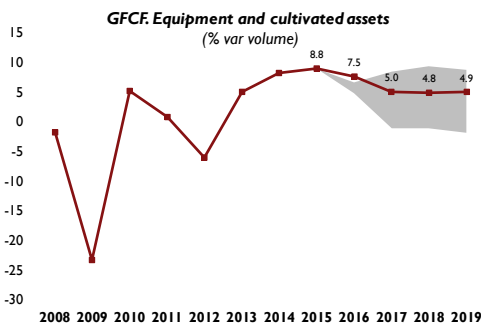
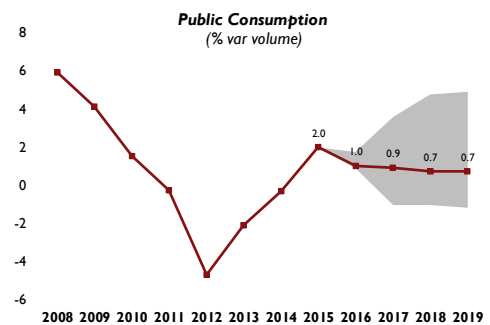
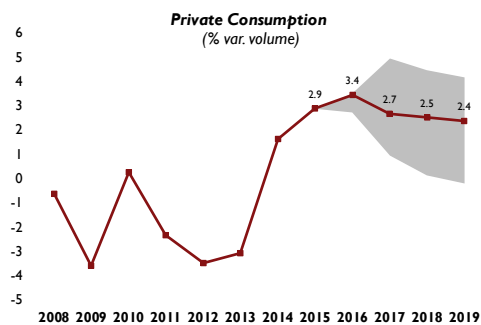
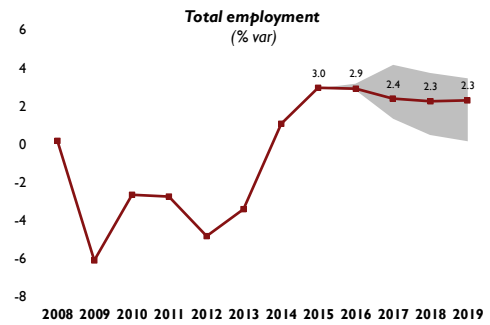
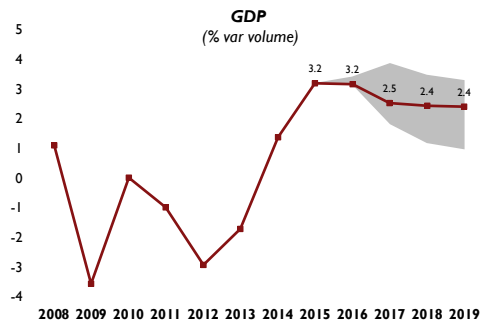
Forecasts by International Organisations
(Annual percentage change, unless otherwise indicated)

	2015	2016	Change (1)	2017	Change (1)	2018	Change (1)	2019	Change (1)
ECB (September 2016)	World GDP (excluding the eurozone)	3.2	3.0	-0.2	3.5	-0.3	3.7	-0.2	
	Eurozone GDP	1.9	1.7	0.3	1.6	-0.1	1.6	-0.2	
	World Trade (imports of goods and services, excluding the eurozone)	0.7	0.9	-1.3	2.8	-1.0	3.7	-0.4	
	Brent oil prices (USD per barrel)	52.4	42.8	7.9	47.4	6.2	50.6	5.7	
	Three months Euribor (%)	0.0	-0.3	0.0	-0.4	-0.1	-0.4	-0.2	
	Interest rates on Government debt in the eurozone at 10 years (%)	1.2	0.7	-0.5	0.6	-0.8	0.8	-0.9	
	Exchange rate USD/EUR (level)	1.11	1.11	0.0	1.11	0.0	1.11	0.0	
Nominal effective exchange rate for the euro	-7.1	3.6	-1.2	-0.1	-0.3	0.0	0.0		
IMF (WEO October 2016)	World GDP	3.1	3.1	-0.1	3.4	-0.1	3.6	-0.1	3.7 0.2
	Eurozone GDP	2.0	1.7	0.2	1.5	-0.1	1.6	0.0	1.5 -0.1
	GDP in the EU	2.3	1.9	0.1	1.7	-0.3	1.8	-0.1	1.8 -0.2
	Trade in goods and services	2.6	2.3	-0.8	3.8	0.0	4.2	0.0	4.2 0.4
	Brent oil prices (USD per barrel)	50.8	44.5	8.3	52.6	10.4	55.2	9.7	56.5 14.3
Three months Libor (%)	0.0	-0.3	0.0	-0.4	0.0				
European Commission (November 2016)	World GDP	3.0	3.0	-0.3	3.4	-0.1	3.5		
	Eurozone GDP	1.7	1.7	0.0	1.5	-0.4	1.7		
	GDP in the EU	2.0	1.8	-0.1	1.6	-0.4	1.8		
	World imports of goods and services	2.6	1.9	-1.7	3.3	-1.0	3.6		
OECD (November 2016, Economic Outlook)	OECD GDP	2.1	1.7	-0.5	2.0	-0.3	2.3		
	Eurozone GDP	1.9	1.7	-0.1	1.6	-0.3	1.7		
	Trade in goods and services	2.6	1.9	-1.7	2.9	-1.9	3.2		
Market expectations (November 2016)	Long-term interest rates (Government debt at 10 years, Spain)	1.2	1.6	-0.1	1.7	-0.2	1.9	-0.3	2.2 0.3
	Brent oil prices (USD per barrel)	52.4	51.8	7.3	54.7	7.8	55.7	6.9	57.2 10.3

(1) The change expresses the difference between assumed and actual figures in the report on the 2016-2019 Stability Programme Update.

Charts

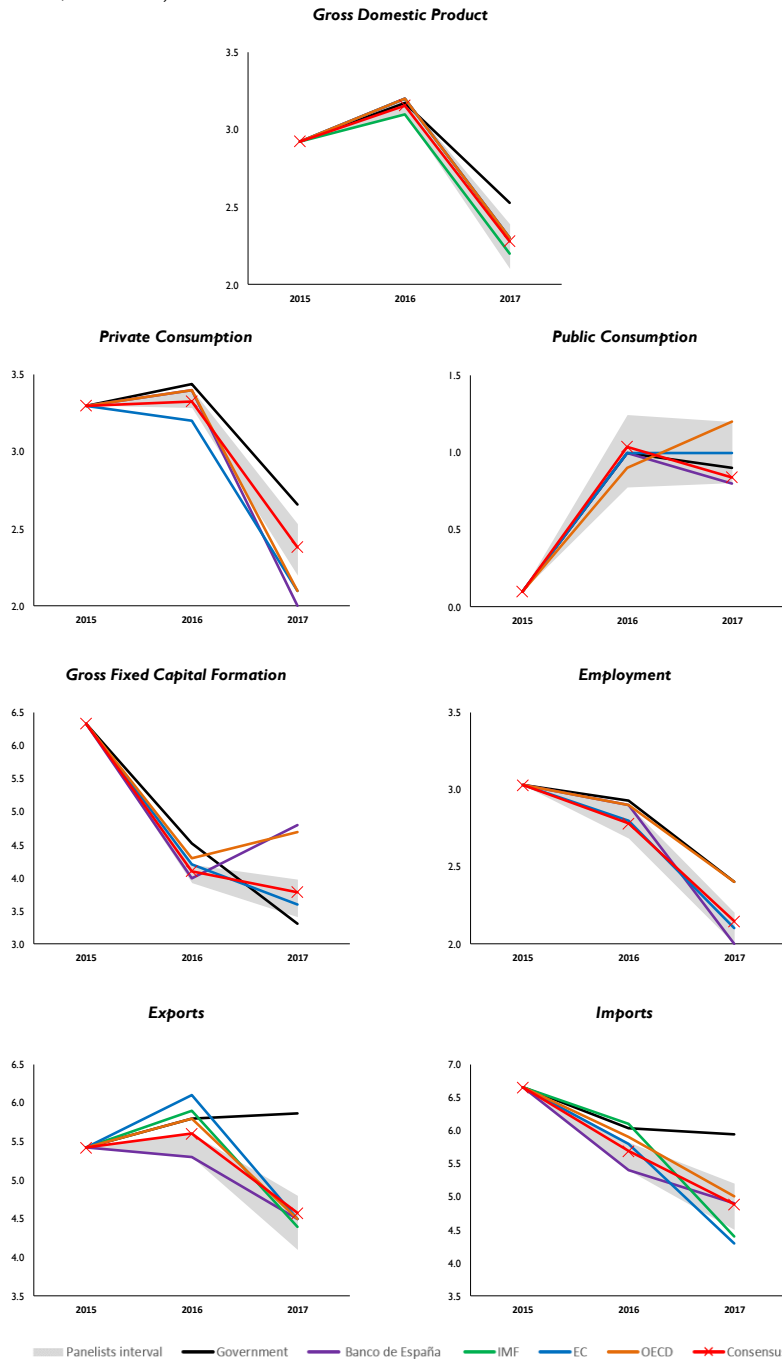
G.1) Government forecasts and AIReF uncertainty ranges



Sources: Drafted by the authors with data from INE, MINECO and AIReF estimates.

G.2) Forecasts by the Government and International Organisations

(volume, % variation)



Source: INE, MINECO and AIReF estimates.

Sources: Drafted by the authors with data from INE, MINECO and AIReF estimates.