REPORT ON THE 2020-2021 STABILITY PROGRAMME UPDATE

REPORT 2/20

AIReF
Autoridad Independiente de Responsabilidad Fiscal

The Independent Authority for Fiscal Responsibility (AIReF by its Spanish acronym) was created with the mission of ensuring strict compliance with the budgetary stability and financial sustainability principles set out in Article 135 of the Spanish Constitution.

AIReF Contact:

C/José Abascal, 2, 2º planta. 28003 Madrid, Tel. +34 910 100 599

Email: Info@airef.es.

Web: www.airef.es

CONTENTS

EXECUTIVE SUMMARY

The Independent Authority for Fiscal Responsibility (AIReF) must report on the content of the 2020-2021 Stability Programme Update (SPU), both in terms of its macroeconomic projections and its fiscal scenario, in accordance with the mandate of articles 14 and 16 of Organic Law 6/2013 on the creation of AIReF.

After an initial analysis of the Government's macroeconomic forecasts, this report provides a comprehensive assessment of the SPU. On 30th April AIReF anticipated its endorsement of the macroeconomic scenario, enabling it to be included in the SPU for its referral to the relevant European institutions. With this comprehensive report on the SPU, AIReF has evaluated the Public Administrations' (PAs) initial budgets for 2020, which had been delayed due to the current exceptional situation and the fact that the 2020 General State Budgets haven't yet been presented and approved. However, uncertainty regarding the impact of the crisis on the Regions and the distribution of non-reimbursable funds announced by the Government has forced the individual reports for each of the Regions to be postponed.

The health crisis caused by COVID-19 is having a profound impact on both the Spanish and global economy, with indisputable negative effects on public accounts. Furthermore, this impact is subject to extreme uncertainty, which complicates the task of preparing economic and fiscal forecasts. This has led several institutions, including AIReF, to adapt their tools to the new reality.

AIReF has adapted its analysis framework and developed macroeconomic and fiscal scenarios in response to the current circumstances. Increased uncertainty means that a scenario-based analysis is preferable to traditional forecasts with confidence intervals. In the current context it is sensible to present scenarios based on different assumptions about factors that are subject to a high degree of uncertainty, such as the evolution of the pandemic or the speed of economic recovery. These scenarios offer an overview of the main variables and help to identify the channels of

transmission of the crisis. This is essential for designing measures and strategies without entering a fruitless debate about numbers or decimal places that are currently difficult to quantify.

AIReF has adopted a broader temporary view than the SPU and has also extended its quantitative fiscal analysis to 2021. Utilising the flexibility permitted by the European Commission, the SPU has limited the quantification of its fiscal prospects to cover 2020. Despite the existing uncertainty and the need to focus on the short-term response to this health, social and economic crisis, AIReF believes that we should not lose sight of a more long-term perspective and should also consider the medium-term sustainability of public finances. Both the crisis and the measures taken to tackle it have an impact that reaches beyond the year 2020. When short-term pressures have eased, AIReF believes that a focus on more long-term consequences of the crisis is needed. In the case of public finances, this requires the adoption of a fiscal strategy to ensure their sustainability.

In any case, the situation of extreme uncertainty means that the 2020-2021 estimates from both AIReF and other institutions, including those covered by the SPU, should be treated with greater caution than usual. These estimates should be subjected to continuous review, based on any new information that may become available.

Is the Government's macroeconomic scenario plausible?

AIReF considers the macroeconomic scenario of the Stability Programme Update to be reasonable against the backdrop of great economic uncertainty caused by the global spread of the new coronavirus.

On 30th April, AIReF endorsed the forecasts (AIReF endorsement) on the assumption that the Government's hypotheses on the evolution of the pandemic are accurate, and that the macroeconomic policy measures considered are those that are currently approved.

However, the high degree of uncertainty opens up several possible scenarios. AIReF believes that there are increased downside risks associated with the possibility of more adverse epidemiological scenarios. A further downside risk is the possibility of persistent damage to the economy's productive capacity and to employment, which would hinder the recovery of both demand and activity when restrictions end. AIReF has tried to reflect these risks by designing scenarios contingent on the duration of the pandemic.

Why has AIReF developed its own macroeconomic scenarios this year?

The coronavirus pandemic has, and continues to have, an extraordinary human and social cost, also resulting in extreme, global and synchronised economic disruption. This has increased uncertainty to unusual limits.

In this context, preparing macroeconomic forecasts and allocating probabilities to specific scenarios, as AIReF had done previously when assessing the macroeconomic scenario of the SPU, is a very complex task. The first element of uncertainty is the difficulty in determining the duration of the health crisis and the degree to which economic activity will return to normal once the epidemic has been controlled. In addition, there is a lack of sufficient indicators and benchmarks to help determine the economic impact of the pandemic. Furthermore, the models usually used to estimate and project the evolution of the economy using empirical regularities are less reliable in the face of such exceptional shocks.

This is why AIReF has decided to prepare its own scenarios, to be better able to assess the macroeconomic scenario of the SPU.

What macroeconomic scenarios does AIReF present and what are the main results?

AIReF has established two Gross Domestic Product evolution scenarios, based on assumptions about i) the duration of the pandemic, which will determine the initial impact on the added value of the sectors considered in the scenarios; and (ii) information to be able to form opinions about the influence that certain structural characteristics of the economy exert on its ability to recover. The scenarios also include the macroeconomic impact of the economic policy measures implemented so far. AIReF's quarterly model is used to ensure the consistency of all these elements.

The first scenario, based on simulation models, established the hypothesis that the epidemiological findings would allow restrictions to begin to be relaxed in mid-May. But a more adverse second scenario was also considered, in which the measures to confine the population and restrict economic activities would carry on for a further month.

Quantifying the impact of these assumptions on GDP is based on an initial calculation on the impact that the period of confinement and economical hibernation has had on the added value of different sectors. AIReF's calculations suggest that control measures could subtract 0.8 points from GDP growth for each week of strict confinement and 1.5 points for each week of non-essential activity restrictions. This calculation is based on a hypothesis on the degree of impact on the added value of each sector. This reflects the fact that the various sectors' activities have different characteristics that mean that containment measures have a very heterogeneous impact on them. These assumptions lead to an estimated fall in production, in terms of supply, of -8.7% in the more benign scenario and -12.8% in the more adverse scenario.

IMPACT OF SOCIAL DISTANCING MEASURES IN TERMS OF SUPPLY

(STARTING POINT OF THE ESTIMATE FOR AIREF'S SCENARIOS)

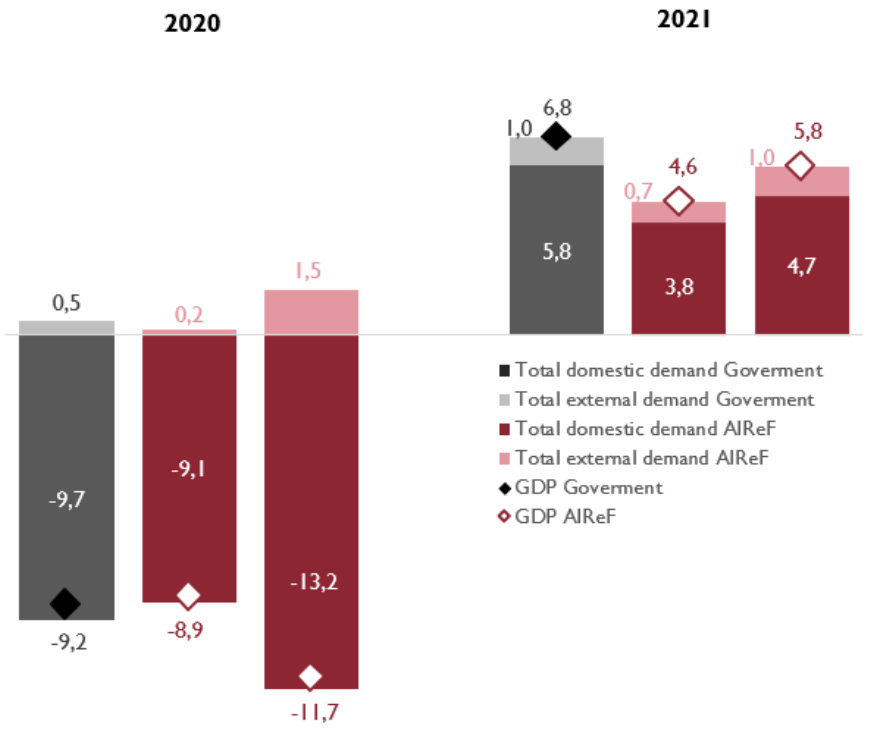
	Consensus Estimate Previous to COVID-19 Outbreak	Initial State of Alarm (15-mar 27-mar)	Essential Activities (28-mar 14-apr)	State of Alarm (14-apr 15-may)	Additional Impact on Tourism Sector Rest of 2020	Additional Impact after 15th May in the rest of Sectors Rest of 2020	**Estimated Initial Impact**
Scenario 1	1,6	-1,6	-3,1	-4,0	-1,6		**-8,7**
Scenario 2	1,6	-1,6	-3,1	-4,0	-1,6	-4,0	**-12,8**

Source: AIReF.

In addition to the intensity of the downturn in 2020, another fundamental element in defining the two scenarios is the projected speed of recovery. In this area, AIReF has incorporated two nuances into its scenarios. Firstly, AIReF makes an assumption that, in both cases, the Spanish economy presents some structural features that will make recovery slow and gradual, meaning that it will take several quarters to recover the previous level of GDP. These features are mainly related to its specialisation in manufacturing, the segmentation that continues to exist in the labour market and the high proportion of micro- and small companies that are, in principle, more vulnerable to financial constraints. Secondly, the more adverse scenario is based on the assumption that a longer lasting pandemic will lead to increased financial hardship for companies and households and lower world trade growth, which is only implemented in this scenario through an additional shock in employment, investment and exports.

The scenarios' main results are presented in the following figure, compared to the Government's sole macroeconomic scenario.

GROSS DOMESTIC PRODUCT AND CONTRIBUTIONS TO THE GROWTH OF NATIONAL AND EXTERNAL DEMAND



Source: *Ministerio de Asuntos Económicos y Transformación Digital* (Ministry of Economic Affairs and Digital Transformation) and AIReF's estimates.

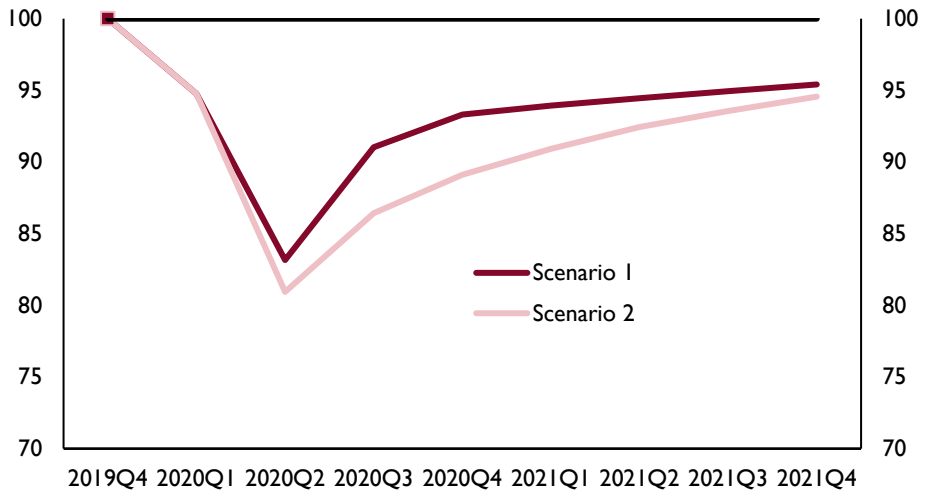
Based on its scenarios, under the assumption that the SPU's pandemic containment timeline is accurate, AIReF considers the scenario envisaged for 2020 to be reasonable. In fact, the SPU's forecasted GDP contraction (-9.2%) is similar to that of AIReF's most positive scenario (-8.9%), which broadly incorporates common assumptions on the duration of the pandemic. The SPU fairly reflects the decrease in domestic demand and employment caused by social distancing measures and the paralysis of some economic activities, along with a fall in exports against the backdrop of a global recession. However, the breakdown by components analysed in the report reveals notable discrepancies in public consumption estimates, which increases at a much lower rate in the SPU. This contrasts with the increased spending on medical equipment and the staff hires needed to cope with the public health threat posed by the coronavirus.

All in all, in the event of more adverse epidemiological scenarios, the contraction in activity and employment could be more intense in 2020. According to AIReF's estimates, GDP could decline by about 12% in 2020 if the containment measures continue for one more month.

Beyond 2020, AIReF considers that the SPU's recovery path is subject to significant downside risks, even if its hypotheses on the epidemic are accurate. More specifically, the SPU predicts an "asymmetric V" shaped

recovery. This would mean that the economy's gross domestic product would recover to almost the level recorded prior to the crisis by the end of 2021. In other words, the income level would recover within just six quarters. AIReF identifies downside risks with this path. Its scenarios predict that GDP would be around 5 points below pre-crisis levels at the end of 2021. The very rapid recovery of investment and employment included in the SPU is especially notable in the current context of uncertainty.

VARIATION IN THE LEVEL OF GDP COMPARED TO FOURTH QUARTER OF 2019

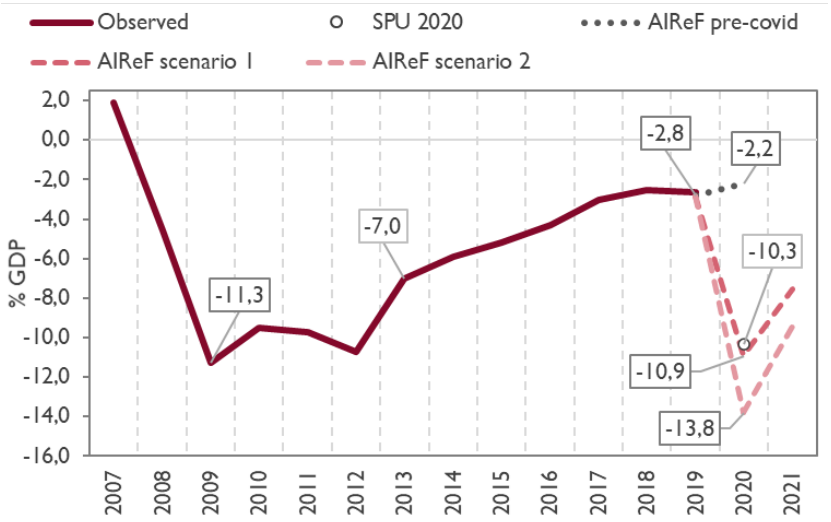


Source: *Instituto Nacional de Estadística* (National Statistics Institute - INE) and AIReF's calculations

How will COVID-19 impact public accounts?

AIReF estimates that the public deficit will be between 10.9% and 13.8% GDP in 2020, depending on which scenario arises. In this financial year, the COVID-19 crisis would trigger an increase in the public deficit of between 8.8 and 11.6% GDP compared to its pre-pandemic forecast, which AIReF estimated at 2.2% GDP.

NET LENDING/BORROWING CAPACITY OF PAs (%GDP)



This impact on the deficit is broken down into three factors: the denominator effect that is the result of a notable decline in GDP; the effect of the Government's measures to alleviate the pandemic and its effects on the economy; and the macroeconomic effect of the increase in expenditure and decrease in revenue caused by reduced economic activity during the pandemic.

Firstly, the denominator effect entails a deficit increase of 0.9-1.4% GDP due to the increase in expenditure over of 5.6-7.4% GDP, offset by the increase in revenue of 4.7-6.0% GDP.

Secondly, according to AIReF's estimates, the measures taken to date represent an increase in the deficit of 3.3-4.2% GDP. According to AIReF's preliminary estimates based on information provided by some administrations, the COVID-19 health crisis will result in an increase in healthcare expenditure of 0.6-0.9% GDP. On the other hand, income replacement measures, such as those related to the *Expedientes de Regulación Temporal de Empleo* (Temporary Redundancy Plans - ERTE) or the benefit granted to self-employed workers who have had to stop working, represent the greatest discretionary impact on public accounts, with an estimated cost of 2.4-2.9% GDP. Measures to defer and postpone tax obligations and social security payments have also been taken, although most of these would not have a direct impact on the 2020 public accounts, only changing the monthly revenue profile. In addition, measures supporting the liquidity of companies and individuals are not calculated as deficit, although they generate contingent liabilities that require appropriate and transparent management.

Most of the measures adopted (around 95%) are temporary and will revert automatically, therefore not resulting in additional expenditure in coming

years. Meanwhile, the permanent measures adopted so far will have a limited impact on the deficit.

Finally, the impact of the COVID-19 crisis on economic activity, excluding the effect of measures, will increase the deficit by 4.6-6.0% GDP, depending on which scenario occurs. The decrease in economic activity will lead to a 5.9-9.1% reduction in revenue compared to 2019; the pre-pandemic scenario expected an increase of 5%. Therefore, revenue will fall by €30,000-45,000 million compared to 2019 in nominal terms, despite the measures taken. For some taxes, such as Personal Income Tax (PIT) and Corporate Income Tax (CIT), the 2020 decrease will be partially offset by the annual declarations, which involve the liquidation of tax periods prior to the crisis. Meanwhile, other taxes such as VAT or social contributions reflect current economic developments more accurately.

The impact on expenditure is expected to be lower, with an increase of 3.3% in the pre-crisis scenario rising to 4.4-4.8%, essentially due to unemployment levels. In this sense, the measures taken and the action of automatic stabilisers clearly complement one another in the case of unemployment benefits, meaning that the measures are absorbing part of the increase in expenditure.

As a result, AIReF estimates that revenue will be 39.5-39.4% GDP in 2020. Both these predictions are below the SPU's prediction of 41.2%. For its part, expenditure is expected to increase to 50.4-53.2% GDP, with the SPU's estimate of 51.5%, falling between the two scenarios.

Despite the temporary nature of the health crisis, AIReF estimates that the public deficit will be 7.5-9.4% in 2021. The recovery of economic activity in 2021 will not be enough to reverse the macroeconomic impact of the crisis on public accounts. In contrast to the effects of most of the measures, collection and unemployment benefits will not be able recover to the levels seen before the crisis in 2021. In this case, the annual PIT and CIT declarations in 2021 will still be recovering from the impact of the pandemic, thereby limiting the growth of collection.

How will the crisis affect each sub-sector of the PAs?

All sub-sectors' fiscal balance will deteriorate, although the *Administración Central* (Central Government - CG) and *Fondos de la Seguridad Social* (Social Security Funds - SSF) will experience the greatest impact. On the one hand, the CG suffers more from the reduction in revenue resulting from a drop in economic activity, an effect that is exacerbated by the decision to not adapt the instalment payments of the territorial administrations' financing system to a more realistic revenue estimate. This allows Regions under the common tax regime to partially offset the deficit increase, primarily due to the health expenditure increase caused by the crisis.

However, this will mean that payments will decline significantly in 2021; while in 2022 there will be increased liquidation in favour of the State due to the difference in instalment payments in 2020 and actual revenue.

Meanwhile, the deterioration of SSF accounts is mainly explained by the measures adopted, but also by a decrease in social security contributions in line with the loss of employment. Although the impact is lower for the Local Governments (LGs), the surplus obtained in recent years may disappear, or even fall into a deficit.

However, the distribution of the deficit between sub-sectors will ultimately depend on the transfers between PAs. On the one hand, the CG has announced a non-refundable transfer of €16,000 million to the Regions. Along with lack of update to instalment payments, this will mean that the sub-sector will be nearly balanced in 2020 and there will be a sharp decrease in revenue in 2021. On the other hand, the deficit of the State Public Employment Service (SEPE) is financed by transfers from the CG, although none have been announced to date. Both extremes would lead to a greater deficit for the CG and lower deficit for the SSF and the Regions.

PUBLIC ADMINISTRATIONS' DEFICIT IN THE 2 SCENARIOS (%GDP)

		Scenario 1		Scenario 2	
	2019	2020	2021	2020	2021
PAs	**-2,8**	**-10,9**	**-7,5**	**-13,8**	**-9,4**
CG	-1,3	-4,5	-2,5	-5,6	-3,0
SSF	-1,3	-5,0	-3,1	-6,1	-3,9
Regions	-0,5	-1,5	-1,8	-2,0	-2,3
LGs	0,3	0,0	-0,1	-0,1	-0,2

Is the SPU's macroeconomic and fiscal scenario consistent?

The SPU's fiscal forecasts do not seem completely consistent with the SPU's macroeconomic scenario. On the expenditure side, the macroeconomic scenario reflects a 4.8% growth in public consumption, which is lower than and apparently incompatible with the growth estimated for compensation of employees (6.1%), intermediate consumption and social transfers in kind (8.6%), which are its main components. On the revenue side, AIReF's models have estimated that the revenue level that would be achieved based on the SPU's macroeconomic assumptions would create a revenue level of 40% GDP, lower than the SPU's predicted 41.2%. Therefore, if the SPU's macroeconomic scenario materialises, the PAs' deficit would be greater.

What are the implications in terms of the sustainability of public finances?

AIReF predicts a 20-27% increase in the debt-to-GDP ratio in 2020, with an additional 2% increase in 2021. This means the debt-to-GDP ratio will be 115-

122% GDP in 2020 and 117-124% GDP in 2021. Primary deficit accumulation will be the factor that most contributes to this increase.

The SPU only presents a projection of the debt-to-GDP ratio for 2020, placing it at 115.5% GDP. This estimate is in line with AIReF's most positive scenario.

Although current economic prospects are surrounded by an unprecedented uncertainty, its high impact on debt levels is certain. The spread of COVID-19 will cause a sharp and, in principle, temporary, increase in the public deficit, which in turn will lead to a permanent increase in the debt-to-GDP ratio.

The starting fiscal position represents an added difficulty in meeting the challenges posed by the crisis. AIReF's simulations indicate that in order to keep the 2021 debt level stable in 2030, a fiscal consolidation exercise similar to the one carried over the past decade will have to be carried out over the coming decade, to reach budgetary balance in 2030. In addition, budgetary balance would have to be maintained for almost another decade in order to fully digest the consequences of this crisis and return to the previous debt-to-GDP ratio of 95.5% in 2038.

What are AIReF's recommendations?

The national and European fiscal framework allows flexibility for this exceptional situation. The European Union has already made use of this flexibility, and Spain should follow suit. In March, ECOFIN backed the activation of the EU's general escape clause, created for situations of severe economic recession within the euro zone or the EU. For countries in a preventive situation (currently all countries), its activation allows for temporary deviations from the medium-term budgetary objective, or from the adjustment path towards this. The Spanish Government indicated in the SPU that it will initiate procedures to declare an extraordinary situation, once the Commission's pronouncement and proposal for guidelines and recommendations have been published.

There is no doubt that the short-term requirements to protect against the effects of COVID-19 on health, society and the economy require unprecedented measures at both the national and European level. This short-term response now takes precedence over other considerations.

However, both the national and European fiscal frameworks are not losing sight of the impact on the sustainability of public finances. At the European level measures are expected to be timely, temporary and selective. Activation of the escape clause facilitates a coordinated and temporary deviation. It also allows the Commission and Council to take their guidance into account, considering the impact of measures on both the response to the consequences of the pandemic and the medium-term sustainability of public finances. Nationally, there is also the possibility of temporary deviation

without jeopardising medium-term fiscal sustainability. The formulation of a Rebalancing Plan is expressly recommended.

From AIReF's perspective, the current priority is to respond to the crisis, but without losing sight of the medium-term effects of the pandemic. For this reason, it recommends to utilise the fiscal margins permitted by regulations and, in particular, to activate the national escape clause. On the other hand, it also recommends to start preparing a fiscal exit strategy, which by law requires a Rebalancing Plan, that takes the European context into account. For these reasons, AIReF recommends:

- That the Government should activate the exceptionality clause referred to in article 11.3 of Organic Law 2/2012 on Budgetary Stability and Financial Sustainability.
- That the Government should start work to establish a Rebalancing Plan, which will serve as medium-term fiscal guidance and ensure the realistic and credible financial sustainability of the PAs. This requires the participation and joint responsibility of all levels of the Administration and, therefore, the fiscal reality in terms of each sub-sectors' resources and competencies to be taken into account. As far as possible, this plan should be consistent with the schedule and approach that may be determined at the European level.
- To carefully plan any permanent measures, particularly considering their financing, with the aim of preserving the sustainability of public accounts. These permanent measures should be included in the Rebalancing Plan.
- To closely monitor the measures that do not have an immediate impact on the public deficit, but that generate contingent liabilities. These must be included and considered in the Rebalancing Plan. It is also recommended that sufficient information be sent to AIReF on a quarterly basis in order to be able to assess the impact on sustainability.

In relation to the preparation of the SPU, AIReF reiterates the following recommendations:

- That the information provided to AIReF by the Government in order to issue the reports referred to in article 14.1 of Organic Law 6/2013 should include a fiscal scenario and a no-policy-change scenario that details and quantifies the impact of the measures taken or planned and their translation to the final macroeconomic scenario.
- That, in line with standard practice in surrounding countries in the interaction between the Government and the National Independent Fiscal Institution, the flow and schedule of information exchange should be regulated through a convention or "memorandum of understanding".

1. INTRODUCTION

Current legislation establishes that the Independent Authority for Fiscal Responsibility (AIReF by its Spanish acronym) must prepare a report on the Stability Programme Update. The Stability Programme Update (SPU) represents the Government's main medium-term budgetary document and includes macroeconomic and fiscal forecasts for a period of four years. However, this year, given the enormous uncertainty resulting from the exceptional situation caused by the COVID-19 crisis, the extension of the SPU limits the time horizon of the macroeconomic forecasts for the 2020-2021 period and of the 2020 budget, in accordance with the flexibility granted by the European Commission's guidelines. AIReF must prepare a report on the macroeconomic and budgetary forecasts contained in the SPU, paying special attention to the impact on public accounts of the measures taken to combat COVID-19.

On 30 April, AIReF announced its endorsement of the macroeconomic scenario underlying the 2019-2020 SPU, based on the exogenous assumptions and defined policies. AIReF considered the Government's macroeconomic scenario to be prudent overall, taking into account the assumptions relative to the external environment and defined policies. This initial assessment was sent to the Government, allowing AIReF's conclusions and endorsement to be included before the SPU is submitted to the EU institutions.

Similarly, in this report AIReF assesses the initial budgets of the Public Administrations (PAs) for 2020. AIReF is mandated to prepare a report on the PAs' initial budgets in accordance with article 17.2 of the Organic Law on budgetary stability and financial sustainability (LOEPSF for its Spanish acronym). The exceptional situation stemming from the state of emergency and finally the lack of presentation and approval of the General State Budgets (GSB) for 2020, has meant that the evaluation of the PAs' initial budgets has been delayed until now. To perform this assessment AIReF used the information contained in the SPU for the General Government, the Royal

Decree-Laws and other regulations approving measures to tackle COVID-19, budgetary execution data to date and, in the case of the Regions and Local Governments (LGs) analysed individually, the budgets approved for 2020. Therefore, in this report AIReF assesses the SPU and, at the same time, analyses the budgetary forecasts for 2020 of each of the sub-sectors. As there are many unknowns regarding the transfers between the *Administración Central* (Central Administration - AC) and Regions, which may significantly affect each of them, as well as the financial impact of COVID-19 on the LGs for which no information has been received, AIReF has postponed the individual analysis of the budgets of each of the Regions and LGs monitored until sufficient information is available.

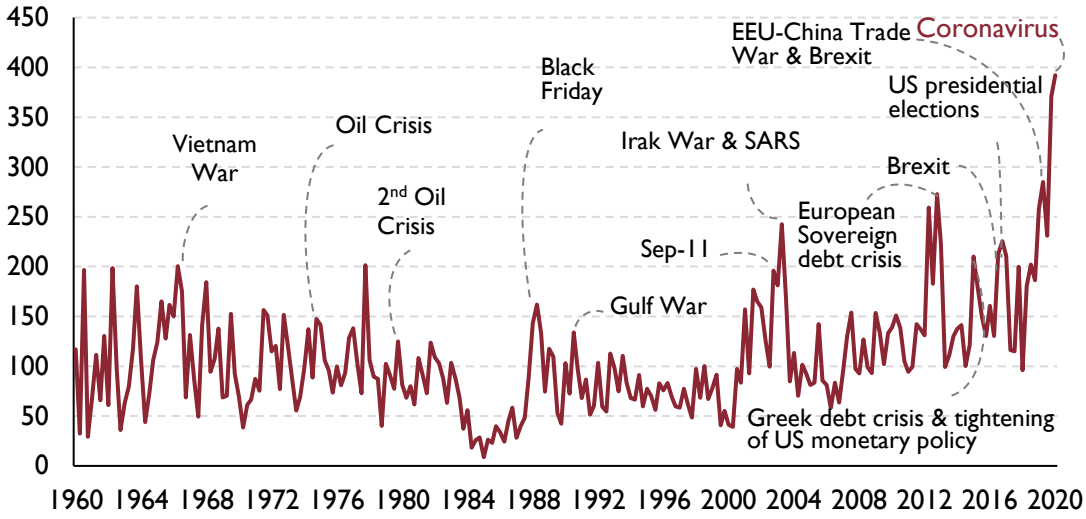
Therefore, this report responds to AIReF's mandate to assess the SPU (art.14 and 16 of Organic Law 6/2013), supplemented by the assessment of the PAs' initial budgets (art. 17.2 of the LOEPSF). To this end, the analysis is divided into five main blocks. First, AIReF assesses whether the macroeconomic scenario is realistic. The budgetary forecasts are analysed in the second section, with details of the evolution of the revenue and expenditure of the General Government and each of the sub-sectors. In this section special attention is paid to the impact of COVID-19 measures, and its consistency with the macroeconomic scenario adopted. Third, a brief reference to the implementation of the fiscal framework. In the fourth section AIReF performs a debt sustainability analysis, with a special focus on the impact of the COVID-19 crisis. Lastly, AIReF's evaluation provides a series of recommendations.

2. ASSESSMENT OF THE MACROECONOMIC SCENARIO

2.1. AIReF's Macroeconomic Scenarios

The coronavirus pandemic has and continues to have an extraordinary human and social cost, while simultaneously constituting an extreme economic disruption, which has pushed uncertainty to unusual limits. In addition to the difficulty in determining the duration of the health crisis and the degree to which it will be possible for economic activity to go back to normal once the epidemic is under control, there is a lack of sufficient indicators and previous benchmarks to establish the economic impact of the pandemic, as well as uncertainty about the design and effectiveness of measures to control its evolution. In addition, the models normally used to estimate and project economic developments using empirical regularities are less reliable in the face of such exceptional shocks. In the specific case of the Spanish economy there is also scarce information on certain aspects, such as the impact of instruments that provide flexibility to labour relations, and in particular *Expedientes de Regulación Temporal de Empleo* (Temporary Redundancy Plans - ERTE), which is essential in determining the impact of the crisis on the labour market. Figure 1 shows how the economic uncertainty indicator produced by the International Monetary Fund (IMF) has rapidly escalated to historical highs, well above what was observed during the Great Recession (see figure 1). All the above considerations make preparing macroeconomic forecasts particularly complex in the current context.

FIGURE 1. IMF UNCERTAINTY INDEX



Source: International Monetary Fund

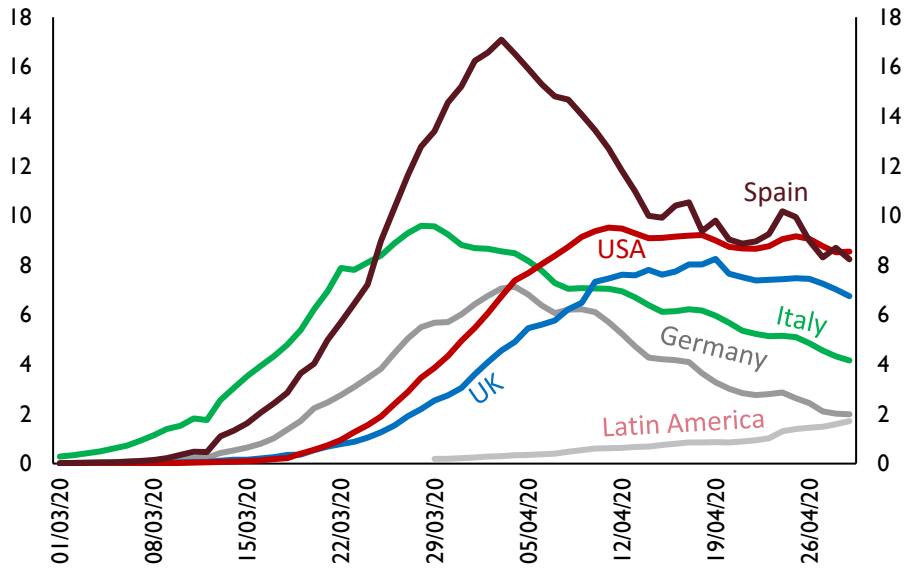
In this context, AIReF has decided to adapt its analysis of the Government's macroeconomic scenario and has developed economic scenarios conditioned by different assumptions about the evolution of the pandemic and the speed of recovery. In order to contribute to the analysis of the economic situation and to fulfil its mandate - to assess the macroeconomic and budgetary framework incorporated in the Stability Programme - AIReF has developed two macroeconomic scenarios subject to specific assumptions about the duration of the pandemic. This section first offers an economic perspective on the extent of the pandemic and how it is conditioning the external environment of the Spanish economy. It then presents the macroeconomic scenarios developed and the assumptions underlying each of them. Based on these scenarios, the following section discusses the main features of the macroeconomic scenario that the Government has incorporated into the 2020-2021 Stability Programme Update. Finally, as laid down in AIReF's Organic Statute, the last section features a retrospective analysis of the forecasting biases for the 2015-2019 period.

At the beginning of 2020 Spain and other developed economies faced a scenario characterised by the persistence of sustained but moderate growth rates and very low inflation. After overcoming the Great Recession, the advanced economies settled into a moderate growth trajectory with persistently low inflation rates. The prospect of this "new normal" continuing for an extended period in a setting of increased life expectancy and the resulting implications for economic policy, together with protectionist tensions, were at the centre of much economic concern. For its part, the Spanish economy had begun a mild slowdown, after a period of high

growth, during which macroeconomic and financial imbalances were corrected, but with little ambition in the fiscal area.

The pandemic caused by COVID-19 has radically changed this scenario. The pandemic originated in China, a systemically important economy, which has helped generate about 20% of global GDP growth in recent years and is at the heart of global production chains. It spread to other Asian countries and to Europe, where it particularly affected Italy, Spain, the United Kingdom and France. It arrived a little later in the United States, Latin America and Africa (see figure 2). The response of the governments of the major economies has been to confine the population in order to slow down the spread, which has led to an economic disruption unprecedented in recent history.

FIGURE 2. DAILY VARIATION IN THE NUMBER OF PEOPLE AFFECTED BY COVID-19 PER 100,000 INHABITANTS (MOVING AVERAGE 10 DAYS)



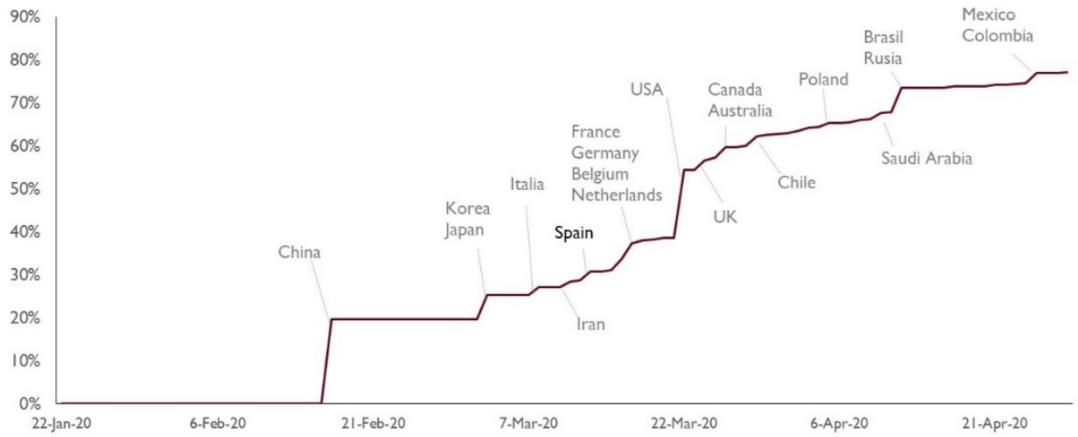
Source: Johns Hopkins University, CSSE. To 29 April 2020.

Measures to contain the spread of infection have led to a severe disruption of economic activity globally. In the world's major economies, the objective of containing the health crisis and mortality rates has led to the introduction of social distancing measures that include, among others, the closure of educational establishments, the confinement of the population to their homes, bans on travel without just cause, the suspension of public events or the limitation of non-essential activities. All these measures have led to an abrupt and simultaneous paralysis of economic activity and global demand, with very adverse effects on the labour markets (see annex 1).

There is no precedent in recent history for such extreme and synchronised global disruption in peacetime. figure 3 shows the evolution over time of the importance for world production of the countries affected by the

coronavirus crisis. As can be seen, it has spread very quickly and in just four months the countries affected account for almost 80% of the world's gross domestic product, which gives an idea of the exceptional disruption we are facing.

FIGURE 3. PERCENTAGE OF GLOBAL GDP AFFECTED BY COVID-19

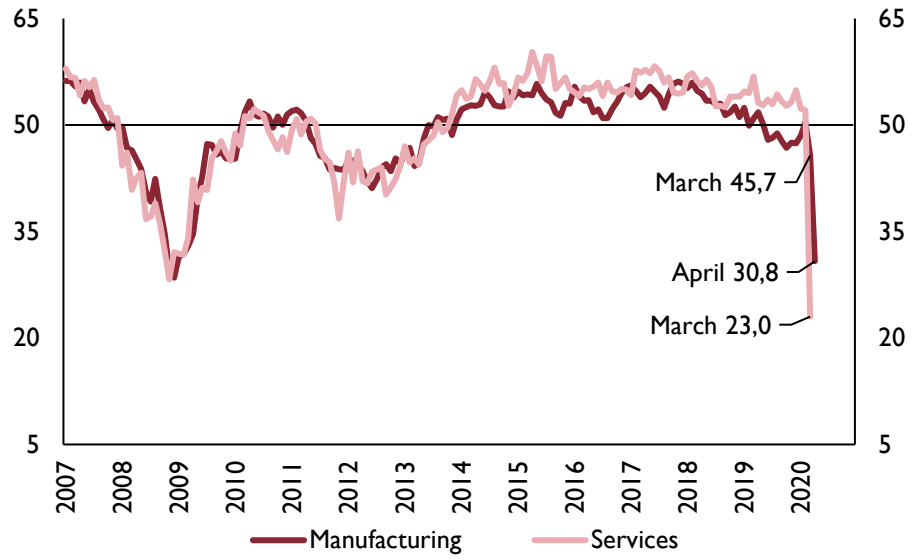


Source: International Monetary Fund (WEO, April 2020) and the Johns Hopkins University, CSSE.

Spain, along with Italy, has been one of the countries most affected by the pandemic to date. It is also one of the countries that has adopted the most stringent measures against the public health threat posed by the speed of transmission of the coronavirus. After suspending face-to-face educational activities, the Government declared a state of alarm on 14th March, which meant the closure of non-essential commercial activities and the confinement of the population to their homes. The public health threat posed by the steepening of the infection curve and the risk of collapse of the health system resulted in measures being tightened from 29th March to 12th April, with a ban on all non-essential activities and the introduction of compulsory recoverable paid leave for workers engaged in these activities. On 28th April, the Government presented a plan for the progressive de-escalation of restrictions on the movement of the population and economic activity, which will be carried out in four phases, depending on the evolution of the epidemic, and which will last at least until the end of June (see the Plan for the Transition to a new normal).

The pandemic has abruptly broken the pattern of growth that the Spanish economy has been showing in recent years. As in many other countries, indicators relating to the period in which virus containment measures became effective, such as the purchasing managers' indexes (PMI), are falling sharply and are at historical lows, far from the values recorded to date.

FIGURE 4. PMI INDEX FOR SPAIN (SEASONALLY ADJUSTED INDEX. <50 EQUIVALENT TO CONTRACTION // > 50 EQUIVALENT TO EXPANSION)

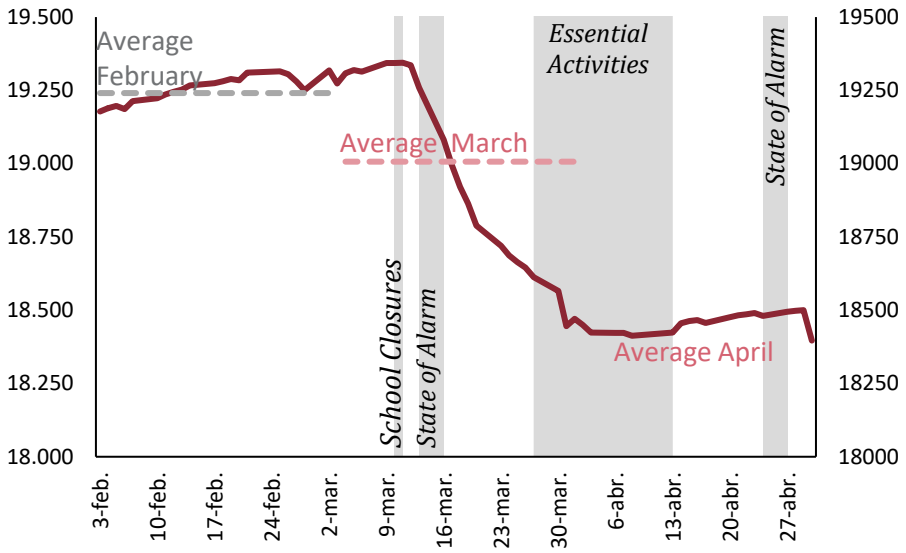


Source: IHS Markit.

The downturn in employment has also been very severe, although indicators do not yet fully reflect the impact of the crisis on effective working hours. Daily social security registrations recorded an exceptionally negative evolution in March. In the second half of the month, one of the largest contractions ever observed in this statistic was recorded. The drop in employment was particularly concentrated in temporary employment as many contracts were not renewed (see figure 5), even though these figures do not reflect the increase in the number of workers affected by a redundancy programme (ERTE), which amounted to 4 million people at the end of April according to the SPU[1]. In turn, the *Instituto Nacional de Estadística* (National Statistics Institute - INE) Labour Force Survey showed one of the largest decreases in effective hours worked in the historical series.

[1] These workers are considered as contributors in the Social Security registrations statistics and as employed population in the Labour Force Survey (LFS). Therefore, in order to gauge the impact of the crisis on the labour market under the current circumstances, it is appropriate to use the information on hours worked contained in the LFS.

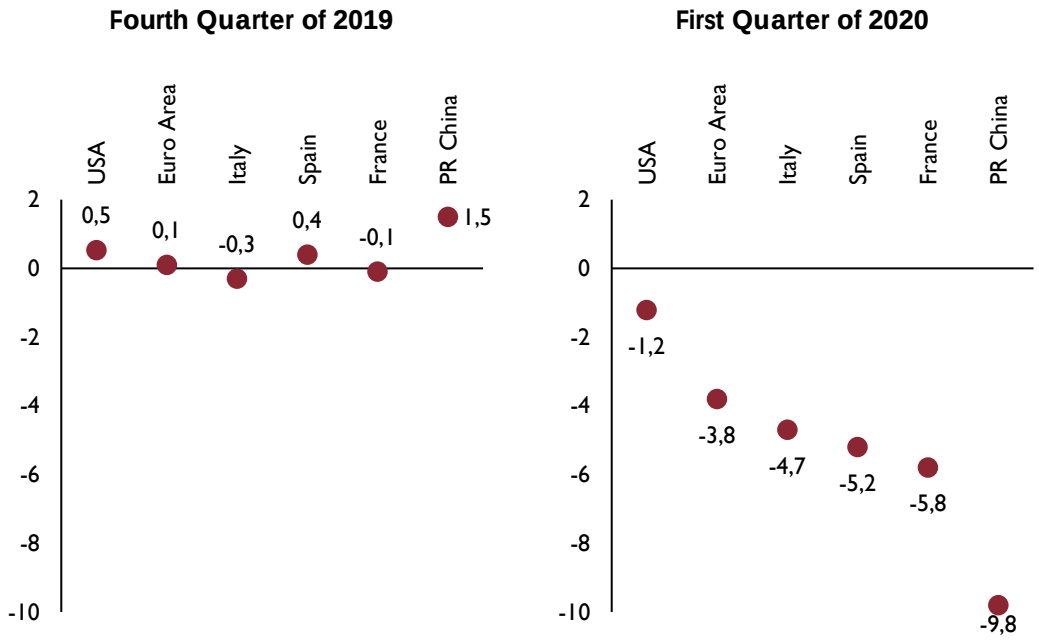
FIGURE 5. DAILY EVOLUTION OF SOCIAL SECURITY REGISTRATIONS. (%)



Source: *Ministerio de Inclusión, Seguridad Social y Migraciones* (Ministry of Inclusion, Social Security and Migration)

In line with this development, the provisional national accounts data for the first quarter of the year recorded an abrupt fall in activity. According to advance estimates for the quarterly accounts, Italy, Spain and France are among the countries most affected by restrictions on mobility and activity in the first quarter of the year, with particularly intense falls if we take into account that these measures affected only 15 days of the quarter, which allows us to expect that the contraction in the second quarter of the year will be even more exceptional (see figure 6).

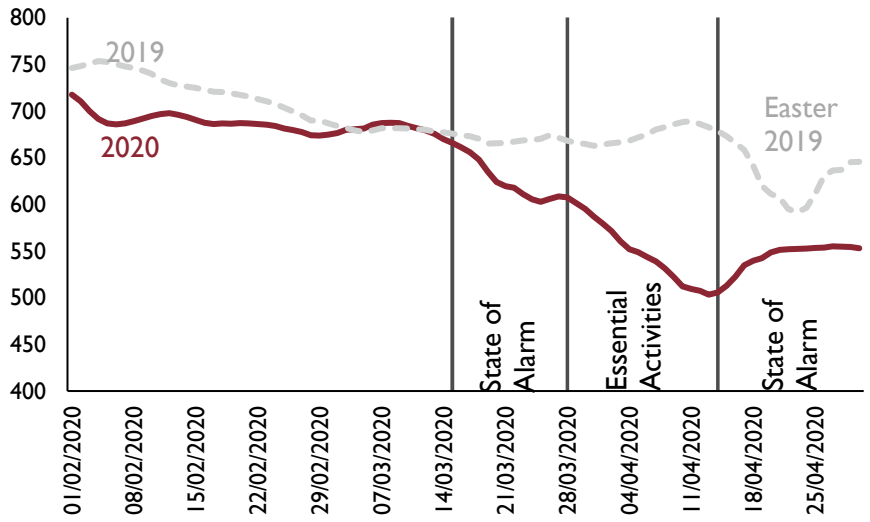
FIGURE 6. QUARTER-ON-QUARTER GROWTH OF GDP FOR SEVERAL ECONOMIES. (%)



Source: Istat, INSEE, INE, Eurostat, FRED Database.

For example, the electricity consumption figures anticipate that the trend observed in the first quarter will intensify in the second quarter of the year. In particular, electricity consumption fell significantly during the period of restriction of non-essential activities, which was very partially mitigated by the upturn in household energy consumption. As of 12th April, this indicator recorded a rebound consistent with the resumption of some activities in non-essential sectors, although it remains at levels well below those of 2019, which points to historic drops in activity in the second quarter (see figure 7).

FIGURE 7. DAILY ELECTRICITY DEMAND. MAINLAND ELECTRICITY SYSTEM. GWH. (MOVING AVERAGE 7 DAYS)



Source: Red Eléctrica de España.

2.1.1. Designing the scenarios

The outlook on the evolution of the Spanish economy in the short and medium term is essentially conditioned by the duration of the pandemic and other closely related factors. The economic outlook is currently conditioned by the intensity and duration of the pandemic and by the degree to which it will be possible for social and economic relations to go back to normal after a period of gradual easing of the measures restricting freedom of movement globally.

The temporary extension of measures to contain the epidemic will determine not only the intensity of the recession in 2020, but also the ability of the economy to recover through multiple channels. The first of these is the behaviour of the financial markets which, as we have seen recently, strongly amplify the effects of the pandemic and which could be more adverse the longer the disease lasts. Secondly, the persistence of the virus will have a decisive impact on the resilience of world trade, an element that is essential for economies as open as Spain's. The measures deployed to mitigate companies' liquidity problems and sustain household income and labour relations will also be all the more effective the shorter the duration of the pandemic, since if it is prolonged it will be more difficult to prevent company liquidity difficulties from turning into solvency problems, which will make it more difficult for employment and household income to recover.

AIReF has estimated two macroeconomic scenarios, contingent on the duration of the pandemic. The complexity of forecasting the evolution of the pandemic has led AIReF and other institutions to develop macroeconomic scenarios[2]**.**

Hypotheses about the duration of the pandemic are estimated using simplified mathematical models compared to those commonly used in epidemiological literature. Very simple models have been estimated to approximate the different phases of the disease. The sole purpose of this is to construct hypotheses on the approximate end date of the pandemic, as this is an essential determinant of the economic cost of the crisis, in order to establish the scenarios. These models are estimated based on data on the number of people affected by the coronavirus[3] from the Ministry of Health

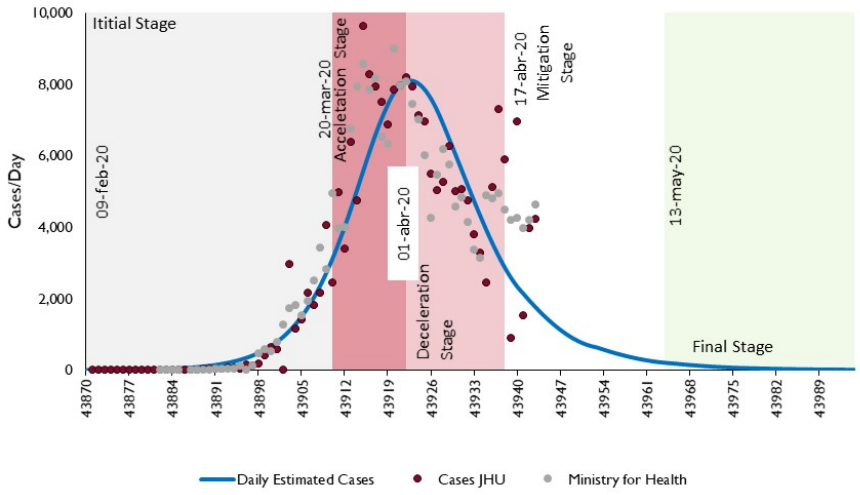
[2] See Banco de España (2020). *Escenarios macroeconómicos de referencia para la economía española tras la COVID-19* (Reference macroeconomic scenarios for the Spanish economy after COVID-19), Analytical Article 2/20.

[3] Both a logistic function and a simple model were estimated, which adjusts mathematical functions to the number of people susceptible to the disease, those infected and those recovered (SIR) (see M. Batista, Estimation of the final size of the COVID-19 epidemic, medRxiv, (2020)). The dates of the de-escalation plans

and Johns Hopkins University. These models make it possible to tentatively establish the date on which the number of new cases per day would approach zero, without introducing considerations on the effectiveness of the measures adopted to contain the disease. Although there is a great deal of uncertainty surrounding these results given the high variability of the phenomenon observed[4], with the data available from the two sources the modelling points towards a stabilisation in the growth rate of estimated daily cases at values close to zero by mid-May 2020 if the infection prevention conditions of the previous weeks were maintained (see figure 8).

Based on these models, 15th May has been established as a hypothesis for the end of the confinement period when designing the scenarios. Two scenarios were defined based on this estimate of the final phase of the epidemic, the main characteristics of which are summarised below:

FIGURE 8. NUMBER OF DAILY CASES OF PEOPLE AFFECTED BY COVID-19.



Source: *Ministerio de Sanidad* (Ministry of Health), Johns Hopkins University, CSSE.
Note: there are five phases that distinguish this type of model: the initial phase of exponential growth of those infected by SARS-CoV-2; the accelerated growth phase; the growth rate deceleration phase; the nearing steady state or easement phase; and the convergence phase, or the end of the epidemic.

Scenario 1. In this scenario it is assumed that the confinement period will end on 15th May. From that date onwards, economic activity returns to normal, except in social consumption activities (mainly tourism, hotels and restaurants), which continue to be affected by the social distancing

announced by the Government on 28th April were not known when the design of the scenarios began.

[4] Annex Sánchez (2020). *Ni el pico ni el final de una pandemia se pueden predecir con precisión.* (Neither the peak nor the end of a pandemic can be predicted accurately.) Nada es gratis. https://nadaesgratis.es/anxo-sanchez/ni-el-pico-ni-el-final-de-una-epidemia-se-pueden-predecir-con-precisión.

measures needed to contain the spread of the disease until the end of 2020[5]. In general, this scenario could be consistent with the de-escalation scenarios that the government presented on 28th April.

Scenario 2. This scenario assumes a more adverse evolution of the epidemic, which leads to social distancing measures being intensified in the second half of the year and a lesser capacity of recovery of the Spanish economy, since in this context it is expected that more damage will be done to the productive capacity. In this scenario, confinement also ends on 15th May, but infection control measures are insufficient and there is a second peak, which forces the population to be confined for another month in the autumn. In this scenario, the evolution of global economic activity and trade would be more adverse than in the previous one, although the assumptions about the exchange rate, interest rates and commodity prices remain constant (see annex 3).

Neither of these two scenarios envisages a tightening of external financing conditions. It is important to note that neither of these scenarios envisages the possibility of tensions arising in the sovereign debt markets that would raise the risk premium on Spanish government bonds. Both scenarios assume that the ECB's measures for large-scale asset purchase programmes will help to alleviate tensions in the debt markets.

Assumptions about the duration of the pandemic are key to limiting the initial impact of the coronavirus on economic activity. Most of the models commonly used for economic forecasting are of little use in the face of a shock of this nature. In addition to the uncertainty about the conditioning assumptions (world trade in particular), we must also be cautious about the prevalence, under these exceptional circumstances, of the empirical regularities on which these models are based. This is compounded by the delay in the availability of indicators on the direct impact of the crisis. Therefore, many international institutions and bodies have addressed this problem through a sectoral approach, in which the total impact on activity is calculated based on assumptions about the degree of impact of confinement measures on different economic sectors[6].

[5] These measures are necessary to keep the rate of spread of the disease (R0) below 1, so that each person infects less than 1 other person. The need to live with the virus until a vaccine or medical treatment is discovered will require that social distancing measures be maintained to avoid a second peak of the epidemic that would require the lockdown to be reinstated. The scientific community estimates that the vaccine could begin to be distributed by the second half of 2021.

One of the first examples was the exercise conducted by the OECD[7], which, using this approach, estimates that the impact of the pandemic is approximately 2 percentage points lower global growth for each month that confinement measures are in place. Using a similar approach, the *Banco de España*[8] estimates an impact of approximately 2.4 percentage points lower growth in the Spanish economy for each month of confinement, a figure that would include both the direct impact and the indirect and induced effects that the *Banco de España* estimates with the input-output tables. For France[9], the central bank conducted a similar exercise, supported by a survey of more than 8,500 companies, and obtained an impact of 3 percentage points per month.

TABLE 1. COMPARISON OF THE ESTIMATED INITIAL IMPACT OF CONTAINMENT MEASURES BY VARIOUS AGENCIES

	OECD		*Banco de España*		*Banco de Francia*	
	Analysis Type	**Impact on GDP growth**	**Analysis Type**	**Impact on GDP growth**	**Analysis Type**	**Impact on GDP growth**
Estimated impact of confinement measures	Analysis on the supply side; impact by branch of activity using coefficients of affectation of between 50 and 100% depending on the branch in question. Minor affectation for essential branches of activity. The restrictions affect the economy as a whole.	Reduction in the level of GDP in volume of between 20% and 25% (close to 30% for Spain)	Analysis on the supply side (and separately on the demand side); Analysis on the supply side using impact by branches of activity, using different affectation coefficients depending on the branch in question. Complementary analysis using input-output tables for indirect and induced effects. Additional establishment of hypotheses about the confinement duration and speed of subsequent recovery	0.6% reduction in annual GDP per week of confinement. Additional impacts due to financial stress, difficulties in companies and decreased impact of economic policy measures	Telephone survey of 8,500 companies on changes in their level of activity and days of loss of activity in the services and manufacturing industry branches	Every fortnight of confinement measures generates a reduction in GDP of nearly 1.5% of annual GDP

Source: OECD, Banco de España and Bank of France.

AIReF's calculations suggest that control measures could subtract 0.8 points from GDP growth for each week of strict population confinement, and 1.5 points for each week of restriction of non-essential activities. To perform this calculation, data from the Annual National Accounts has been used with the maximum possible breakdown by sector. The calculation is made based on assumptions about the degree to which the value added of each sector is affected in relation to the normal situation. The aim is to reflect the fact that the characteristics of the activity in the different sectors mean that the impact of containment measures on them is very heterogeneous. A distinction is made between sectors with a low impact (0-10% drop in GVA), moderate impact (up to 50% lower GVA) and high impact (between 80%

7 OECD. "Evaluating the initial impact of COVID-19 containment measures on economic activity"
8 Escenarios Macroeconómicos de Referencia para la Economía Española tras El Covid-19 (Reference macroeconomic scenarios for the Spanish Economy after Covid-19). Analytical Articles 2/2020.
9 Banque de France. "Point sur la conjoncture française à fin mars 2020"

and 100%) (see Table 2). The two scenarios make the additional assumption that tourism and closely related activities will operate for the rest of 2020 at 40% of their normal level of activity, with the consequent impact on GVA.

TABLE 2. SECTOR ACCORDING TO THE ASSUMPTION OF LOWER GVA AS A RESULT OF CONFINEMENT MEASURES

	State of Emergency	Essential Activities
Activities that experience low impact (0%-10% with lower GVA)	Pharmaceutical products; Agriculture, forestry and fishing; Food industries; Telecommunications; Financial and insurance activities; Public administration and defence; Mandatory social security; etc.	Agriculture, forestry and fishing; Food industries; Beverage manufacturing and tobacco industry; Telecommunications; financial and insurance activities; Public administration and defence; Compulsory social security; etc.
Activities that experience medium (50% with lower GVA)	Textile industry; Paper industry; Graphic arts; Metallurgy and metal products; Retail trade; etc.	Up to 100% lower GVA
Activities that experience high impact (80%-100% with lower GVA)	Real estate activities; Sale and repair of motor vehicles and motorcycles; Hostelry; Travel agency activities; Air transport; Storage and activities related to transportation; Construction; etc.	

Source: AIReF's own calculations.

These assumptions allow the initial fall in output in each of the scenarios to be set within a range from -8.7% to -12.8%. In scenario 1, which assumes the extension of the current lockdown and social distancing measures until mid-May and incorporates the additional impact on the branches of tourism mentioned above, a decline of -8.7% GDP is obtained. In scenario 2 this impact amounts to -12.8 points. These estimates provide the starting point that is incorporated in AIReF's quarterly model.

TABLE 3. THE IMPACT FROM THE SUPPLY PERSPECTIVE OF SOCIAL DISTANCING MEASURES (STARTING POINT FOR THE ESTIMATION OF AIREF'S SCENARIOS)

	Consensus Estimate Previous to COVID-19 Outbreak	Initial State of Alarm (15-mar 27-mar)	Essential Activities (28-mar 14-apr)	State of Alarm (14-apr 15-may)	Additional Impact on Tourism Sector Rest of 2020	Additional Impact after 15th May in the rest of Sectors Rest of 2020	**Estimated Initial Impact**
Scenario 1	1.6	-1.6	-3.1	-4.0	-1.6		**-8.7**
Scenario 2	1.6	-1.6	-3.1	-4.0	-1.6	-4.0	**-12.8**

Source: AIReF's own calculations.

Beyond the intensity of the fall in 2020, another of the crucial elements in defining the two scenarios is the projected speed of recovery. On the one hand, in our scenarios the recovery path is also closely linked to the duration of the epidemic since, as has been said, the longer the measures needed to contain it are prolonged, the greater the financial hardship faced by

companies and households and the lower the growth of world trade. This circumstance is implemented in the simulations of scenario 2 through an additional shock in employment, investment and exports.

Furthermore, AIReF considers that the Spanish economy presents some structural characteristics that will make the recovery slow and gradual, so that it will take several quarters to return to the previous GDP level. These characteristics are mainly related to the specialisation in manufacturing that is highly oriented towards "social consumption" activities, the high segmentation that persists in the labour market with a relatively high proportion of temporary workers who have suddenly lost their jobs and, finally, the predominance of small companies, which are more vulnerable to a shock of this nature (see box 1).

BOX 1. STRUCTURAL FACTORS THAT INFLUENCE THE RECOVERY OF THE SPANISH ECONOMY

The correction of imbalances that has taken place in recent years puts the Spanish economy in a better starting position once demand resumes, compared to what happened after the international financial crisis. Unlike what happened in the aftermath of the international financial crisis, the Spanish economy does not need to make a major adjustment in sectors that were oversized at the time, such as construction. Secondly, on this occasion, Spain has a more balanced competitive position, which has enabled it to sustain a current account surplus in the recovery phase, although its debt to the outside world (as measured by the international investment position) is still high. In addition, greater use is now being made of more flexible temporary employment suspension mechanisms that encourage the link between companies and workers to be maintained until business activity resumes (ERTEs), while sustaining workers' income so that when lockdown measures are removed demand is revived.

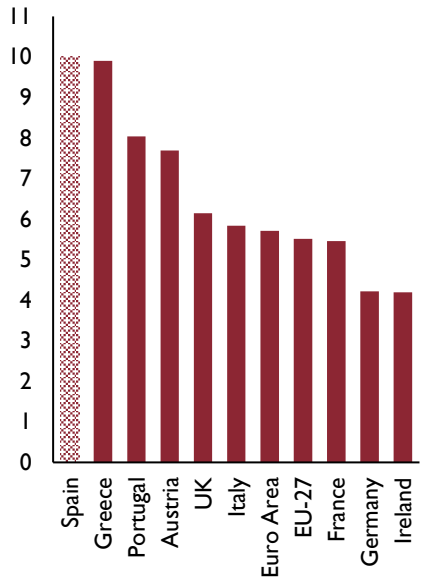
However, given the nature of the crisis, there are many perceived factors that could undermine the economy's ability to recover. In particular, the relative specialisation of the Spanish economy in service activities most affected by social distancing measures, the continued high level of temporary contracts on the labour market and the relatively important presence of small businesses, which are more exposed to financial restrictions than larger firms, could complicate recovery.

The Spanish economy's specialisation in manufacturing means it is more exposed to the social distancing measures needed to contain the epidemic. The health crisis and the social distancing measures particularly affect activities such as tourism, hotels and restaurants, which are comparatively more important in the Spanish productive structure. These are activities that are also very labour intensive and less likely to benefit from what is called bottlenecked demand (as opposed to the upturn in demand for durable consumer goods, even without taking income restrictions into account, some households will have time restrictions to increase the number of trips made next year and compensate for those not made this Easter, for example).

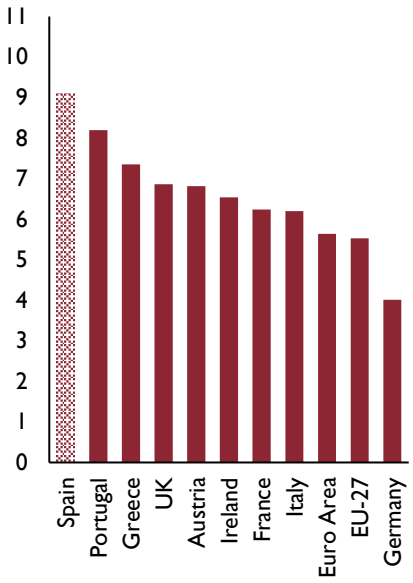
The high segmentation and prevalence of temporary contracts in the Spanish labour market could be another factor that hinders recovery. The persistence of a very high percentage of temporary employment and the high turnover in some employment relationships means that a large number of workers have lost their jobs over a short period of time. Uncertainty about the future and the reduction of their spending capacity will undoubtedly influence activity (see figure).

PERCENTAGE OF GROSS VALUE ADDED (GVA) GENERATED AND OF COMPENSATION OF EMPLOYEES OF THE SECTORS MOST CLOSELY LINKED WITH TOURISM

GVA. (% TOURISM OF TOTAL)



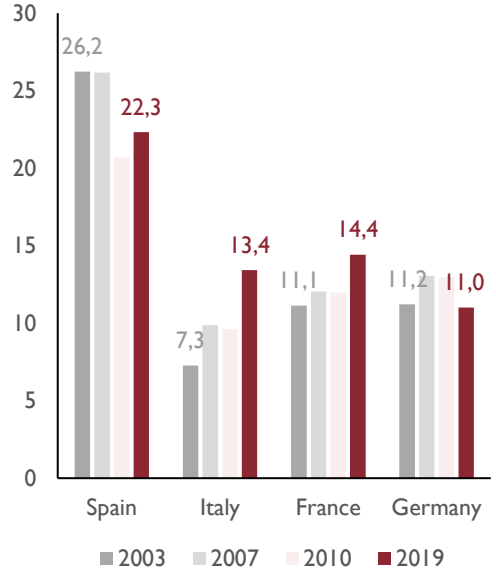
COMPENSATION OF EMPLOYEES (% TOURISM OF TOTAL)



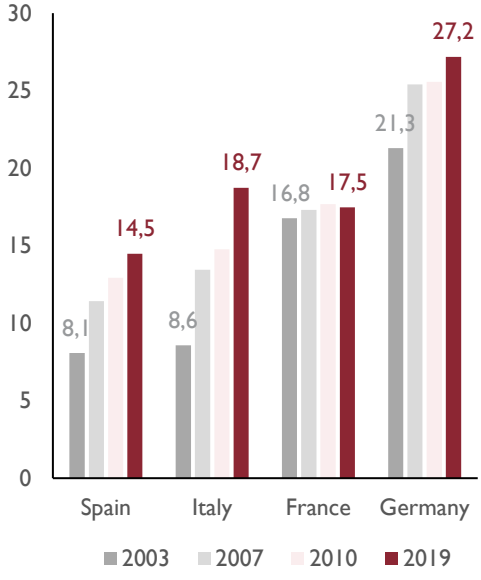
Source: Eurostat

COMPARISON OF TEMPORARY EMPLOYMENT AND PART-TIME EMPLOYMENT RATIOS PERCENTAGE OF TOTAL EMPLOYMENT

TEMPORARY EMPLOYMENT RATIO



PART-TIME EMPLOYMENT RATIO



Source: Eurostat

The business demographics of the Spanish economy may increase its vulnerability to a crisis of this nature. Micro and small enterprises account for almost 99.3% of the number of companies in Spain and generate 59.1% of total employment - higher than the European average. In general, these companies are more exposed to financial constraints and face greater

difficulties in obtaining and refinancing loans, which makes them more vulnerable, especially the longer the crisis lasts. Furthermore, according to the data calculated by the IVIE (*Instituto Valenciano de Investigaciones Económicas* - Valencian Institute of Economic Research), more than 16.5% of micro companies would have debt to total asset ratios higher than the median for the sector to which they belong, while in the case of small companies this ratio would fall to 8.9%. Therefore, adverse propagation mechanisms could be triggered: companies affected by the impossibility of producing and generating income could face liquidity difficulties and stop making payments to banks and other companies, which could lead, in the absence of effective measures, to domino effects on employment, disposable income and production.

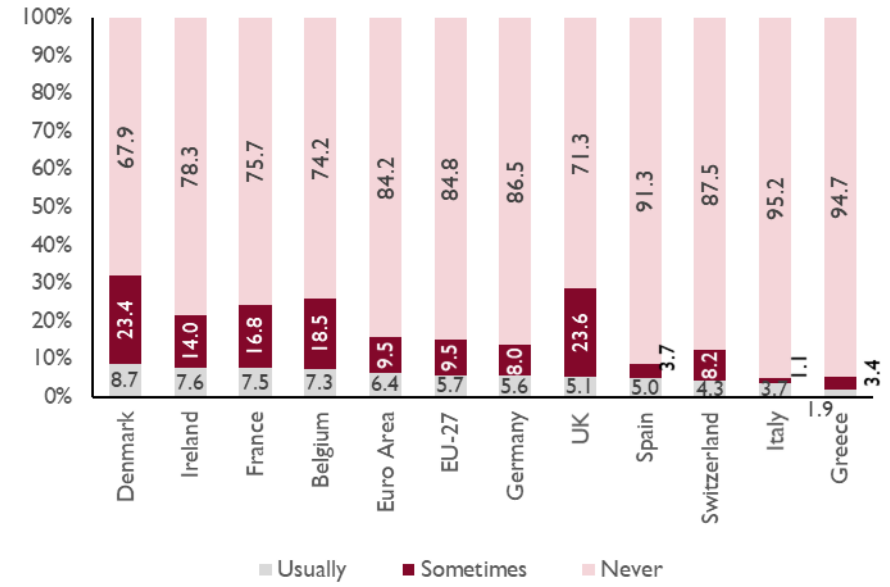
COMPANIES BY EMPLOYEE STRATUM, CONTRIBUTION TO TOTAL EMPLOYMENT, CONTRIBUTION TO GVA AND NUMBER OF COMPANIES WITH DEBT AT RISK

	Micro (0-9)	Small (10-49)	Mid-sized (50-249)	Big Firms (Más de 250)
Size by Employee Stratum	95.6	3.7	0.7	0.1
Size by % of Employment	41.0	18.1	12.9	28.1
Size by % of GVA	25.8	17.8	17.4	39.0
Firms with Debt at Risk*	16.5	8.9	9.4	10.5

Source: INE, IVIE and *Círculo de Empresarios*

At the technological level, Spain is less prepared than other countries to deal with social distancing without affecting normal business. According to data from the labour force survey, in Spain only 8.7% of employees made occasional or frequent use of remote working options. This contrasts with other countries, such as Ireland or France, where this percentage rises to nearly 25%. This observation is the result of Spain's manufacturing specialisation, where labour-intensive activities still predominate, but also of the technological gap and the reduced use of Information and Communication Technologies (ICT).

PERCENTAGE OF EMPLOYEES BETWEEN 24 AND 64 YEARS WHO WORK REMOTELY. 2019.



Source: Eurostat

2.1.1.1 Scenario results

In 2020, GDP is estimated to fall very sharply - by 8.9% under *Scenario 1*, and by 11.7% under *Scenario 2* - and, in both cases, to make an incomplete recovery by 2021. According to the scenarios developed, GDP would severely decline in 2020, followed by an incomplete recovery. Except public consumption, all aggregates on the demand side would suffer a sharp drop in 2020. In 2021, significant growth is expected in all components of GDP, although the recovery will be incomplete.

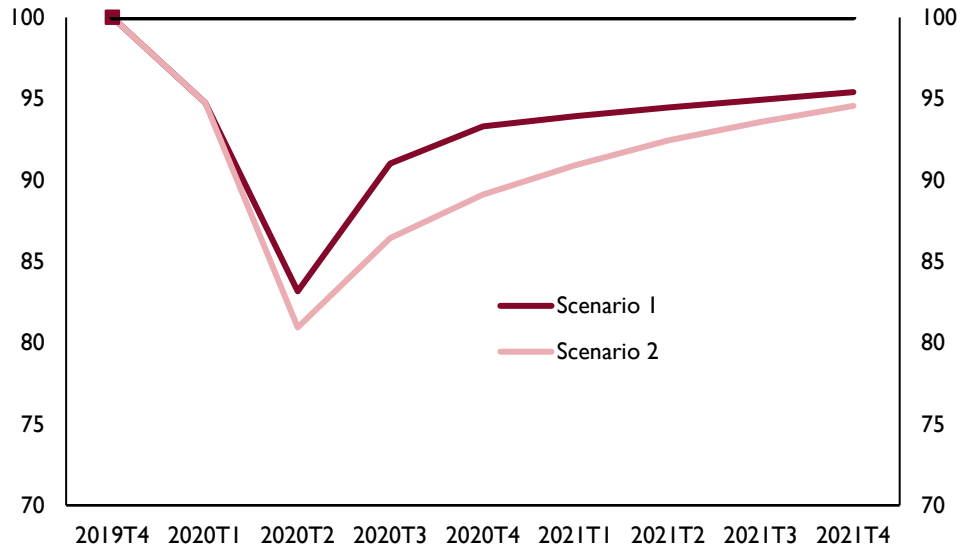
TABLE 4. MACROECONOMIC SCENARIOS FOR 2020 AND 2021

MACROECONOMIC SCENARIO		Scenario 1		Scenario 2	
VOLUME	**2019**	**2020**	**2021**	**2020**	**2021**
GDP (% real var., unless otherwise indicated)	2.0	-8.9	4.6	-11.7	5.8
Total consumption (contribution to GDP growth)	**1.1**	**-4.2**	**1.7**	**-6.0**	**2.1**
Private consumption	1.1	-9.0	3.7	-13.0	5.3
Public consumption	2.3	5.4	-1.8	7.7	-3.4
GFCF Capital Goods and Biological Resources	3.0	-36.2	18.5	-45.2	22.0
GFCF Construction and Intellectual Property	1.2	-18.7	10.7	-31.1	16.5
Domestic demand (contribution to GDP growth)	**1.5**	**-9.1**	**3.8**	**-13.2**	**4.7**
Exports	2.6	-30.3	15.9	-35.7	13.1
Imports	1.2	-34.3	15.4	-44.3	11.4
External balance (contribution to GDP growth)	**0.5**	**0.2**	**0.7**	**1.5**	**1.0**
PRICES	**2019**	**2020**	**2021**	**2020**	**2021**
GDP	1.6	0.0	0.4	-0.5	0.5
Private consumption	1.2	-1.9	1.0	-2.4	1.0
NOMINAL	**2019**	**2020**	**2021**	**2020**	**2021**
GDP	3.6	-8.9	5.0	-12.1	6.3
Gross Operating Surplus	3.0	-7.6	6.7	-10.7	9.0
Net taxes on production M	0.9	-10.7	4.7	-14.5	4.8
Household saving rate (% GDI)	7.9	9.5	9.2	11.6	9.4
Cap.(+)/Nec. (-) of financing (% of GDP)	2.3	3.2	3.0	4.9	5.2
Balance of current operations abroad	-2.0	-2.8	-2.6	-4.4	-4.8
EMPLOYMENT	**2019**	**2020**	**2021**	**2020**	**2021**
Compensation of employees	4.7	-9.5	3.4	-13.0	3.9
Total FTE employment	2.1	-9.7	2.6	-12.9	3.1
Remuneration per FTE employee (thousands of €)	2.2	0.1	0.7	0.1	0.7
Productivity per employed person	-0.1	0.9	1.9	1.4	2.6
Nominal unit labour cost (ULC)	2.3	-0.7	-1.2	-1.3	-1.8

Source: INE and AIReF's own calculations

The downturn in activity is concentrated in the first two quarters of 2020, with a cumulative loss of GDP of around 20-25 points. The aggregate growth of the economy would experience a sharp drop in the first two quarters of 2020, close to 20-25% GDP, which already incorporates the advance estimate of the quarterly accounts corresponding to the first quarter of the year (-5.2%). In the second half of the year, GDP is expected to enter a recovery phase, without reaching the level of 2019 over the forecasting horizon (see figure 9). In Scenario 2, growth over the forecasting horizon is significantly lower than estimated in Scenario 1, as the persistence of measures to contain the epidemic in 2020 has an impact on the economy's productive capacity and employment.

FIGURE 9. VARIATION IN THE GDP LEVEL COMPARED TO THE FOURTH QUARTER OF 2019 (INDEX 2019Q4=100)



Source: INE and AIReF's own calculations

The fall in activity will have a strong impact on employment in 2020, although there is considerable uncertainty surrounding the estimation of this aggregate due to the impact of ERTEs. For its part, employment - in full-time equivalent terms[10] - would also fall markedly in 2020, somewhat more than GDP, which would be reflected in an apparent expansion in productivity. In 2021 employment growth would be somewhat hampered by the fall in public employment. However, the absence of information on the impact of ERTEs and the reduction in effective working hours recorded during the state of alarm makes the projection of employment in real terms uncertain.

According to these scenarios, private consumption would fall very sharply in 2020, with declines of 9% in scenario 1 and 13% in scenario 2, due to the negative contribution of all its determinants. The fall in employment and household income will have a very adverse effect on household consumption, although the measures adopted by the Government would dampen the effects of the crisis (see box 2). In both scenarios, consumption is more sensitive to GDP than the historical average because social distancing and confinement restrict families' spending opportunities and lead to forced savings, which would be added to the precautionary savings associated with uncertainty about future income. For 2021, private consumption is

[10] AIReF, in line with its models, has estimated the impact in terms of full-time equivalent employment under the assumption of the relative stability of the average working day, thus resembling the hours actually worked, as has been the case in the historical series of the National Accounts.

estimated to grow by 3.7% and 5.3% in scenarios 1 and 2, respectively, based mainly on a recovery in employment.

In both scenarios, a strong increase in public consumption is projected for 2020 (5.4% and 7.7%), which significantly mitigates the fall in GDP in that year. The strong expansion of public consumption in 2020 is mainly associated with increased health expenditure and the recruitment of staff needed to cope with the epidemic. This aggregate is expected to shrink in 2021, given the high level in 2020. This is one of the elements that differentiates the scenarios developed by AIReF from the SPU scenario.

Gross fixed capital formation is expected to shrink dramatically in 2020 and to recover noticeably, albeit incompletely, in 2021. Investment in capital goods and cultivated assets would suffer a major setback in 2020 (-36.2% and -45.2%), affected by the fall in activity and exports, as well as by the increase in uncertainty, which is reaching historic highs. A strong rebound is expected in 2021 in both scenarios, although the level at the end of 2021 would remain far from that reached in 2019. Investment in construction and intellectual property assets would fall somewhat less in 2020, 18.7% in scenario 1 and 31.1% in scenario 2, and to recover substantially in 2021. In this case, the sounder financial position of households and the lower financial burden could mitigate the unfavourable impact of falling incomes.

As for the external sector, a positive contribution from external demand is expected in both scenarios in 2020 (0.2 points and 1.5 points in scenarios 1 and 2, respectively). Exports would register a significant drop (-30.3% and -35.7%), which is explained by the expected contraction in world trade and especially in international tourism. However, the fall in foreign sales would be more than offset in terms of contribution to growth by the collapse of imports (-34.3% and -44.3%), which have been hindered by the behaviour of domestic demand. In 2021, external demand would continue to contribute positively to growth as exports are expected to recover further in both scenarios.

BOX 2. ESTIMATE OF THE IMPACT OF THE FISCAL POLICY AND CREDIT MEASURES TAKEN BY THE SPANISH GOVERNMENT TO COPE WITH THE ECONOMIC CRISIS CAUSED BY THE CORONAVIRUS

This box details the macroeconomic impact of the measures implemented by the government that AIReF has considered in its scenarios. The assessment is based on the quarterly econometric model normally used by AIReF (see annex 3) and is detailed in the figure below. Details on the budgetary assessment of the measures are described in section 3 of this report. The measures incorporated are those approved up to 28th April 2020. According to their nature and their impact on the various macroeconomic aggregates, they can be distinguished into four categories:

- **Social benefits other than social transfers in kind**. AIReF estimates that in 2020 the amount of social benefits other than social transfers in kind will be around 18 billion euros higher than projected in a no-policy-change scenario in scenario 1 and 24 billion euros in scenario 2 (due to lower employment). These transfers feed into households' disposable income, which would increase by around 2 points in scenario 1 and 2.5 points in scenario 2, compared with the no-policy-change scenario. This in turn would impact positively on private consumption in 2020.

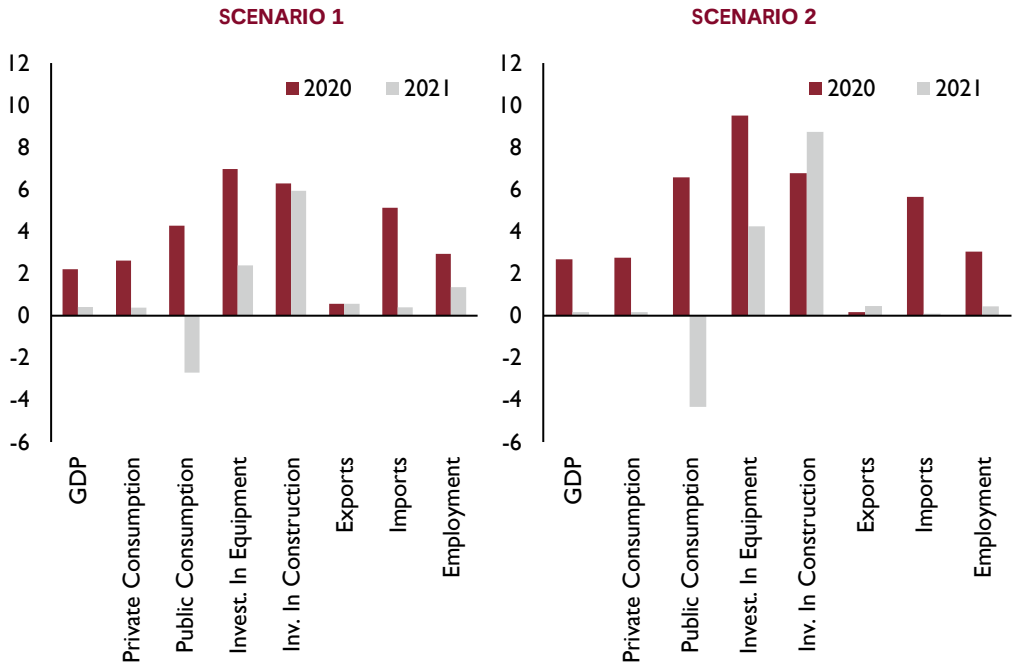
- **Employment protection measures**. The use of ERTEs to preserve economic relations could facilitate the recovery of jobs once economic activity is reactivated. To estimate this impact, AIReF assumes that, in Scenario 1, the number of people subject to ERTEs would be close to 4,000,000, in line with the estimates of the SPU; in Scenario 2, a longer average duration of the ERTEs is considered. With no information available on the incidence of these instruments by sector, an approach similar to that used to estimate the impact of confinement on GVA is used to regulate the rate of reincorporation of these workers over the forecasting horizon. Thus, for each sector, the number of workers that could be subject to an ERTE is estimated, and assumptions are made about the recovery of employment consistent with the resumption of activity in the different phases of de-escalation. Overall, it is assumed that the percentage of jobs subject to ERTEs that are reinstated during the year will be approximately 70% by the end of 2020, subject to the scenarios of gradual activity recovery. The branches of hospitality, construction, artistic, recreational and entertainment activities and the activities of households as employers of domestic staff will suffer the most permanent destruction of employment. However, it is worth noting the caution with which this hypothesis must be considered, since there is no prior evidence to guide its implementation. Overall, ERTEs are assumed to positively impact private full-time equivalent employment, mitigating the contraction by about 3 points in 2020, in both scenarios, and by about 2 points in 2021.

- **Measures to provide liquidity to companies**. Thirdly, measures to provide liquidity to companies and the self-employed are considered given the simultaneous supply and demand shock. In this case, too, no information is available to date on the final amount that will be paid out, so a hypothesis similar to that of employment must be established, but in this case its impact is introduced into the model through productive capacity utilisation. Thus, it is considered that these measures will allow productive capacity utilisation to recover more quickly and, in particular, it is assumed that 68% of the loss in capacity utilisation would have been recovered in the last quarters of the year, which would help to mitigate the fall in investment in equipment.

- **Expansionary public consumption measures**. Finally, it is necessary to consider the impact of the expansive shock of public consumption in 2020, which represents approximately 10,000 million euros in addition to those considered in the no-policy-change scenario and approximately 14,000 million euros in scenario 2. Part of this behaviour of public consumption stems from the increase in public employment in terms of full-time equivalent jobs, which is estimated at 1.7 points for scenario 1 and 2.8 points for scenario 2 in 2020 with respect to the no-policy-change scenarios, followed by a relative contraction in 2021 of -3.1 and -4.6 points, respectively.

The following figure shows the estimated impact of the measures on the main macroeconomic aggregates. Overall, the measures are expected to increase GDP by 2.2 points in 2020 in scenario 1 and 2.7 points in the more adverse scenario. It should be noted that these estimates are around 3 points lower than those considered by the government in the Stability Programme, although, given the limited detail provided by the SPU on the calculation of this figure, it is impossible to determine the factors underlying these differences.

ESTIMATED IMPACT OF THE MEASURES (DEVIATIONS IN PERCENTAGE POINTS FROM THE INERTIAL SCENARIO. IN VOLUME



Source: AIReF's own calculations

2.1.2. Risks surrounding the forecasting scenarios

These forecasts are subject to much uncertainty and multiple risks. These risks stem both from the complexity of the shock itself and from the uncertainty surrounding the assumptions to be made in order to determine its effects on activity, employment, etc.[11]

The vulnerability of emerging economies, and in particular of Latin America, constitutes an additional risk for the Spanish economy given the existing trade and financial links[12]. The pandemic has been slow to arrive in these economies, but its effects have been severe, and they have been exposed to large capital outflows and, in some cases, falling oil and other commodity

[11] Changes that not only cannot be foreseen but cannot be imagined. See John Kay and Mervin King, "Radical Uncertainty", 2020.

[12] Spain is the second largest investor in Latin America. The evolution of this region is another risk for Spanish companies. The region has suffered sharp capital outflows, depreciation of its currencies and a sharp fall in income is also expected. Its prospects are linked to the evolution of the pandemic, the rise in the price of raw materials, the recovery of international trade and the destruction of the productive fabric (under conditions in which States cannot provide as much support as in advanced economies). All this will influence the speed of economic recovery in the region.

The crisis could rekindle protectionist tensions and lead to a rethinking of global value chains. The coronavirus crisis could also reignite protectionist tensions between the United States and China that had been mitigated by the trade deal reached between the two countries in late 2019[13]. More in the medium term, the impact that a crisis of this nature can have on the internationalisation of economic relations and on global value chains must be highlighted, especially for some essential items.

At the European level, Brexit negotiations and the possibility of tension in the debt markets also pose downside risks. Although Brexit negotiations have taken a back seat, the transition period will end on 1 January 2021 unless an extension is agreed. If the UK were to leave without a deal, this would further destabilise this complex scenario, although the impact would be small compared to the magnitude of this crisis[14]. In addition, the resurgence of tensions in financial and sovereign debt markets that have been previously contained by the actions of the monetary authorities at the European level cannot be ruled out, especially given the weaknesses that persist in the European architecture.

The risk of abandoning other economic policy objectives can also be highlighted. It is worth highlighting the risks associated with climate change, which may have an adverse macroeconomic impact in the short and medium term. It will also be necessary to analyse the effects of the crisis on inequality[15].

Of course, the balance of risks may change if there are medical advances that reduce the risk of the coronavirus to public health.

2.2. Ex-ante assessment of official forecasts

2.2.1. GDP and its components

The profile of real GDP growth shown in the SPU 2020-2021 is considered feasible, although surrounded by numerous downside risks in 2021. The Government's macroeconomic scenario falls within a reasonable range of

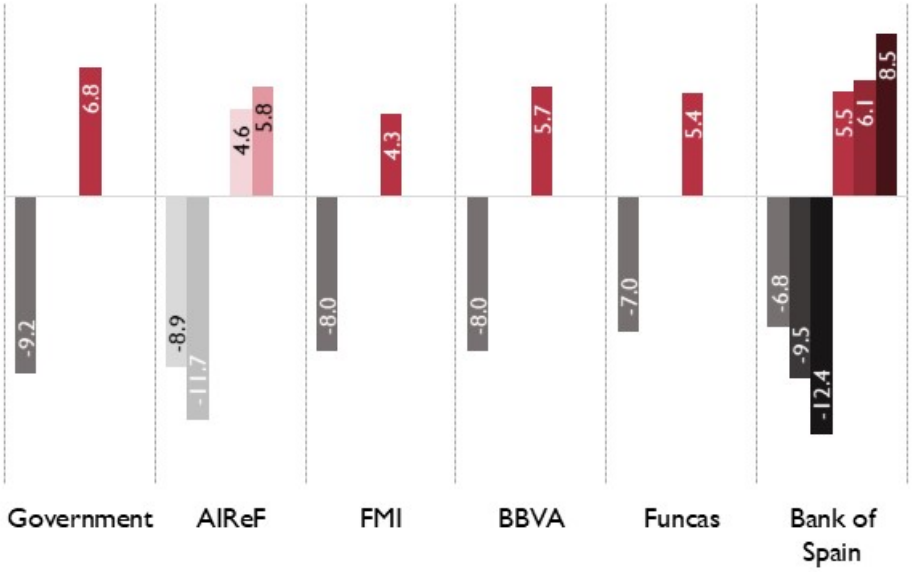
[13] President Trump has called SARS-CoV-2 the "Chinese virus" and the government of the People's Republic of China has tried to redefine the narrative of its health crisis and strengthen its alliances and influence through cooperation and support, for example, by donating medical equipment to European countries.

[14] The *Banco de España* estimates that this would mean 0.8 percentage points less growth in Spain over five years. https://www.bde.es/f/webbde/SES/Secciones/Publicaciones/PublicacionesSeriadas/DocumentosOcasionales/19/Fich/do1905.pdf

[15] See, for example, Fan, V, D Jamison and L Summers (2016): "The inclusive cost of pandemic influenza risk", NBER Working Paper, no 22137.

the scenarios recently developed by AIReF itself and by other public and private institutions (see figure 10). However, based on its scenarios, AIReF believes that downside risks will prevail in 2021, in particular those associated with the possibility that more adverse epidemiological scenarios will arise and that more persistent damage to the economy and employment's productive capacity will be sustained that will make the recovery predicted for the second half of 2020 and for 2021 more difficult.

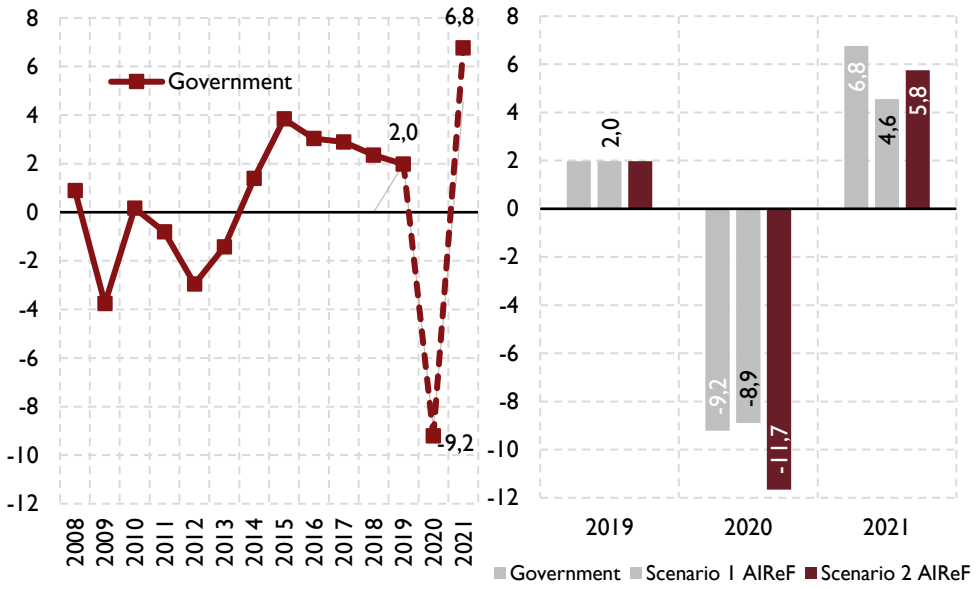
FIGURE 10. COMPARISON OF GDP FORECASTS IN TERMS OF VOLUME FROM VARIOUS AGENCIES



Source: *Ministerio de Asuntos Económicos y Transformación Digital* (Ministry of Economic Affairs and Digital Transformation), BBVA Research, CaixaBank Research, Funcas, IMF, *Banco de España* and AIReF.

The expected 9.2% fall in GDP in 2020 is subject to the successful completion of the process of de-escalation of social distancing measures. In particular, as a result of the severe shock caused by the pandemic and the social distancing measures implemented to combat it, the Government expects GDP growth in terms of volume to fall sharply from 2.0% in 2019 to -9.2% in 2020. This rate is similar to that of AIReF's scenario 1. However, more adverse scenarios are also possible in terms of the epidemic, as shown in AIReF's scenario 2 (see figure below).

FIGURE 11. GDP GROWTH IN TERMS OF VOLUME (%)

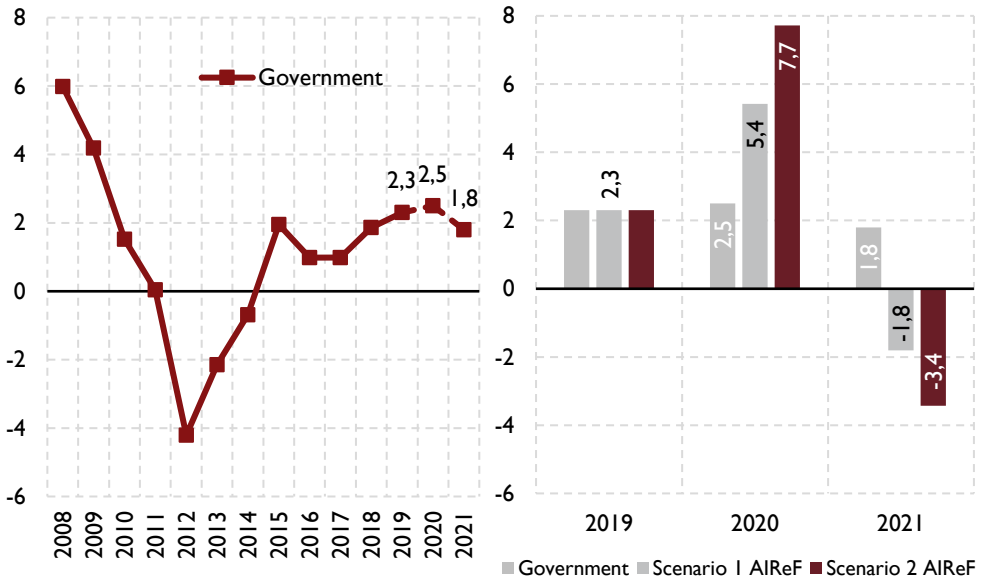


Source: *Ministerio de Asuntos Económicos y Transformación Digital* (dashed line) and AIReF's estimates

In addition, there are downside risks with respect to the intensity of the expected recovery. The Government estimates an "asymmetric V" shaped recovery, with GDP growth of 6.8% on average in 2021, which is somewhat optimistic compared to AIReF and IMF scenarios. The severe disruption of economic activity associated with the containment measures means that damage to the most vulnerable enterprises cannot be ruled out, which would make the very strong recovery in investment and employment that is incorporated in the SPU challenging. High global uncertainty may also lead to more contained export growth. In addition, AIReF believes that the Spanish economy has certain structural characteristics that could make a recovery as dynamic as that envisaged in the SPU scenario difficult, especially in the case of investment (see box 2).

By components, the scenario presented by the Government is considered feasible, except in the case of public consumption and investment in equipment. In real terms, the SPU's public consumption growth differs substantially from AIReF's estimates, which, as a result of the purchases of healthcare equipment and the recruitment carried out to combat the epidemic, envisage a notable expansion in both scenarios (see figure 12). Moreover, the SPU's estimates of growth of this aggregate in nominal terms do not seem to be fully consistent between the macroeconomic and the budgetary scenarios (see details in the budgetary analysis section of this report).

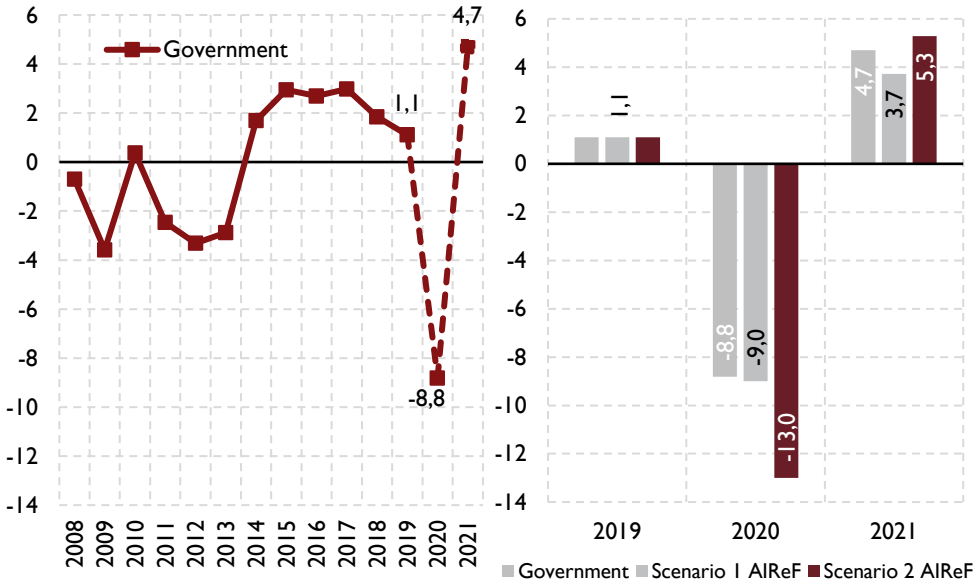
FIGURE 12. PUBLIC CONSUMPTION GROWTH IN TERMS OF VOLUME (%)



Source: *Ministerio de Asuntos Económicos y Transformación Digital* (dashed line) and AIReF's estimates

The fall in private consumption in 2020 is plausible, but there are downside risks in 2021. The adjustment in private consumption in 2020, much stronger in relation to GDP than observed in other recessions, is in line with the nature of the health crisis, the containment measures and the expected reduction in hours worked (see figure 13). In contrast, the Government estimates a somewhat more dynamic recovery in household expenditure in 2021 compared to AIReF's scenarios, mainly due to the stronger recovery in employment in the SPU.

FIGURE 13. PRIVATE CONSUMPTION GROWTH IN TERMS OF VOLUME (%)



Source: *Ministerio de Asuntos Económicos y Transformación Digital* (dashed line) and AIReF's estimates

With respect to investment, the Government's forecasts for gross fixed capital formation are considered reasonable in 2020. On the other hand, in 2021 the dynamism of the investment in equipment is surprising. The Government's projected trajectory for investment in construction and intellectual property is very similar to that expected in AIReF's scenario 1. In the case of investment in equipment, however, the recovery expected by the Government is too intense, given the high level of uncertainty (which will slow down plans to expand productive capital).

FIGURE 14. GROWTH OF GFCF IN CONSTRUCTION AND INTELLECTUAL PROPERTY IN TERMS OF VOLUME (%)

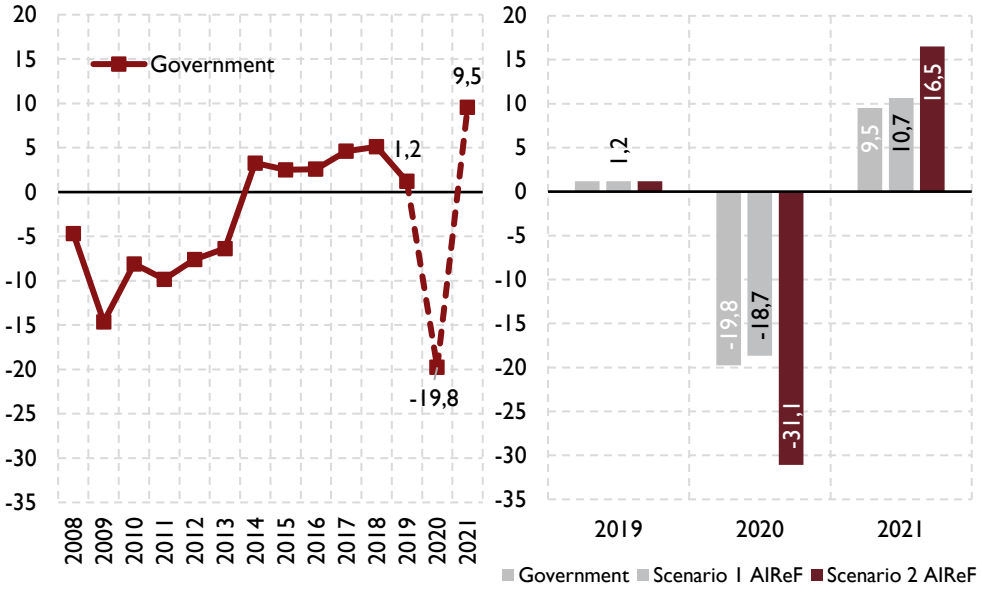
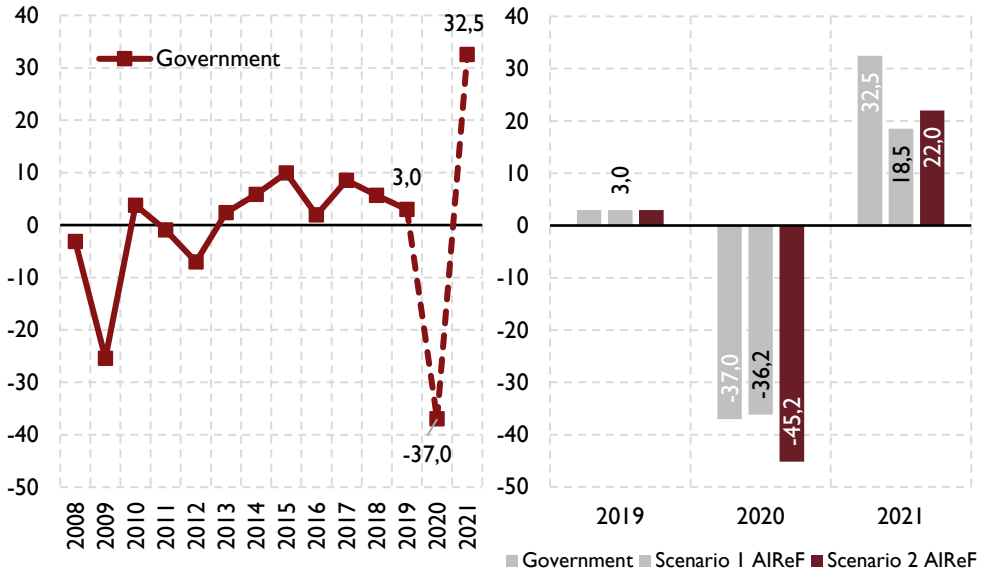


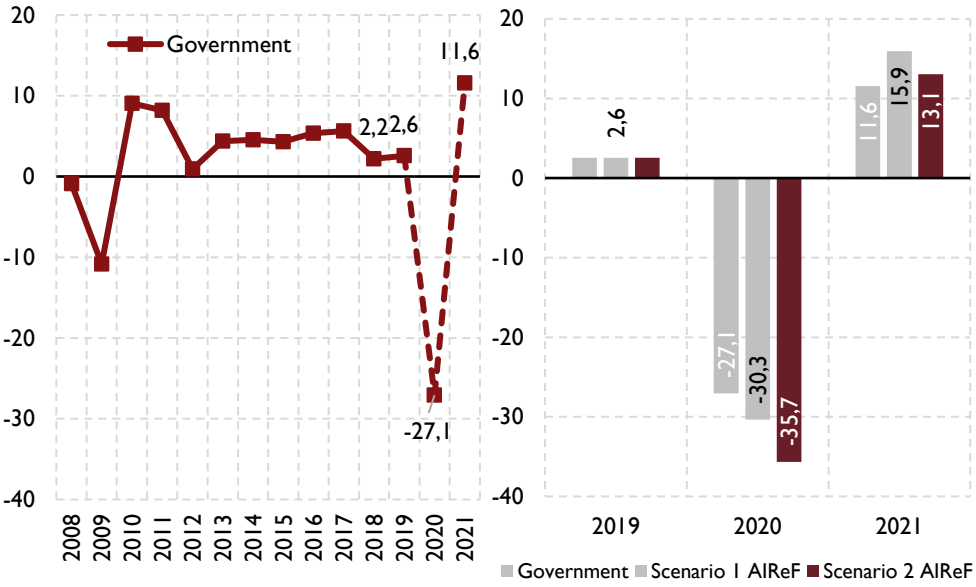
FIGURE 15. GROWTH OF GFCF IN EQUIPMENT AND CULTIVATED ASSETS IN TERMS OF VOLUME (%)



Source: Ministerio de Asuntos Económicos y Transformación Digital (dashed line) and AIReF's estimates

The contribution of external demand to growth is expected to be positive in both years, something that is common during recessions in the Spanish economy. The Government's projection for contribution from the external sector is considered reasonable in 2020, reflecting the high sensitivity of imports to changes in final demand. The expected evolution for exports is considered to be feasible given the uncertainty about the evolution of international trade in goods and services (see figure 16).

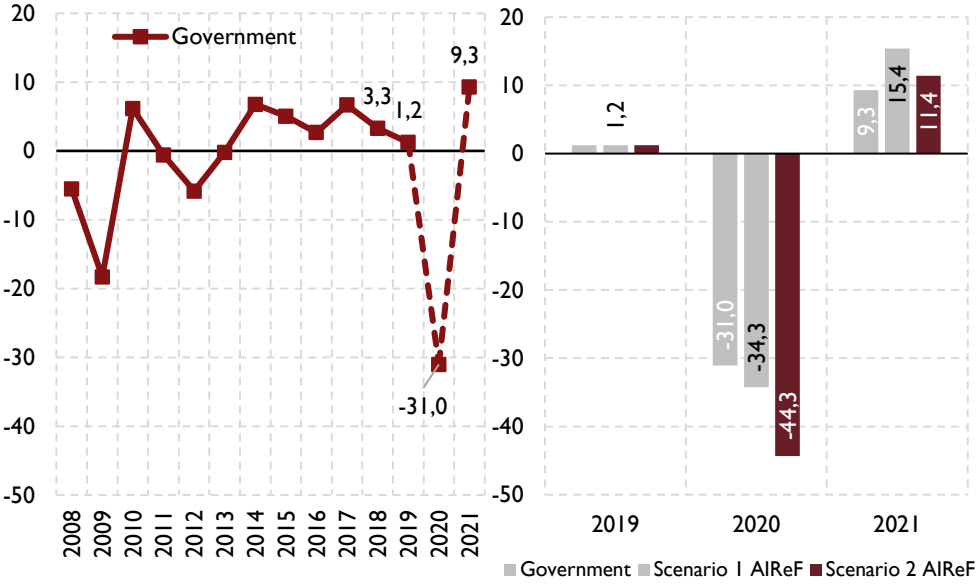
FIGURE 16. GROWTH OF EXPORTS IN TERMS OF VOLUME (%)



Source: Ministerio de Asuntos Económicos y Transformación Digital (dashed line) and AIReF's estimates

In the case of imports, the trend described in the SPU is considered feasible. The Government's projected path for the change in imports of goods and services has a similar profile to that of AIReF's estimates. This reflects the weakness of domestic demand in the macroeconomic scenario. Only in 2021, with the upturn in domestic demand, would imports manage to resume an upward trend.

FIGURE 17. GROWTH OF IMPORTS IN TERMS OF VOLUME (%)

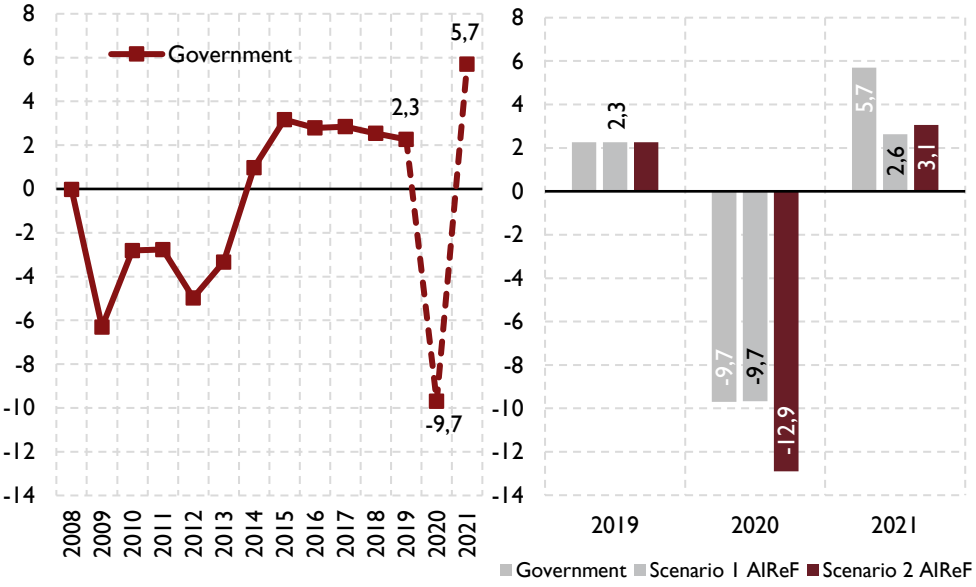


Source: *Ministerio de Asuntos Económicos y Transformación Digital* (dashed line) and AIReF's estimates

2.2.2. Labour market and prices

In the case of total full-time equivalent employment, there are discrepancies in the expected recovery in 2021. In particular, the fall in employment projected in the SPU for 2020 is in line with that estimated in AIReF's scenario 1. However, in 2021, the Government expects an expansion of employment that is greater than that estimated by AIReF. In this case, the discrepancies could be explained in part by the fall in public employment incorporated in AIReF's scenarios in 2021, after the high growth estimated in 2020.

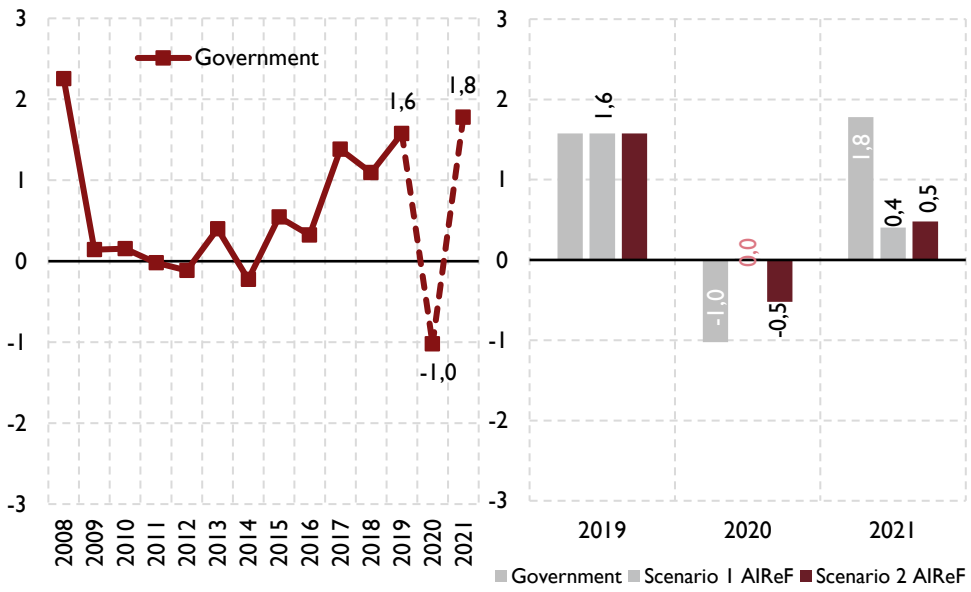
FIGURE 18. GROWTH OF EMPLOYMENT (%)



Source: *Ministerio de Asuntos Económicos y Transformación Digital* (dashed line) and AIReF's estimates

On the price side, the SPU's macroeconomic scenario envisages a contraction of the GDP deflator in 2020 followed by a strong expansion in 2021. Both the private consumption deflator and the GDP deflator share the same trajectory, shrinking in 2020 and growing in 2021. While the path mapped out is similar to the scenarios established by AIReF, it is remarkably expansive in 2021, especially in the absence of inflationary pressures in commodity markets and in goods and services markets.

FIGURE 19. GDP DEFLATOR GROWTH (%)



Source: *Ministerio de Asuntos Económicos y Transformación Digital* (dashed line) and AIReF's estimates

The maintenance of compensation of employees expected in the SPU contrasts with the evolution of private consumption. The trajectory of compensation of employees reflected in the Government's macroeconomic scenario assumes growth of 2% in 2020, similar to that observed the previous year, followed by a moderation in 2021 to 1%. Although the SPU notes that this growth reflects changes in the composition of employees due to the fall in employees with temporary contracts who generally have lower wage levels, wage adjustments cannot be ruled out in a crisis of this magnitude.

2.2.3. The SPU's external assumptions

Finally, uncertainty also dominates the assumptions about the external environment used in the preparation of the Stability Programme Update. The macroeconomic outlook for the Spanish economy prepared by the Government is based on assumptions about the growth of GDP and world and euro area trade that are in line with the more favourable scenario recently prepared by the International Monetary Fund. However, the IMF has emphasised the possibility of more adverse scenarios occurring. The World Trade Organization has also formulated scenarios that reflect a more adverse evolution of world trade in relation to that incorporated in the Government's macroeconomic scenario. Similarly, the assumptions for GDP growth in the euro area countries, up to -7.5% in 2020, can be considered optimistic considering that ECB estimates put the fall in GDP in this area at between -5% and -15%. On the other hand, the Government's expectations

regarding oil prices are in line with those derived from the futures markets, although it is worth noting the downward pressures to which these markets have been subject recently. Finally, the assumptions on exchange rates and interest rates are reasonable as a whole, in the volatile environment prevailing in international financial markets.

3. EVALUATION OF THE 2020-2021 BUDGETARY SCENARIO

AIReF believes that the deterioration of the deficit could be higher than that reflected in the SPU, with an increase of between 8.1 and 11 points of GDP over the end of 2019, depending on which scenario materialises. The SPU incorporates a deficit forecast for 2020 of 10.3%, an increase of 7.5% over the previous year. COVID-19 is impacting public accounts, generating a notable increase in the deficit, which AIReF estimates to be between 10.9% and 13.8% GDP in 2020, depending on which scenario materialises. On the one hand, governments are taking drastic measures to contain the pandemic and its negative effects on economic activity and citizens' income. On the other hand, the decline in economic activity will lead to a significant reduction in income and an increase in expenditure resulting from the social emergency, as well as expenditure on social protection through automatic stabilisers. However, it is not always possible to unambiguously isolate the sources of deficit growth.

TABLE 5. GENERAL GOVERNMENT DEFICIT IN THE 2 SCENARIOS (%GDP)

		Scenario 1		Scenario 2	
	2019	2020	2021	2020	2021
PAs	**-2,8**	**-10,9**	**-7,5**	**-13,8**	**-9,4**
CG	-1,3	-4,5	-2,5	-5,6	-3,0
SSF	-1,3	-5,0	-3,1	-6,1	-3,9
Regions	-0,5	-1,5	-1,8	-2,0	-2,3
LGs	0,3	0,0	-0,1	-0,1	-0,2

AIReF estimates that revenue will be between 39.4% and 39.5% GDP in 2020, below the 41.2% projected in the SPU. In nominal terms, this implies a drop in revenue of between 7.9% and 11.4% compared to 2019, i.e. between €38.5 billion and €55.6 billion less than in the previous year, as a result of the drop in economic activity due to the crisis. The decrease in income can be seen in the main tax figures and social contributions, although it is mitigated to some

extent in the case of personal income tax (PIT) and corporate income tax (CIT) because the annual declarations will refer to the previous year. On the other hand, it should be borne in mind that the fall in nominal terms is offset by the fall in GDP, resulting in a level similar to that of the previous year.

Expenditure is expected to rise to between 50.4% and 53.2% GDP by 2020 according to AIReF's estimates, with the SPU forecast of 51.5% falling between the two scenarios. In this case, the estimated nominal increase in expenditure of between 9.7% and 11.4% is amplified by the fall in GDP, bringing the expenditure level to historical highs. The main factors driving this growth are the measures adopted both to alleviate the health crisis and its consequences on the economy; the measures implemented prior to the crisis, such as the revaluation of pensions or wage increases for public employees; and the action of automatic stabilisers, mainly unemployment expenditure.

Despite the temporary nature of the health crisis, AIReF estimates that the PAs' deficit will be between 7.5% and 9.4% in 2021. This implies a reduction in the public deficit by between 3.4 and 4.4% GDP, which is 4.7 to 6.6% GDP higher than in 2019. What distinguishes this crisis from previous ones is that part of the deterioration of public finances is temporary and will be reversed almost immediately once the health emergency is over. However, there will also be a portion that will recover more slowly, as pre-crisis levels of economic activity and employment are reached. This applies to both discretionary measures and automatic stabilisers.

Revenue in 2021 will grow to between 39.1% and 39.5% GDP according to AIReF's estimates. The recovery of revenue with growth in nominal terms between 4.9% and 5.7% will still not allow for a return to pre-crisis levels. Revenue will progressively recover as the economy recovers previous levels of activity and employment. In addition, it should be borne in mind that some measures adopted in 2020 will be reversed in 2021 and that growth will be hampered by annual PIT and CIT statements that will still reflect the effect of the crisis in 2020.

AIReF estimates a reduction in expenditure of between 47.0% and 48.5% GDP in 2021. The reversal of a significant part of the measures adopted to contain the pandemic will result in a drop in expenditure in nominal terms of between -2.2% and -3%. In contrast, some of the measures, such as those affecting health expenditure, have a structural component. Pension expenditure will also continue to grow and it is assumed that public wages will increase in line with the CPI. Finally, some expenditure items, mainly unemployment, will return to pre-crisis levels as production and employment levels recover.

The SPU's fiscal forecasts do not seem to be fully consistent with the SPU's macroeconomic scenario. On the expenditure side, the macroeconomic scenario reflects a growth in public consumption of 4.8%, which is somewhat lower than the growth estimated for the headings of compensation of employees, 6.1%, and intermediate consumption and social transfers in kind, 8.6%, which are its main components. On the revenue side, AIReF has used its models to estimate the revenue level that would be obtained under the macroeconomic assumptions of the SPU, obtaining a revenue level of 40% GDP, less than the 41.2% of the SPU. Therefore, if the macroeconomic scenario of the SPU materialises, the public deficit would be higher.

FIGURE 20. EVOLUTION OF THE PAS' BALANCE

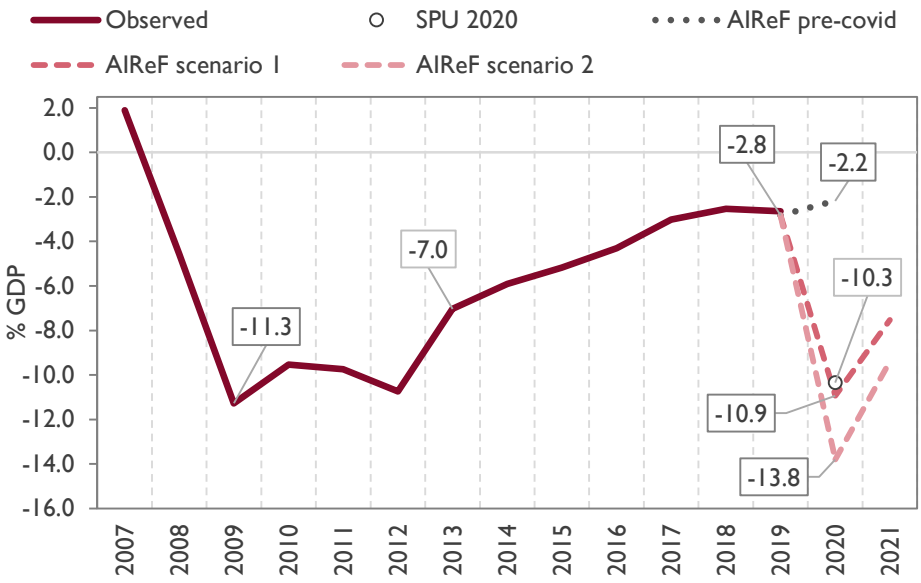


FIGURE 21. EVOLUTION OF THE PAS' REVENUE

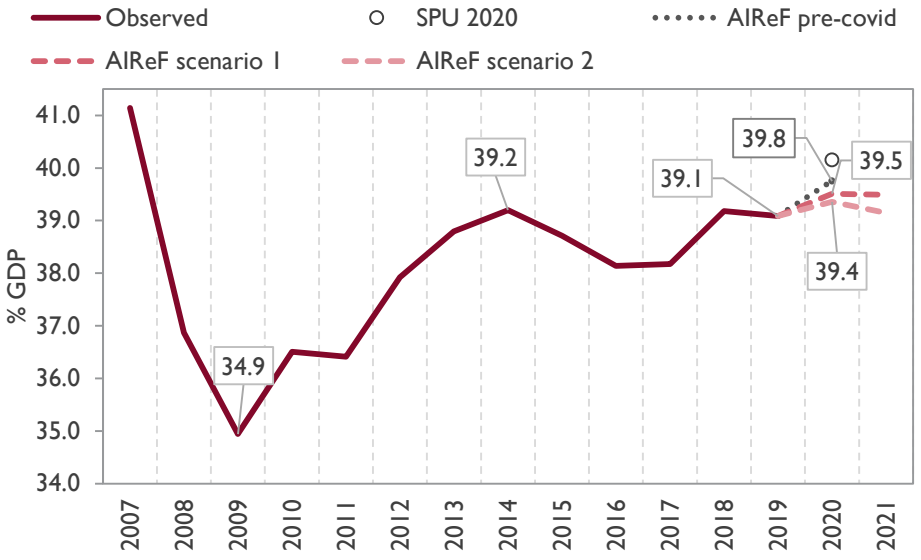


FIGURE 22. EVOLUTION OF THE PAS' DIRECT TAXES

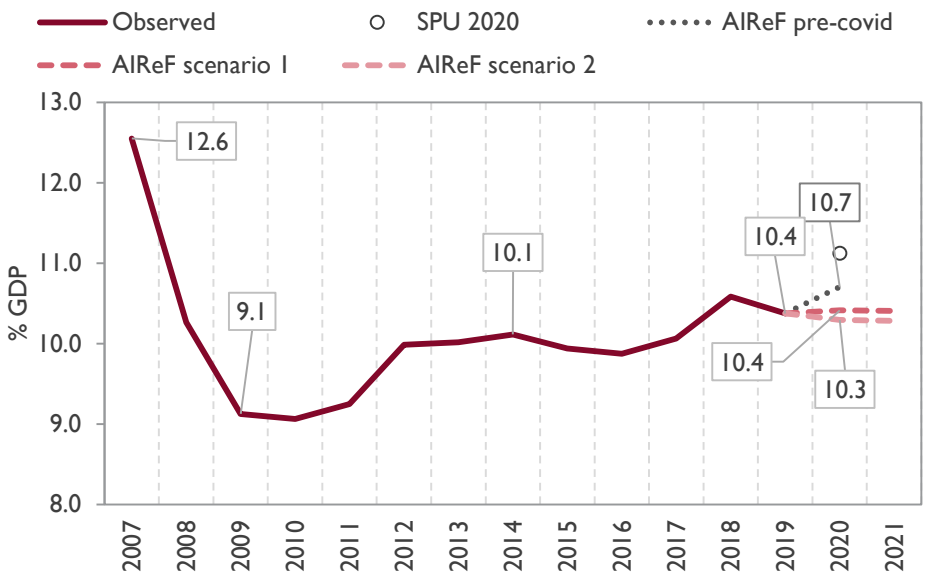


FIGURE 23. EVOLUTION OF THE PAS' INDIRECT TAXES

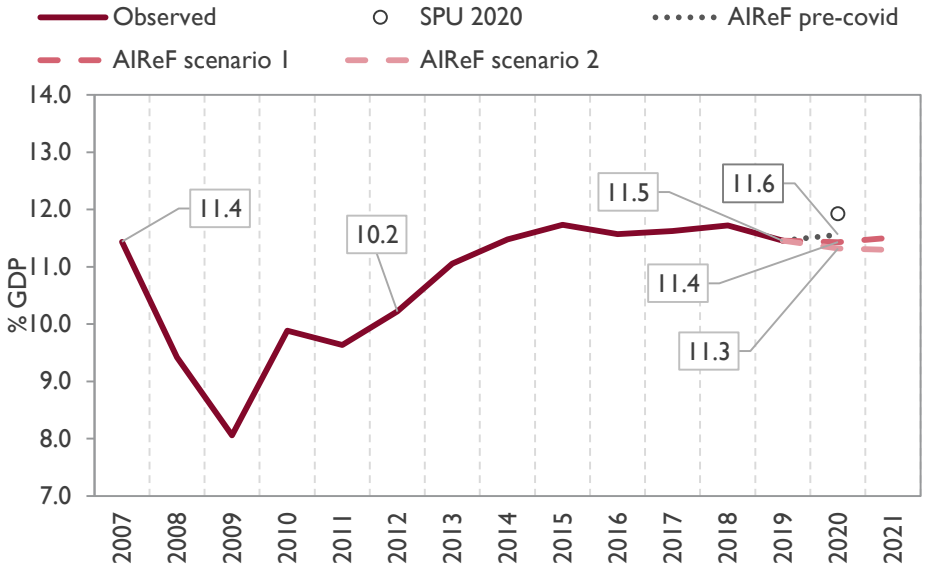
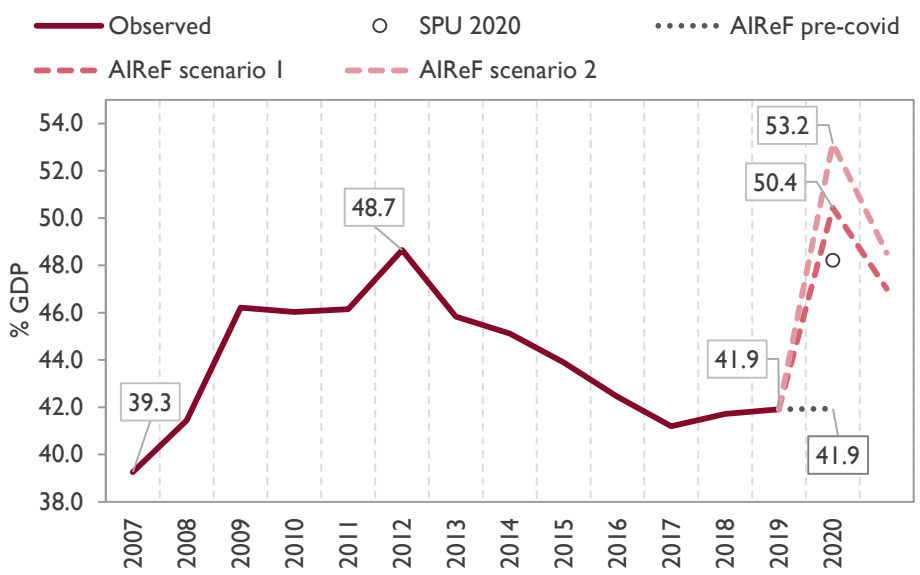


FIGURE 24. EVOLUTION OF PAS' EXPENDITURE



3.1. Impact of the COVID-19 crisis on the Public Administrations' accounts

AIReF has estimated that the COVID-19 crisis will trigger an increase in the public deficit of between 8.8% and 11.7% GDP with respect to its pre-pandemic forecast. According to AIReF's forecasts, the public deficit would have been reduced to 2.2% GDP in 2020 if the pandemic had not occurred. Therefore, taking this previous scenario as a reference, the impact of the crisis is the difference compared to the two scenarios proposed by AIReF. Additionally, the impact on the deficit in terms of GDP has been broken down into three factors: the denominator effect produced by the notable drop in GDP; the effect of the measures adopted by governments to alleviate the pandemic and its effects on the economy; and the macroeconomic effect resulting from the increase in expenditure and reduction in revenue caused by the drop in economic activity due to the pandemic.

The denominator effect implies an increase in the deficit of between 0.9% and 1.4% GDP due to an increase in expenditure in terms of GDP of between 5.6% and 7.5% points, offset by an increase in revenue in terms of GDP of between 4.7% and 6% GDP. As noted above, in scenario 1 the impact of the pandemic is limited to the current outbreak and GDP falls by 9.2% in nominal terms, while in scenario 2 there is the possibility of a second peak in the autumn and the return of the measures adopted with GDP falling by 11%. Given the magnitude of the fall, the evolution of the ratio of fiscal data to GDP, which is usually used to express and control fiscal rules, would be somewhat distorted. In particular, the reduction in GDP offsets the reduction

in revenue in nominal terms, while accentuating the increase in expenditure in nominal terms. As a result, this denominator effect also deepens the increase in GDP, the same way that it favours its reduction in times of growth.

TABLE 6. BREAKDOWN OF THE CHANGE IN % OVER GDP OF THE TWO SCENARIOS

SCENARIO 1

	2019	2020					
		Pre-pandemic forecast (1)	COVID effect			Total COVID effect (2) = (a)+(b)+(c)	Actual forecast (3)=(1)-(2)
			Denominator effect (a)	Measures effect (b)	Macro effect (c)		
RESOURCES	**39.1**	**39.8**	**4.7**	**-0.8**	**-4.1**	**-0.2**	**39.5**
TAXES	22.3	22.7	2.6	-0.1	-2.9	-0.4	22.3
On production	11.5	11.6	1.4	-0.1	-1.4	-0.1	11.4
Income type	10.4	10.7	1.2	-0.1	-1.5	-0.3	10.4
Capital	0.4	0.4	0.1	0.0	0.0	0.0	0.5
CONTRIBUTIONS	12.9	13.1	1.6	-0.7	-0.9	0.0	13.1
Other resources	3.9	4.0	0.5	0.0	-0.3	0.1	4.1
EMPLOYMENT	**41.9**	**41.9**	**5.6**	**2.4**	**0.4**	**8.5**	**50.4**
Compensation of employees	10.8	10.8	1.4	0.2	0.0	1.7	12.5
IC + Social Transfers in kind	7.7	7.7	1.0	0.4	0.0	1.4	9.1
Social provisions in cash	15.8	16.0	2.2	1.7	0.2	4.1	20.1
Interest	2.3	2.0	0.3	0.0	0.2	0.5	2.5
GFCF	2.0	2.3	0.3	0.1	0.0	0.4	2.7
Other employment	3.3	3.2	0.4	0.0	0.0	0.4	3.6
NET LENDING/BORROWING	**-2.8**	**-2.2**	**-0.9**	**-3.3**	**-4.6**	**-8.8**	**-10.9**

SCENARIO 2

	2019	2020					
		Pre-pandemic forecast (1)	COVID effect			Total COVID effect (2) = (a)+(b)+(c)	Actual forecast (3)=(1)-(2)
			Denominator effect (a)	Measures effect (b)	Macro effect (c)		
RESOURCES	**39.1**	**39.8**	**6.0**	**-1.1**	**-5.4**	**-0.4**	**39.4**
TAXES	22.3	22.7	3.3	-0.2	-3.8	-0.6	22.1
On production	11.5	11.6	1.7	-0.1	-1.8	-0.2	11.3
Income type	10.4	10.7	1.5	-0.1	-1.9	-0.4	10.3
Capital	0.4	0.4	0.1	0.0	0.0	0.0	0.5
CONTRIBUTIONS	12.9	13.1	2.1	-0.8	-1.2	0.1	13.1
Other resources	3.9	4.0	0.6	-0.1	-0.4	0.2	4.1
EMPLOYMENT	**41.9**	**41.9**	**7.4**	**3.2**	**0.6**	**11.2**	**53.2**
Compensation of employees	10.8	10.8	1.9	0.4	0.0	2.3	13.1
IC + Social Transfers in kind	7.7	7.7	1.3	0.6	0.0	1.9	9.6
Social provisions in cash	15.8	16.0	2.9	2.1	0.4	5.4	21.3
Interest	2.3	2.0	0.4	0.0	0.2	0.6	2.6
GFCF	2.0	2.3	0.4	0.1	0.0	0.5	2.8
Other employment	3.3	3.2	0.6	0.0	0.0	0.6	3.7
NET LENDING/BORROWING	**-2.8**	**-2.2**	**-1.4**	**-4.2**	**-6.0**	**-11.6**	**-13.8**

3.1.1. Impact of the measures adopted.

The measures adopted so far increase the deficit by between 3.3% and 4.2% GDP. The central Government has approved several Royal Decrees since the start of the health crisis. Similarly, the governments of the Territorial Administrations (TAs) have also adopted a variety of measures. Unlike the SPU, these measures include the increase in the regions' health expenditure, but do not include other measures included in the SPU, such as the modification of instalment payments, as they do not have an impact on the deficit of the general government.

The COVID-19 health crisis will lead to an increase in health expenditure of between 0.6% and 0.9% GDP. The main increase is recorded in the regions' health expenditure, 0.6 points, which translates into higher personnel expenditure and higher intermediate consumption, as well as social transfers in kind and investment in equipment. Moreover, it is difficult to predict how

much of this increase in expenditure will be of a structural nature in terms of strengthening the health system.

Income replacement measures, estimated at between 2.4% and 2.9% GDP, represent the largest discretionary impact on public accounts. The health crisis has led to the paralysis of important economic sectors, so the government has tried to alleviate the loss of family income by strengthening existing tools such as Temporary Redundancy Plans (ERTEs) and Temporary Incapacity for Work or by creating new benefits such as the extraordinary benefit for the self-employed.

TABLE 7. IMPACT OF MEASURES

Impact of COVID19 measures (+ sign = greater deficit)		SPU		AIReF's ESTIMATE Scenario 1		Scenario 2	
		Millions of €	% GDP	Millions of €	% GDP	Millions of €	% GDP
Central Administration		**3,529**	**0.3**	**2,789**	**0.2**	**2,911**	**0.3**
Expenditure measures		**1,353**	0.1	**1,353**	0.1	**1,353**	0.1
Health expenditure		1,147	0.1	1,147	0.1	1,147	0.1
Other social expenditure		206	0.0	205	0.0	205	0.0
Fiscal measures		**2,176**	0.2	**1,437**	0.1	**1,558**	0.1
Sanitary material COVID-19 VAT		1,046	0.1	317	0.0	317	0.0
CIT SME fractional payments tax base method				425	0.0	546	0.0
Waiver of the Personal Income Tax Objective Estimation Regime and the VAT simplified and special agrarian Regime		1,130	0.1	596	0.1	596	0.1
Proportional reduction in Objective Estimate by days in state of emergency				99	0.0	99	0.0
FSS		**26,279**	**2.3**	**26,745**	**2.4**	**31,095**	**2.8**
Temporary employment regulation forms (ERTEs)	Unemployment benefit	17,894	1.6	15,211	1.3	17,938	1.6
	Business contribution exemption	2,216	0.2	6,203	0.5	6,875	0.6
Self-employed	Extraordinary allowance for cessation of activity	3,767	0.3	3,623	0.3	4,270	0.4
	Contribution exemption	981	0.1	1,316	0.1	1,552	0.1
Temporary work disability (ILT)		1,355	0.1	343	0.0	412	0.0
Other measures		66	0.0	49	0.0	49	0.0
REGIONS (*)		**634**	**0.1**	**6,654**	**0.6**	**9,737**	**0.9**
Region income measures *(without CSE transfers)*		93	0.0	239	0.0	326	0.0
Region non-health spending measures *(without transfers to LGs)*		150	0.0	214	0.0	789	0.1
Region health expenditure measures		391	0.0	6,201	0.5	8,621	0.8
LGs		**300**	**0.0**	**1,604**	**0.1**	**2,757**	**0.3**
LG spending measures		300	0.0	941	0.1	1,611	0.1
LG income measures *(without CSE and Region transfers)*			0.0	662	0.1	1,146	0.1
TOTAL MEASURES		**30,742**	**2.7**	**37,792**	**3.3**	**46,500**	**4.2**

(*) The SPU only specifies the destination of a measure in the field of education and social services. The rest is included in epigraphs without indicating the destination, it has therefore been considered as health

AIReF estimates a cost associated to ERTEs due to force majeure of between €21,414 and €24,813 million, including exemption from social contributions, as opposed to the €20,110 million envisaged in the SPU. Both AIReF and the SPU estimate that a total of 4 million workers will be affected in some periods. The average duration of the ERTE for each affected person is 105 days (120 in scenario 2). AIReF has drawn up a breakdown of people affected by an ERTE by sector of activity and by the various declarations of states of alarm that have been declared. These percentages are consistent with the

macroeconomic assumptions on job destruction contained in this report. The average benefit is estimated on the basis of unemployment benefit statistics. The differences compared to the SPU for benefits are mainly due to the longer average duration of the ERTE (4 months in the SPU instead of 3 and a half months as estimated by AIReF). In the case of exemption from contributions, AIReF considered a higher cost than the SPU, 40.1% of benefits[16] as opposed to 12.5%.

The benefit for cessation of activity by self-employed workers and exemption from payment of contributions is valued at between €4,939 and €5,822 million, as opposed to the 4,748 million euros envisaged by the SPU. Both AIReF and the SPU estimate a similar number of beneficiary workers (1.4 million) and a similar cost of the benefit. In scenario 1, it is considered that the benefit will last until the end of June (105 days). In scenario 2, the benefit will be paid for an additional month due to the second peak. AIReF considers that the crisis in general will affect the same percentages of self-employed workers as employed workers according to their sector of activity, which is also consistent with the job destruction scenarios set out in this report. The differences in the cost of this measure are once again to be found in the contributions. AIReF considers that the exemption will be for 36% of the benefit, while the SPU limits it to 20%.

The assimilation of sick leave or isolation due to COVID-19 as Temporary Incapacity for Work is valued at a cost of between €343 and 412 million, lower than that estimated in the SPU. To estimate the cost, the AIReF has considered a leave duration of 15 days and a ratio of patients to quarantined persons of 4 (four quarantined persons for each confirmed case of COVID-19)[17]. The cost is estimated by multiplying new cases and corresponding quarantined persons by the probability of being registered, by the duration of the benefit and by the unit cost of the benefit (75% of the contribution base for private sector members and 100% for public sector members). AIReF estimates a larger number of people affected than the SPU (530,000 instead of 400,000), so the difference between the estimates is due either to the value of the average benefit or to the duration of the leave considered in the SPU. If the average benefit was similar, the differences in the cost of the measure mean that the SPU has considered an average

[16] Exemptions from contributions are weighted by the number of employees working in companies with more than 50 persons (75% exemption) and in companies with less than 50 persons (100%). This distribution was prepared using data from the INE's Central Companies Directory (CCD). The average exemption will be around 90%. According to the AIReF, employers were exempted from paying 28.9% of their total quota of contributions (32.4*0.89). This translates into a share of contributions over net benefits of 40.1%.

[17] The number of cases is obtained from a logistic model and a SIR epidemic model.

leave duration of about 75 days, similar to the total duration of the state of alarm.

With regard to the rest of the approved SSF measures, AIReF estimates their impact at between €49 and 53 million, while the SPU estimates the impact at €66 million. In these totals, estimates of the impact of the 50% bonuses for permanent fractional contracts, the subsidy for temporary workers with contracts lasting more than 2 months who have lost their jobs and the subsidy for household employees who have lost their jobs or have been unable to go to work are compared. The SPU assesses two additional measures, the legal situation of unemployment due to the termination of the employment relationship in the trial period and the contribution paid in a situation of inactivity in the Special System for Paid Employed Workers, for a total of €85 million euros.

Most of the measures taken, around 95%, are temporary and automatically reversed. All measures classified as temporary would lead to a reduction in the following year's deficit as they are not recurrent. This is the case of measures such as the ERTE or the extraordinary benefit for cessation of activity, whose creation regulations already provide for their abolition once the health crisis is over.

The permanent measures adopted so far will have a limited impact on the deficit, although some have been announced, such as the creation of the minimum living income, which would lead to a structural increase in the deficit. The permanent measures approved to date are limited to certain tax reductions at regional level. However, the creation of a minimum income programme would lead to a structural increase in the deficit which, in the absence of other measures, would be financed entirely by public debt. In this regard, AIReF published its study on "Minimum Income Programmes" in which it evaluated ex-ante the popular legislative initiative for the implementation of a benefit similar to that announced, made a series of proposals on its characteristics and implementation and analysed some alternatives. Depending on the characteristics of the benefit, its degree of overlap with other existing benefits and the macroeconomic scenario, the study estimated a cost between 0.3% GDP and 1.1% GDP[18]. In the event that this benefit is implemented and once its characteristics are known, AIReF will be able to make more accurate estimates of its impact on the public accounts, as well as to assess the degree to which the proposals included in the study have been followed up.

[18] The lower range of 0.3% GDP corresponds to the estimate for 2017 of the alternatives proposed by AIReF in the Study, assuming a saving of €2 billion by eliminating overlapping benefits. The upper range of 1.1% GDP refers to the estimate of the cost of the popular legislative initiative in 2014.

Measures have also been taken to defer and postpone tax obligations and social contributions. The aim of these measures is to reduce companies' liquidity problems, especially SMEs and the self-employed. Most of these measures will have no impact on revenue for the year as a whole, since the payment of taxes and social contributions is expected before the end of the current financial year. However, these measures introduce an additional element of uncertainty in forecasting revenue to the extent that they alter the monthly revenue profile and there is a risk that some of the revenue may not actually materialise in the year. In fact, the SPU reflects the negative impact on revenue of some of them.

In addition to the revenue and expenditure measures, various liquidity support measures have been taken, with associated contingent risks amounting to €106.4 billion. The economic measures adopted to tackle the COVID-19 crisis include support for companies and the self-employed to avoid liquidity problems, including the strengthening and creation of ICO second-floor facilities and the granting of guarantees by the State and, where appropriate, by the Regions. Due to their financial nature, at the time they are adopted they have no effect on the public deficit and debt. However, guarantees represent a contingent liability whose materialisation in the near future could have a significant impact on the public accounts, given the high amount they represent, some €106.4 billion, of which €104.4 billion correspond to the State and €2 billion to the Regions.

For this reason, transparent and appropriate management of these fiscal risks would be desirable. The State and the Regions should periodically publish the monitoring of the contingent liabilities arising from these measures, estimating the probability of their materialisation. The availability and periodic updating of this information, with a sufficient degree of detail for each measure, would make it possible to better manage these risks and to anticipate the adoption of the appropriate measures to counteract, if necessary, the effects on the public accounts of the materialisation of these risks.

BOX 3. INTERNATIONAL COMPARISON OF FISCAL MEASURES TO TACKLE THE CORONAVIRUS CRISIS

This box compares the discretionary fiscal policy measures adopted by the governments of the major advanced economies up to 24 April 2020. The analysis draws two conclusions: (1) in most countries, the fiscal stimulus is mainly based on temporary expenditure-increasing measures as opposed to tax reductions; (2) euro area countries have prioritised public credit guarantee measures which, unlike fiscal measures, do not have an immediate impact on public deficit and debt levels.

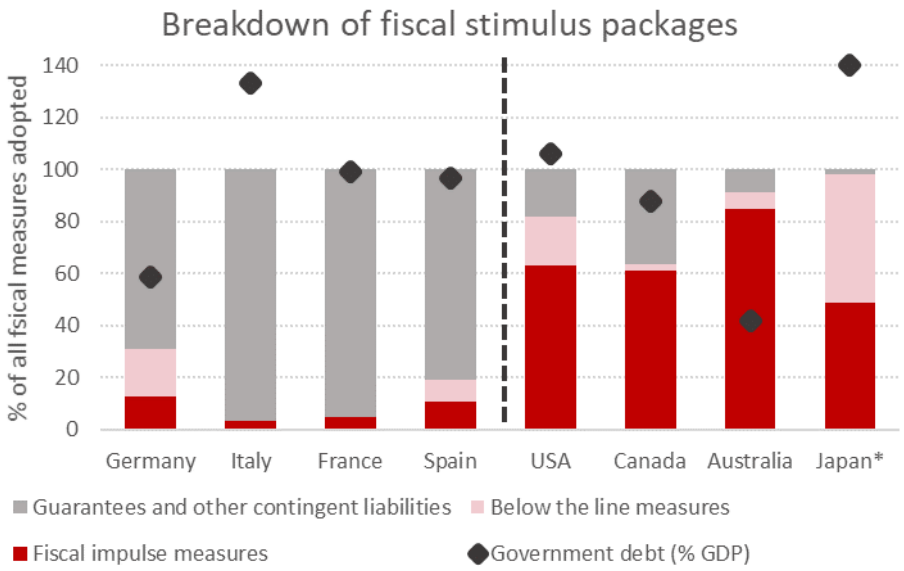
In recent weeks, all the advanced economies have deployed a combination of measures to support the economy, which can be grouped into four categories according to their main purpose: (i) increased health expenditure to combat the pandemic; (ii) measures to preserve labour relations; (iii) measures to help companies meet their payment commitments in the event of a slowdown in business activity, through public guarantee schemes for bank loans and tax deferrals and state aid to support companies; and (iv) measures to support the income of workers and vulnerable groups.

Within these four categories, measures to support companies account for a very high proportion of the stimulus packages in many of the economies concerned and in particular in the euro area countries. In particular, these measures account for 70% of all measures taken in the case of Germany, 80% in Spain and just over 95% in France and Italy.[19]

The prevalence of this type of operation is due to two reasons. Firstly, it aims to prevent companies from having liquidity problems in the event of a standstill in economic activity through different types of instruments (guarantees, collateral, co-insurance or reinsurance measures, loans, etc.). This is to preserve the productive sector and facilitate subsequent recovery. In countries undergoing a phase of virus containment and population isolation, measures aimed directly at stimulating aggregate demand are ineffective given the very constraints that result from containment. Instead, the priority at this stage is to avoid company bankruptcy and to preserve economic relations (between employer and employee, lender and borrower, etc.), so that these measures act as an incubator for economic relations until the containment phase is over. On the other hand, it should be noted that these operations do not have a direct impact on budgetary balances, as they are of a financial nature - unlike actual operations, which are those that are calculated for public deficit purposes. In some cases, depending on the location of the granting institution, they may constitute

[19] Fiscal Monitor, IMF, April 2020.

contingent general government liabilities and may lead to increases in deficit and debt in the medium term if these guarantees have to be honoured.



Source: Fiscal Monitor, IMF, April 2020.
* The public debt in Japan in 2019 was 237.7% GDP

The following figure shows the large differences in fiscal packages within and outside the euro area. In particular, the reaction of the euro area countries to the crisis has mainly focused on the implementation of guarantees and collateral. In contrast, in the United States, Japan, Canada and Australia, fiscal stimulus measures that have a direct impact on public expenditure and revenue are more substantial, except in the case of Japan where the composition is balanced.[20]

These differences reflect the influence of two differential elements of the euro area. First, the euro area has wider and more stable social safety nets, which means that many income support measures are triggered automatically by the action of automatic stabilisers (e.g. lower automatic tax collection or higher expenditure on unemployment benefits). In countries that do not have such social protection systems, such as the United States, the economic authorities have had to make discretionary ad-hoc decisions.

Second, high levels of public debt do not appear to be a constraint on the implementation of fiscal measures in countries such as Japan or the United States. In contrast, in the case of the euro area countries, the experience during the international financial crisis may have led authorities to internalise the fact that the cost of incurring increases in public debt - understanding

[20] The detail of the measures taken by these countries can be found in the table in Annex 1.

"cost" in a broad sense that includes both financial and reputational aspects - can be high. This is despite the temporary suspension of EU fiscal rules. It is noteworthy that countries such as Germany and Italy, with very different starting points in terms of their public finance situation, have designed fiscal packages that are relatively similar to each other and very different from those implemented by other advanced economies outside the euro area. As a percentage of GDP, measures with a direct budgetary cost reach an amount close to 7% GDP in Germany, in France they represent 2.5% GDP, in the Netherlands 1.6% and barely 1% in Italy or Spain[21], while in the United States they exceed 9% GDP, according to the database compiled by the think tank Bruegel[22].

This suggests that there are other elements, besides the initial fiscal situation, that determine the intensity of the stimulus provided by fiscal policy at European level. Common fiscal instruments to deal with these types of shocks would help to enhance the ability of European fiscal policy to stabilise in their wake.

By specifically analysing the composition of the measures with budgetary impact, two additional elements are drawn from the international comparison. The first is the temporary nature of the measures: most have been announced for a limited period of time and there are very few cases where recurrent measures have been reported - such as Germany which has anticipated an increase in public investment of 0.1% GDP per year for four consecutive years from 2021 to 2024 - although some of them could be extended depending on the intensity of the recovery. It is important to highlight the case of State aid to companies which, by its nature, will be long-term. The European Commission is currently consulting Member States on the possibility of increasing aid for the recapitalisation of companies seriously affected by the crisis, which has generated much controversy as it could have a significant and unequal impact on competition conditions in different countries in the single market.

Secondly, it should be noted that most of the measures with direct budgetary impact have an impact on the expenditure side. In general, revenue measures have consisted of tax deferrals, which in principle do not have direct effects on the deficit and debt in national accounting terms, although they could end up having an impact if some of these revenue items do not materialise due to the impact of the crisis.

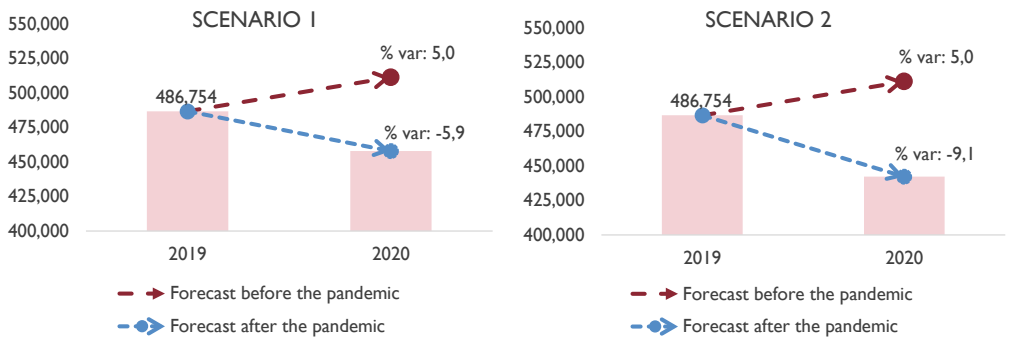
[21] According to AIReF's estimate the impact of measures could reach 3-4% GDP
[22] https://www.bruegel.org/publications/datasets/covid-national-dataset/

3.1.2. Effect of the macroeconomic scenarios on the public accounts

The impact of the COVID-19 crisis on economic activity, once the effect of the measures is isolated, will lead to an increase in the deficit of between 4.6% and 6% GDP depending on which scenario occurs. As can be seen, in quantitative terms this factor is the most relevant in explaining the increase in the deficit due to the crisis. Unlike the measures, this effect is not automatically reversed with the end of the health crisis but will be mitigated as economic activity and employment recover. In this case, the greatest impact is produced through the collection of the main taxes and social contributions, although the increase in unemployment benefits is also noteworthy.

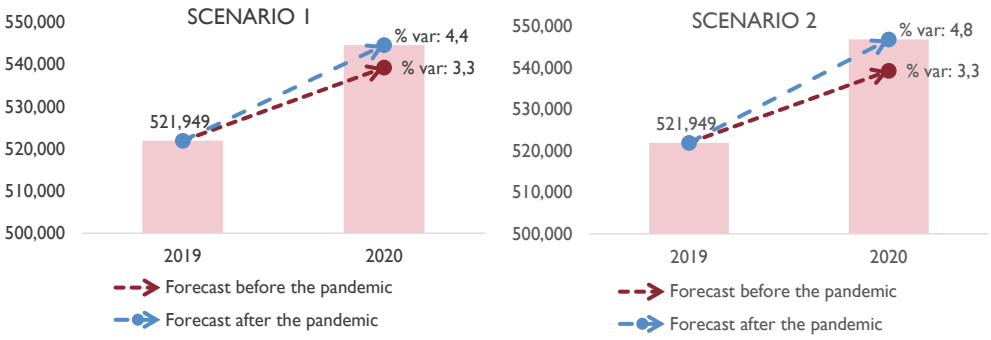
The drop in economic activity will imply a reduction in revenue of between 5.9% and 9.1% compared to 2019, while in the pre-pandemic scenario a 5% increase was expected. If we take 2019 as a reference year, revenue will fall between €30 and €45 billion in nominal terms without taking into account the measures, which means a drop of between 2.5% and 4% of its weight over GDP caused by the temporary halt in economic activity and its carry-over effect. In some tax figures, such as PIT and CIT, the fall in 2020 will be buffered by annual declarations, which involve the settlement of pre-crisis tax periods.

FIGURE 25. EVOLUTION OF REVENUE BEFORE AND AFTER COVID-19 EXCLUDING THE IMPACT OF MEASURES (%VAR.)



This drop in economic activity will also affect the increase in expenditure from 3.3% in the pre-crisis scenario to between 4.4% and 4.8%. Most of the increase, between €4.5 and €6.5 billion, is due to the increase in unemployment benefits not linked to measures such as ERTEs. In this respect, the measures taken and the action of the automatic stabilisers clearly complement each other in the case of unemployment benefits. Thus, the introduction of restrictions on the use of ERTEs would result in a further increase in existing unemployment benefits.

FIGURE 26. EVOLUTION OF EXPENDITURE BEFORE AND AFTER COVID-19 EXCLUDING THE IMPACT OF MEASURES (%VAR.)



The recovery in economic activity in 2021 will not be sufficient to reverse the macroeconomic impact of the crisis on public accounts. Unlike many of the measures, it will not be possible for collection and unemployment benefits to recover to pre-crisis levels in 2021. In addition, in this case, the annual PIT and CIT declarations in 2021 will still reflect the impact of the pandemic by limiting the growth of collection.

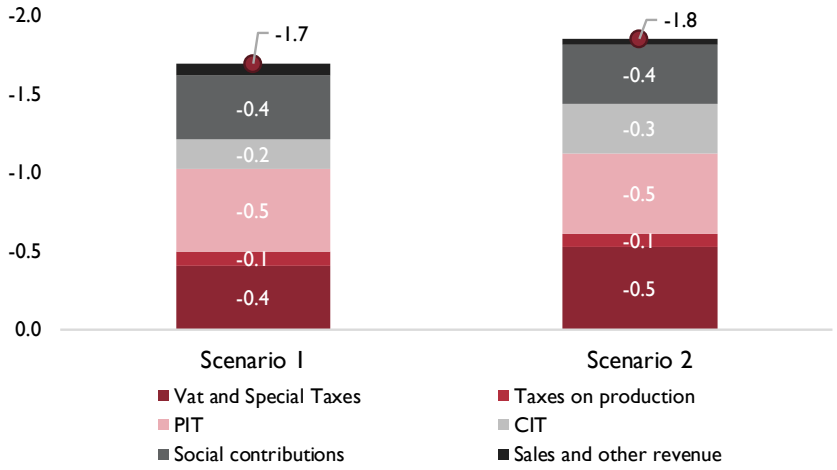
3.2. Evolution of the PAs' revenue

AIReF estimates that revenue will be between 1.7% and 1.8% GDP less than that presented in the SPU. The largest differences in % GDP are presented in the forecast included in the SPU for PIT and indirect taxes. Revenue will be the most affected by the new economic reality following the pandemic as the main foundations on which they are based - employment, wages, consumption, investment and business profits - will be weakened, leading to a sharp loss of tax collection, contribution revenue and other revenue.

TABLE 8. REVENUE AS A % OF GDP SPU VS AIREF

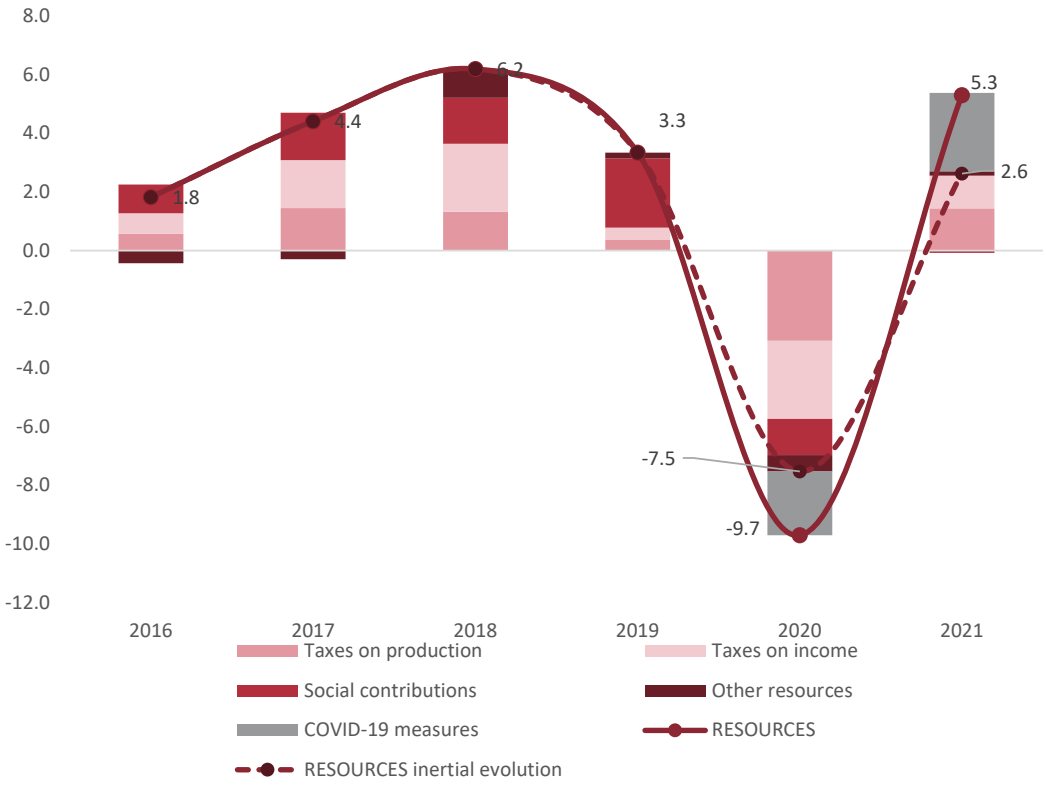
	SPU	AIReF	
		Scenario 1	Scenario 2
Total taxes	23.5	22.3	22.1
Indirect taxes	11.9	11.4	11.3
Direct taxes	11.1	10.4	10.3
Taxes on capital	0.5	0.5	0.5
Social security contributions	13.5	13.1	13.1
Property income and other current revenues	3.6	3.5	3.6
Other capital income	0.6	0.5	0.6
Total revenue	**41.2**	**39.5**	**39.4**

FIGURE 27. DIFFERENCE IN REVENUE BETWEEN AIREF AND SPU SCENARIOS (% OF GDP)



While the SPU considers a fall in total revenue of 5.3% in 2020, AIReF estimates a loss of revenue of between 7.9% and 11.5%. Under the new macroeconomic scenario, revenue levels in 2020 would fall back to the levels of 3 to 4 years before the health crisis. In the average of the scenarios, taxes on production would contribute 3.1 points to the fall in revenue, while PIT and CIT would contribute 2.7 points, social contributions 1.2 points and the rest 0.6 points. In addition, the contribution of the COVID-19 measures component of 2.2 points should be added.

FIGURE 28. CONTRIBUTIONS TO THE CHANGE IN REVENUE (%) AVERAGE OF AIREF'S SCENARIOS



By 2021, AIReF expects a partial recovery from lost revenue in 2020, rising to between 4.9% and 7.7%, without reaching pre-pandemic levels. On average in both scenarios, revenue is expected to grow by 5.3% over 2020, partly due to the temporary nature of the COVID-19 measures, which will cease to have an effect in 2021, and partly due to the gradual improvement in economic activity.

The SPU expects a 5% decline in tax revenue compared to the 8.7% and 12.8% envisaged by AIReF. For 2021, AIReF estimates a recovery that would mean an improvement of between 5.3% and 6% depending on the scenario. This type of revenue accounts for approximately 60% of total revenue, therefore its evolution will reflect that of total revenue. The drop in collection presented affects direct and indirect taxes to a similar extent. A detailed analysis will be made of the expected evolution in national accounting terms of the main tax figures under the common system, before their transfer to the Regions and LGs in national accounting terms.[23] The favourable evolution of the remaining tax revenues in 2020 is due to the recovery of the tax on electricity production, which was suspended for two quarters in 2019 and a similar measure is not expected for 2021.

TABLE 9. RATE OF CHANGE (%) OF THE MAIN TAXES AND SOCIAL SECURITY CONTRIBUTIONS

	SPU	Scenario 1		Scenario 2	
	2020	2020	2021	2020	2021
PIT	-2.4	-6.6	3.8	-9.9	4.3
CORPORATIONS	-8.7	-16.8	10.4	-26.0	16.5
VAT	-5.2	-10.8	7.0	-15.6	8.0
ST	-6.7	-9.6	6.2	-11.8	5.6
Social security contributio	-5.7	-7.3	5.1	-10.4	5.6

3.2.1. PIT

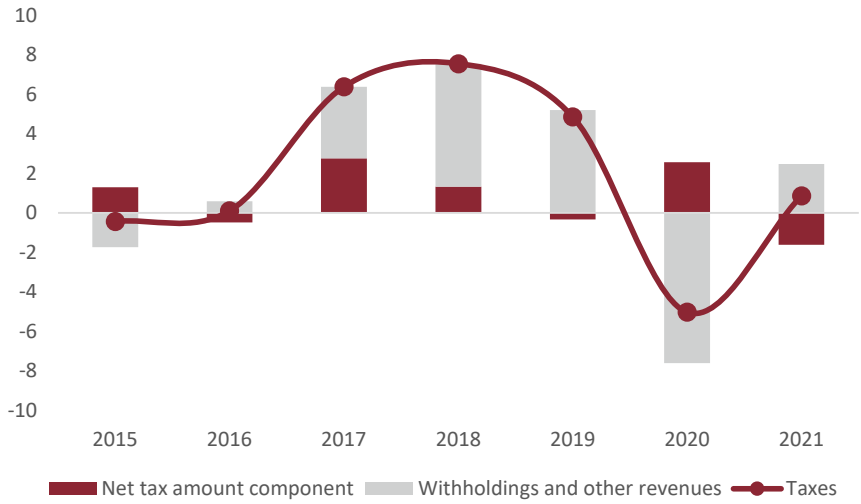
AIReF forecasts a decrease in PIT of between 6.6% and 9.9% compared to the 2.4% contemplated in the SPU. If the Government's macroeconomic assumptions were replicated in AIReF's revenue models, a drop of 4.4%

[23] In order to forecast the main tax figures, each of the components of their bases were modelled, aligning them with the most significant macroeconomic variables, and then the tax rates were applied to the estimate of the bases, incorporating their corresponding progressiveness, if applicable, and then the amount accrued was adjusted to the collection mechanism of each tax, either through the calculation of refunds or the settlement of the tax. Finally, the cash forecast is transferred to national accounting terms following the criteria of the European System of Accounts ESA 2010 and the methodological notes published by the *Intervención General de la Administración del Estado* (General Intervention Board of the State Administration - IGAE).

would have been estimated. The difference between AIReF's and the Government's rate of decline is partly explained by the different assumption made in the growth of wages in their macroeconomic scenarios. While the SPU forecasts growth of 2% in 2020 AIReF expects total wages to be maintained with a negative contribution from the private sector as opposed to a positive contribution from the public sector. This evolution of PIT collection is subject to a high degree of uncertainty, due to various factors, including the possible asymmetric effects on activity and income of the period of confinement and the different pace at which sectors and provinces are transitioning to the new normality. In this sense, and given the progressiveness of the tax, a greater impact of the crisis on activities with lower average wages would lead to a smaller impact on collection.

AIReF expects PIT to behave more mildly during the period analysed in contrast to the evolution of other taxes. For 2021, AIReF estimates growth of around 4%. Its evolution will depend on two opposing elements, on the one hand, the most important part, the withholdings, which will depend largely on the evolution of the wage bill made up of employment and wages, and on the other hand, the evolution of the net tax amount. This second component will lower both the 2020 decline and 2021 increase percentages.

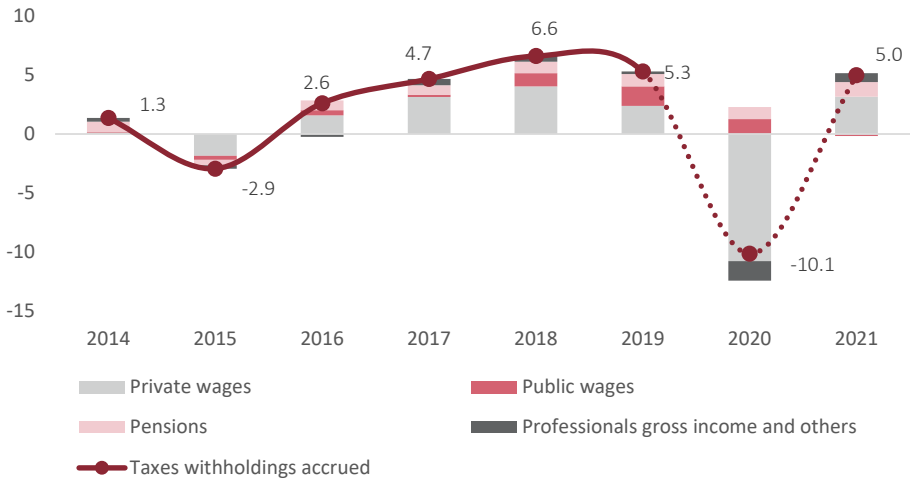
FIGURE 29. CONTRIBUTION TO GROWTH BY PIT COMPONENT (% VAR.)



Withholdings, whose main component is wages, will in turn have different dynamics in the public and private sectors. Thus, growth is expected in 2020 if the payer is the public administration and significant declines are expected if the payer is private. With regard to the withholdings from public employees, with a revaluation of their salaries already approved for the whole year, it is expected that they will grow even above what was expected before the pandemic due to the increase in the number of healthcare personnel. In addition, pensions will also reflect a revaluation of 0.9%. In contrast, for withholdings from private wages, a sharp contraction is

expected in line with the expected fall in private employment and wages. Consequently, although the economic standstill has led to a sharp adjustment in both employment and private wages, its fall is partly compensated by the good performance of the component paid by the public sector, which accounts for 30% of total income of this type and which, in 2020, will even be reinforced as a result of the pandemic. For 2021 the bases underlying these withholdings are expected to improve, although, in contrast to the previous year, the private wage component will be the main driver of growth.

FIGURE 30. VARIATION (%) OF PIT WITHHOLDINGS AVERAGE OF THE SCENARIOS.



The net tax amount component will mitigate both the 2020 drop and the 2021 rise. The net tax amount refers to the previous year's campaign, with a good income campaign expected for 2019, recorded in 2020, and a very negative one for 2020, which will be recorded in 2021, diluting the effect of the drop in activity between the two years in the case of PIT.

3.2.2. Corporate Income Tax

CIT will be the most affected by the slowdown in economic activity, with AIReF expecting it to fall by between 16.8% and 26% in 2020 compared to 8.7% presented by the SPU. For 2021, AIReF estimates a recovery with growth rates between 10% and 16%. The fall would have been greater in 2020, reaching between 20% and 29%, if the effect of the court rulings executed in 2019, which reduced the level of the tax by €900 million, were eliminated. The macroeconomic variable that best reflects the behaviour of this tax figure is the gross operating surplus; however, due to the tax mechanism of the tax and the definition of its taxable event, its tax base presents different elasticities in the case of a positive or negative evolution of economic activity, with a much higher elasticity estimated for recessions. AIReF estimates that the tax base will drop by between 28 and 38% in 2020. Unlike

in the case of PIT, the macro assumptions on which the tax base is based are more pessimistic in the Government's macroeconomic scenario[24] than in AIReF's, so the difference could even be amplified.

As in PIT, the tax settlement will mitigate its evolution between 2020 and 2021. The tax collection mechanism follows a similar scheme to that of PIT, that is, through withholdings paid throughout the year, specifically for this tax, capital withholdings and three instalment payments, and a settlement with respect to what was paid the previous year. This mechanism will also mitigate the fall in 2020 and the improvement in 2021.

3.2.3. VAT

The SPU presents a 5.2% drop in VAT in 2020 while AIReF estimates a drop in VAT collection of around 11% and 16%. The decline foreseen in the SPU contrasts with the evolution of its underlying base, private consumption in nominal terms, which shows a fall of 10.2%, almost double. In addition, if we consider that the SPU quantifies the measures affecting VAT in a loss of collection of €1,022 million, it would imply that the Government expects VAT to fall by 3.8% due to the macroeconomic effect.

AIReF estimates a growth in VAT collection for 2021 of between 7% and 8% in line with the evolution of private consumption and investment in housing. In the case of indirect taxes, the offsetting effect described for direct taxes in the preceding paragraphs does not exist and, therefore, their evolution is more in line with the bases, increasing their degree of uncertainty to coincide with that of the evolution of the macroeconomic variables to which they are linked. With regard to the assumptions on the rates applied in the forecasting models, and although the VAT rate is not progressive, a slight decrease in the effective rate in 2020 has been considered due to the composition effect, on the understanding that those products in the basic needs basket with lower rates have increased in 2020, as well as an opposite effect for 2021.

VAT has registered a fall of 10% compared to March last year, and a fall of 3.8% compared to the first quarter of last year. In the particular case of VAT, there is available information for the first quarter of the year in national accounting terms, so it has been possible to incorporate the results of the first 15 days of the pandemic into the revenue from this tax. In any case, it is too early to make an assessment due to other possible effects that the first 15

[24] Although the SPU does not present GOS estimates, it has been deduced by calculating GDP on the income side as the difference between the GDP in nominal terms and the Compensation of employees and the net taxes on production and imports which has used the rate of taxes on production and imports of the sector S.13.

days of confinement could have had such as the stockpiling effect of those first days.

3.2.4. Special Taxes

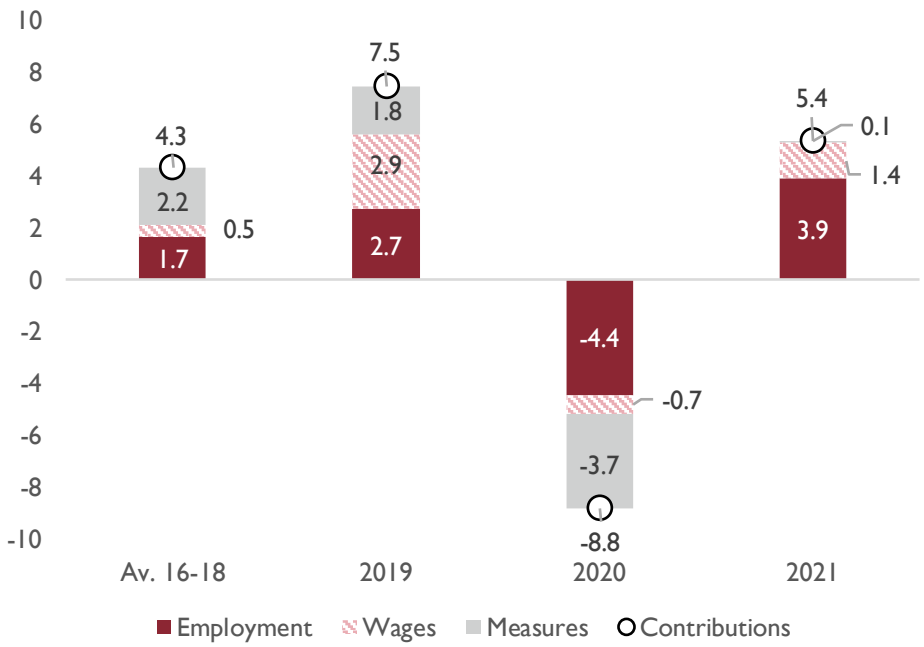
The Government expects a drop in special taxes of 6.7% while AIReF expects a drop of 10 to 12% in 2020 and an improvement of about 6% in 2021. Its evolution will depend on the consumption of each taxable good. The tax for which the largest drop is expected is the tax on hydrocarbons for which the absence of mobility severely restricts the tax's collection capacity. The tax on tobacco products is expected to perform better than the rest. In relation to the evolution of these taxes, it is important to highlight the effect that the collection of the first months in cash of 2020 will have, for which the taxable event is accrued in 2019 and which is expected to be higher than the corresponding amounts collected in 2021 and accrued in 2020. This could have a containment effect on part of the 2020 fall and 2021 rise. However, this effect does not occur for the rest of the taxes analysed, as an ESA adjustment is made to avoid it.

3.2.5. Social security contributions

AIReF estimates that social contributions will reach 13.1% GDP in 2020, while the SPU envisages 13.5%. Although contributions are falling sharply in 2020 (6.9% in scenario 1 and 10.1% in scenario 2), the denominator effect is stronger, increasing its weight over GDP by 0.2% in both scenarios. In 2021, a similar recovery rate is expected in both scenarios, around 4.5%, although the recovery of GDP causes the weight of this heading to fall by 0.1% in scenario 1 and 0.2% in scenario 2.

The determinants of the tax base, wages and employment, have been affected by the crisis, causing a further fall in contribution revenue in 2020 which will partially recover in 2021. The influence of employment is key to both the fall in 2020 and the recovery in 2021, with wages having a residual impact. For 2020, both the measures already approved before the crisis and those aimed at mitigating its effects are included. The former include an increase in contributions for non-professional caregivers, for recipients of the over-52 benefit (which will also affect 2021), a reduction in flat-rate allowances and an increase in the minimum wage approved for 2020. Among the measures approved to tackle the crisis, the exemption from the payment of contributions for companies that take advantage of the ERTE (100% if they have less than 50 employees and 75% if they have more) and the self-employed affected by the fall in activity reduced contributions. These measures are one-off for 2020, so they will not affect revenue from contributions in 2021.

FIGURE 31. BREAKDOWN OF THE CONTRIBUTIONS TO GROWTH OF SOCIAL SECURITY CONTRIBUTIONS



3.2.6. Other revenue

For the rest of revenues, the SPU's forecast of their weight over GDP, 4.1%, coincides with AIReF's. These revenues include sales revenue and property income, with an approximate weight of 3.6% GDP, and that AIReF expects to fall between 9.5% and 12.3% in 2020, in line with the 10% drop expected by the Government. It also includes other capital revenues for which both the Government and AIReF expect a substantial growth of around 40%, due to the allocation of a higher capital revenue resulting from the reversal due to the end of the concession for the AP-4 and AP-7 highways in the CG for €1,745 million and which will be offset by expenditure on gross fixed capital formation.

3.3. Evolution of the PAs' expenditure

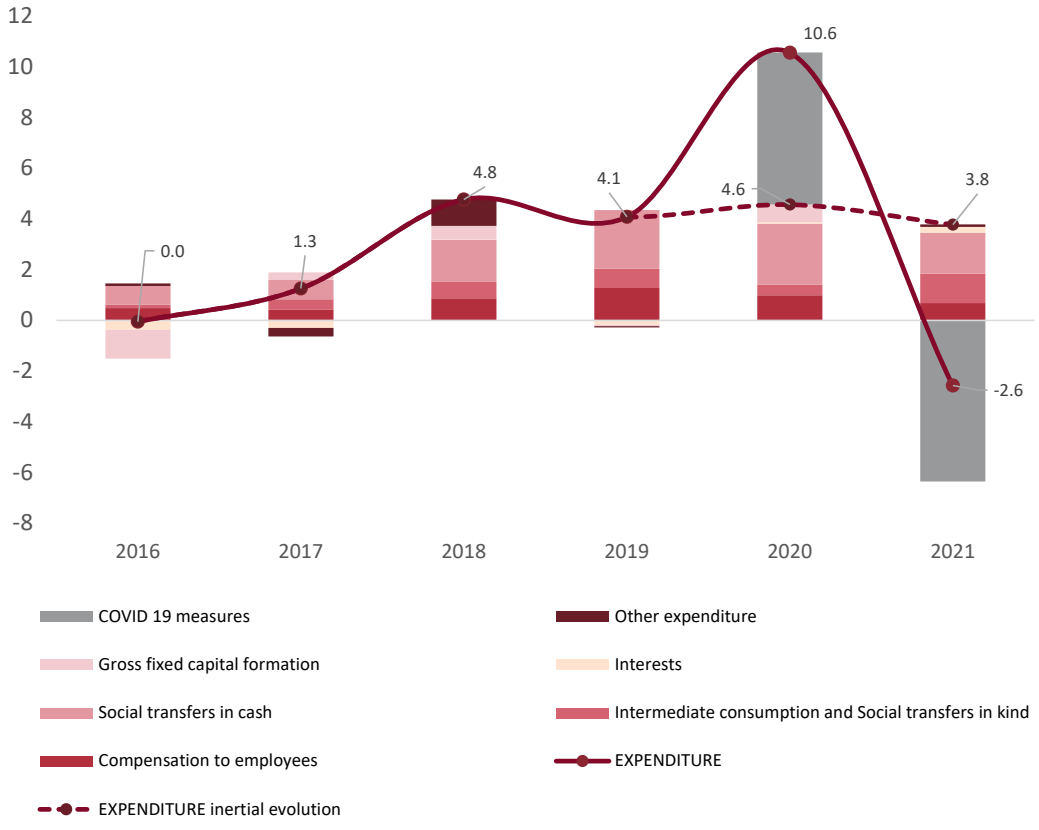
The SPU's expenditure forecast of 51.5% GDP for the GG is between the 50.4% and 53.2% estimated by AIReF in scenarios 1 and 2, respectively. AIReF estimates that expenditure will increase by 8.5% GDP in scenario 1 and 11.3% in scenario 2. Therefore, the SPU's forecast lies between both values. As regards the breakdown by expenditure headings, AIReF estimates are in line with those in the SPU, with the largest differences in capital expenditure, for which AIReF forecasts higher expenditure on gross capital formation.

TABLE 10. EXPENDITURE AS % OF GDP SPU VS AIREF

	SPU	AIReF	
		Scenario 1	Scenario 2
Compensation of employees	12.7	12.5	13.1
Intermediate consumption	6.2	6.0	6.3
Social transfers in kind via market	3.2	3.1	3.3
Social provisions (not in kind)	20.6	20.1	21.3
Interest	2.6	2.5	2.6
Gross capital formation	2.6	2.7	2.8
Other capital expenditures	3.7	3.6	3.7
Total expenditures	**51.5**	**50.4**	**53.2**

AIReF estimates expenditure growth in 2020 of between 9.7% and 11.4%, in line with the SPU, which expects 10.5%. Compared to 4.1% growth in 2019, AIReF forecasts more than double in 2020, which is mainly explained by the impact of the expenditure measures adopted by the different public administrations due to the COVID-19 crisis. The amount of these measures is expected to be higher in scenario 2 where the impact of the crisis is assumed to be greater. By heading, social benefits in cash contribute most to expenditure growth, with the greatest impact of the measures, and another part of the growth would be explained by the expected evolution of public consumption.

FIGURE 32. CONTRIBUTIONS TO CHANGE IN EXPENDITURE (%) AVERAGE OF AIREF SCENARIOS



3.3.1. Main components of public consumption expenditure

The compensation of employees foreseen in the SPU increases its weight over GDP to 12.7% from 10.8% in 2019, in line with AIReF's forecasts. In 2020, this heading will continue to grow due to the fixed salary increase of 2.0%, approved by Royal Decree-Law 2/2020 for public sector employees, within the framework of the 2018 Government-Union Agreement that remains in force for 2020 (without taking into account the possible additional increase of 0.1% for the Territorial Administrations with a surplus). Other specific measures in the CG, such as the equalisation of salaries for state law enforcement agencies, must be added to this. Likewise, new contracts and compensation for overtime days for healthcare and research personnel in the fight against COVID-19 have an impact on this heading, which has a particular impact on the regional sub-sector. As a result, AIReF estimates that compensation of employees will reach between 12.5% and 13.1% GDP.

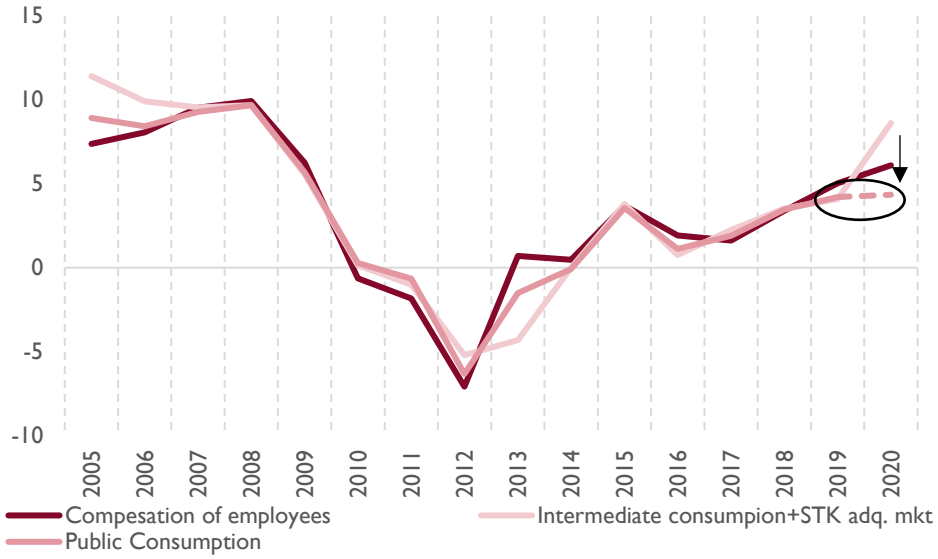
AIReF expects expenditure on intermediate consumption and social transfers in kind to be in line with the SPU's forecasts. The SPU envisages intermediate consumption expenditure of 6.2% GDP, which is between the 6% and 6.3% estimated by AIReF. AIReF's forecasts reflect an increase in this item with respect to 2019, since the higher expenditure on measures to purchase medical equipment as a result of the COVID-19 crisis more than offsets the decrease in expenditure due to the absence of electoral processes in 2020. Social transfers in kind are expected to increase from 2.6% GDP in 2019 to 3.1% and 3.3% projected by AIReF, in line with the SPU's forecast of 3.2% GDP. This heading would include the impact of increased expenditure on pharmaceuticals and health agreements and the provision of social services, including dependent-care, to alleviate situations of special need arising from the COVID-19 crisis, with the regional and LG sub-sectors therefore accounting for the largest increase in these transfers.

A comparison between the growth of aggregate public consumption[25] and the growth of its components in the public accounts reveals a lack of reconciliation between the macroeconomic and the fiscal scenario in the SPU. While nominal growth of 4.8% is expected for the macroeconomic aggregate, 6.1% growth is expected for compensation of employees and 8.6% for intermediate consumption and social transfers in kind, with the three components quantified in the SPU contributing 7% to growth. Likewise, the

[25] Public consumption is one of the macroeconomic aggregates that make up GDP on the demand side, and is identified for accounting purposes with the sum of certain headings of the PAs' accounts, specifically compensation of employees (D.1), intermediate consumption (P.2), social transfers in kind purchased on the market (D.63), other taxes on production (D.29) and consumption of fixed capital, less "sales" (P.11, P.12 and P.131). Consequently, the evolution of the aggregate will be determined by that of its components.

Government's SPU report anticipates a fall for the sales heading as a result of a foreseeable drop in non-tax revenues compared to 2019, which would lead to a new positive contribution to growth from this heading. The SPU does not detail information on fixed capital depreciation as it does not affect revenue or expenditure; this usually shows little variation from one year to the next. With regard to the other taxes on products paid by the PAs, given their small amount, they can be considered a small contribution to the growth of the aggregate. Public consumption growth is among its main components, although this is not the case in the SPU's forecasts, showing the inconsistency between the macroeconomic and fiscal figures.

FIGURE 33. VARIATION IN % OF PUBLIC CONSUMPTION AND ITS MAIN COMPONENTS



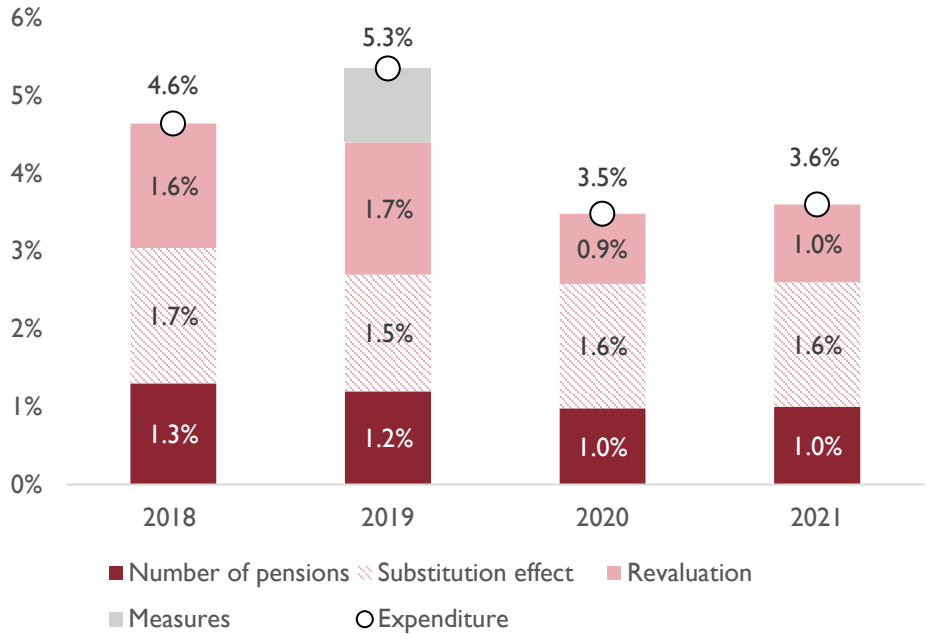
3.3.2. Social Transfers in Cash

AIReF projects that social transfers in cash will increase to 20.1% GDP, or 21.3% GDP in scenario 2, while the SPU projects 20.6%, between the two scenarios. This heading combines two effects: on the one hand, the impact of the measures adopted in 2020 for COVID-19 and, on the other hand, the impact of other expenditure measures approved in 2019 but extending their effects to 2020. With respect to the former, the unemployment benefits linked to ERTEs and other extraordinary subsidies arising from the state of alarm, which represent the largest expenditure of all the measures of the COVID-19 crisis, stand out. In relation to the 2019 measures, the effect of increased pension expenditure, extended paternity leave, improved dependency-care and unemployment benefit for the over-52s is expected. The effect of lower GDP, which is more pronounced in scenario 2, must be added to this. In 2021, the weight of this heading would drop to 18.1% or 19%, depending on the scenario, due to the reversal of the measures.

Social cash transfers increase by between 4.3% and 5.5% GDP in 2020 from 15.8%, falling by between 2.0% and 2.3% in 2021. The existing differences are not due to the valuation of the measures included in this heading (valued between €19,211 and €22,658 million by AIReF and €23,122 million by the SPU), so the SPU must have valued some of the components below AIReF.

AIReF estimates pension expenditure to be 3.5 % in 2020, while in 2021 it will increase by 0.1% to 3.6 %. This lower growth in 2021 is due to the fact that inflation is expected to be 1% in 2021, 0.1% more than the pension revaluation in 2020 (0.9%). For both years, it is considered that the replacement effect remains at a value of 1.6 and that the growth in the number of pensions slows down from 1.2% to 1%, in line with the data published up to March 2020.

FIGURE 34. PENSION EXPENDITURE GROWTH. AIREF'S FORECASTS

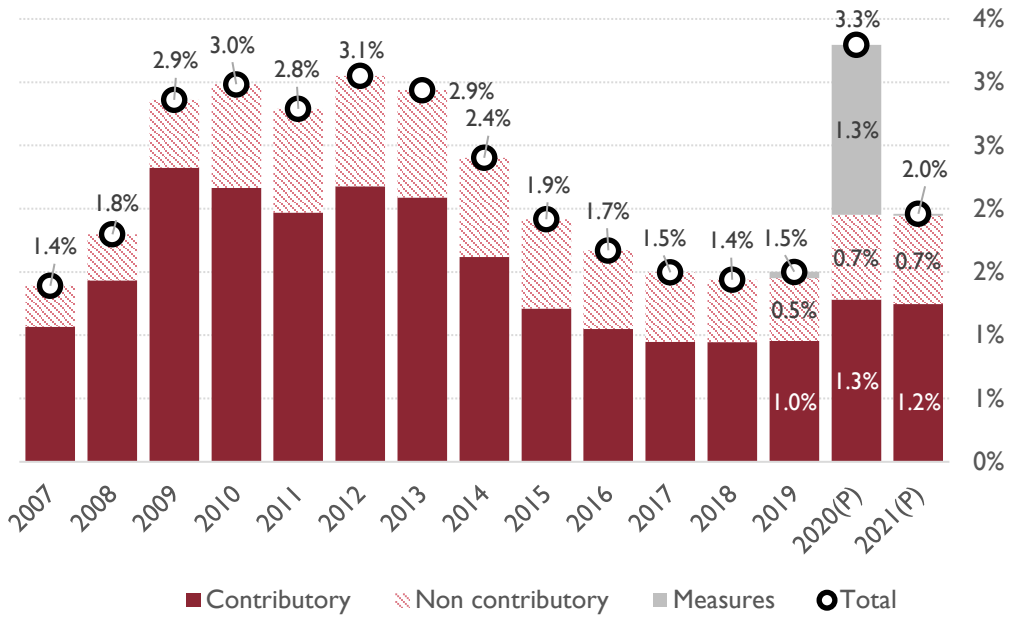


In 2020 unemployment benefits increase from 1.5% GDP to between 3.2% and 3.7% GDP. This heading includes the cost of ERTE measures, the payment of unemployment to temporary workers who were not entitled to it and the cost of benefits for housekeepers . This increase is mainly due to the measures adopted by the central government to deal with the COVID-19 crisis, the amount of which could be about €15 billion in scenario 1 but which, in scenario 2, due to the prolongation of these measures due to the diminished control of the pandemic, could reach up to €18 billion. In addition, it also includes non-extraordinary measures approved before the crisis, such as the benefit for the over-52s and the increase in the minimum wage.

In 2021, the reversal of one-off measures and the improvement in employment reduce the cost of this item to between 2.0% and 2.5% GDP. The

contribution to growth of contributory benefits increases in 2021 compared to 2019 due to the increase in unemployment, since many of the extraordinary measures provide for non-exhaustion of accumulated rights for the contributory benefit.

FIGURE 35. EVOLUTION OF UNEMPLOYMENT EXPENDITURE % GDP AIREF'S FORECASTS



By 2020, the rest of the items under the heading are also affected by the extraordinary measures, increasing their weight over GDP by 0.6%, of which about 0.4% are due to the measures. The expenditure for Temporary Incapacity for Work includes the cost of sick leave due to infection and quarantine resulting from the COVID-19 virus. The rest of the benefits include the cost of the unemployment benefit for the self-employed. In 2021, the increase compared to 2019 is maintained by the employment situation.

3.3.3. Interests

AIReF expects an increase in interest expenditure similar to that contained in the SPU. After the downward trend in interest expenditure that began in 2014, AIReF estimates a slight increase of 0.7% for 2020. This is explained by the need for increased borrowing to finance the projected deterioration of the deficit as a result of the COVID-19 crisis. The increased recourse to borrowing will lead to an increase in interest expenditure which, although felt somewhat in 2020, will have a greater impact from 2021 (over 4%). For this reason, AIReF forecasts that, like the SPU, interest expenditure will be between 2.5% and 2.6% GDP.

3.3.4. Gross capital formation

The SPU forecasts an increase in gross capital formation in 2020 to 2.6% GDP, slightly less than AIReF's estimates. After a fall in 2019 due to the effect of non-recurring elements, investment grows in 2020, mainly driven by the reversal of the end of the AP-4 and AP-7 highways concession in the CG and the investment in healthcare equipment in the Regions as a result of the COVID-19 health crisis. Furthermore, the evolution of this heading is also affected by financially sustainable investments in the territorial administrations and actions to mitigate the effects of adverse weather events (cold drop) in 2019 which will have an impact in 2020. As a result, AIReF's estimates put the weight of this heading at between 2.7% and 2.8% GDP.

3.3.5. Other expenditure

AIReF estimates lower expenditure on investment aid and other capital transfers and higher expenditure on subsidies than the SPU, while the evolution of other expenditure is similar. The heading of capital transfers is strongly influenced by non-recurring items. Specifically, in 2020, less expenditure is expected since, among other things, the PIT refunds are not reproduced due to the court ruling on the PIT exemption of public maternity and paternity benefits received from Social Security. On the other hand, greater subsidy expenditure aimed at reducing the electricity sector deficit is expected, along with the impact of some measures derived from the COVID-19 crisis (temporary compensation for DTT service providers and lower tolls in the electricity and gas systems).

3.4. Analysis by sub-sectors

All sub-sectors will see their fiscal balance deteriorate, although the CG and the SSF will see the greatest impact. On the one hand, the CG suffers more from the reduction in revenue due to the fall in economic activity, an effect that is amplified by the decision not to adapt the instalment payments to the TAs to a realistic revenue forecast. This allows the Regions under the common regime to mitigate the increase in their deficit, which is mainly due to the increase in health expenditure as a result of the crisis. However, this will mean that in 2021 they will have to suffer a significant drop in instalment payments and in 2022 a very negative settlement due to the difference between the instalment payments for 2020 and the actual revenue. The deterioration in the SSF accounts is mainly explained by the measures adopted, but also by a fall in social contributions in line with the loss of employment. On the other hand, in the LGs, although the impact is smaller, the surplus of recent years could disappear or even reach a deficit.

However, the distribution of the deficit between sub-sectors will ultimately depend on the transfers between PAs that are ultimately arbitrated. On the one hand, the CG has announced a non-repayable transfer of €16,000 million. On the other hand, the deficit of the SEPE (State Public Employment Service) is financed by transfers from the CG, although none have been announced so far. Both extremes would lead to higher CG deficits and lower SSF and Regional deficits.

TABLE 11. BREAKDOWN OF DEFICIT BY SUB-SECTORS

SCENARIO 1

	2020					
	Pre-pandemic forecast (1)	COVID effect			Total COVID effect (2) = (a)+(b)+(c)	Actual forecast (3)=(1)-(2)
		Denominator effect (a)	Measures effect (b)	Macro effect (c)		
PAs	**-2.2**	**-0.9**	**-3.3**	**-4.6**	**-8.8**	**-10.9**
CG	-0.9	-0.5	-0.4	-2.8	-3.7	-4.5
SSF	-1.3	-0.3	-2.2	-1.1	-3.6	-5.0
Regions	-0.3	-0.1	-0.6	-0.5	-1.1	-1.5
LGs	0.3	0.0	-0.1	-0.2	-0.3	0.0

SCENARIO 2

	2020					
	Pre-pandemic forecast (1)	COVID effect			Total COVID effect (2) = (a)+(b)+(c)	Actual forecast (3)=(1)-(2)
		Denominator effect (a)	Measures effect (b)	Macro effect (c)		
PAs	**-2.2**	**-1.4**	**-4.2**	**-6.0**	**-11.6**	**-13.8**
CG	-0.9	-0.8	-0.4	-3.6	-4.7	-5.6
SSF	-1.3	-0.5	-2.8	-1.5	-4.8	-6.1
Regions	-0.3	-0.2	-0.9	-0.6	-1.6	-2.0
LGs	0.3	0.0	-0.2	-0.3	-0.5	-0.1

Expenditure increases in 2020 due to temporary measures would artificially increase the level of expenditure for the purposes of calculating the expenditure rule in 2021. Without prejudice to other non-recurring operations taking place in 2020, the impact on expenditure of the temporary measures adopted in response to the COVID-19 crisis amounts to around €2,900, €6,500 and €900 million respectively in the CG, Regions and LG sub-sectors, which are subject to the expenditure rule. In years in which non-recurring operations represent a significant amount, it is more necessary to deduct these operations from the starting point in order to calculate the growth of the computable expenditure, otherwise this calculation would be distorted and would not reflect the real growth of expenditure.

3.4.1. Central Government

AIReF estimates that the CG deficit could reach 4.5% in 2020 in scenario 1 and worsen to 5.6% in scenario 2, from 1.3% GDP in 2019. This deterioration in the deficit is mainly explained by the expected fall in revenue, coupled with moderate growth in expenditure. The drop in activity as a result of the state of alarm will lead to a collapse in tax collection in line with negative GDP

growth. This situation would be more pronounced in scenario 2 where the pandemic is assumed to be less under control. On the expenditure side, the expected increase would be the same in both scenarios, as it is driven by the measures resulting from COVID-19 which, in the CG, are of a fixed amount and do not depend on the extent to which the pandemic is controlled. However, the weight of expenditure over GDP will be higher in scenario 2, where GDP is projected to be lower.

The CG absorbs the fall in revenue in full by not updating instalment payments on the basis of actual revenue forecasts. In accordance with the provisions of Royal Decree Law 11/2020, the State has updated the financing system instalment payments paid to the Regions under the common regime according to the revenue forecasts existing on 1 January 2020. Therefore, they do not incorporate the drop in revenue that COVID-19 is going to cause. In the case of the LGs, the instalment payments that the State is making in 2020 are identical to the amount they received in 2019. Therefore, they do not reflect the effect of the drop in revenue that the CG will have to bear in its entirety. This will result in high payments to the State in 2022, due to the difference between actual collection in 2020 and the instalment payments made to the TAs. This effect would be amplified with the approval of the Non-Reimbursable Fund for the Regions for €16,000 million, not yet included in AIReF's scenarios.

AIReF forecasts a loss in the weight of CG revenue of between 0.7% and 0.9% GDP in 2020 compared to 2019. The improvement in 2021 does not make up for the loss of 2020, remaining relatively worse off than the year before the pandemic. 80% of the evolution of CG revenue is explained through the tax revenues already explained in the previous section, although, in the case of PIT, the part assigned to the Regions must be discounted. The rest of the CG revenue items are spread over the rest of the headings, although they have a limited weight over GDP. There will also be declines under these headings due to the crisis, as in the case of dividends or sales.

On the expenditure side, AIReF forecasts a growth of 3.6% in 2020, a percentage that would be reduced to 2.8% after discounting the reversal of two highways with no impact on the deficit. In January 2020, the reversion to the State of the respective sections of the AP-7 and AP-4 toll highways as a result of the termination of the concession contract, has led to a higher gross capital formation expenditure of €1,745 million. However, this operation has a zero effect in terms of deficit since, as the State did not have to pay anything for these assets, an allocation of the same amount is made to revenue. Once the effect arising from the registration of this operation has been eliminated, the expected growth in expenditure would be 2.8% with respect to 2019.

Part of the expenditure growth is due to measures taken as a result of the COVID-19 crisis, which mainly affects the heading for transfers between PAs and, to a lesser extent, intermediate consumption. Expenditure measures to address the COVID-19 crisis amount to approximately €3 billion (see section on measures). The greatest impact has been on transfers between the Regions, given that the State has transferred half of this expenditure to the Region as they are responsible for health management (extraordinary updating of payments under the regional financing system, funds for the purchase of medical equipment) and social management (extraordinary social fund, rental subsidies, food grants); and occasionally to the Local Governments (food grants). Secondly, the measures have affected the heading of intermediate consumption for the purchase of medical equipment and campaigns to raise awareness of COVID-19.

For 2021, without taking into account the effect of the reversion of the highways in 2020, expenditure is expected to be reduced by between 2.3% and 3.2%. Without considering the effect of the reversion, the forecast is that in 2021 expenditure will decrease with respect to 2020, mainly due to the fact that the temporary nature of the expenditure measures due to COVID-19 means that their effects will be limited to 2020. There are also other factors that contribute to this reduction: the conclusion in 2020 of the 2018 Government - Trade Union Agreement with wage increases above the CPI and the gradual equalization of the salaries of the Police and Civil Guard with the regional police forces; the forecast of fewer instalment payments of the regional financing system, which will be more pronounced in scenario 2, linked to the greater decline in tax collection due to the deterioration of the economy as a result of less control over the pandemic.

Notwithstanding the above, increases in expenditure in 2020 due to non-recurring operations would artificially increase the level of expenditure for the purpose of calculating the expenditure rule in 2021. Only the expenditure measures due to the COVID-19 crisis and the reversal of the toll highways in 2020 would exceed €4 billion. If other operations of a non-recurring nature estimated for 2020 are added, such as the expenditure estimated for the cold drop and for the Asset Protection Schemes (APS), the amount could rise to around €6.5 billion. In years in which non-recurring operations represent a significant amount, it is more necessary to deduct these operations from the starting point in order to calculate the growth of the computable expenditure, otherwise this calculation would be distorted and would not reflect the real growth of expenditure.

FIGURE 36. EVOLUTION OF THE AC BALANCE

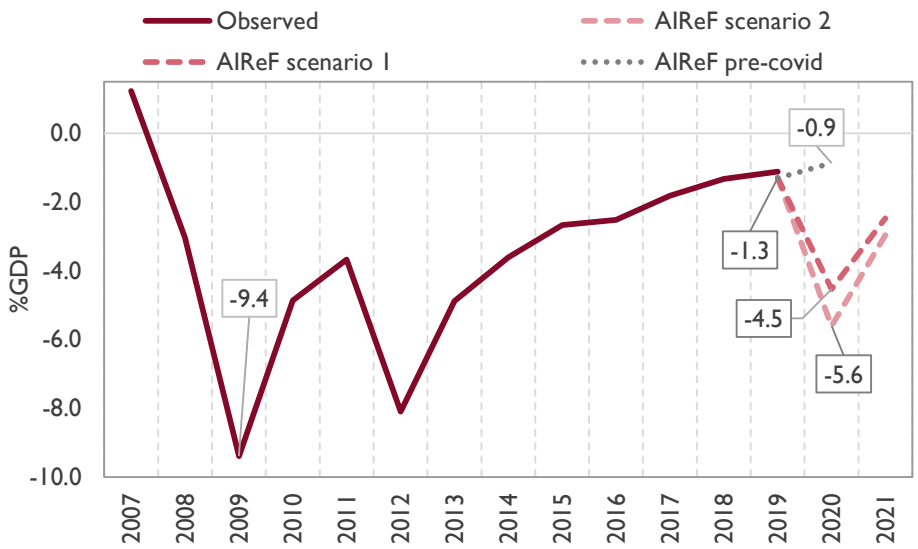


FIGURE 37. EVOLUTION OF THE AC REVENUE

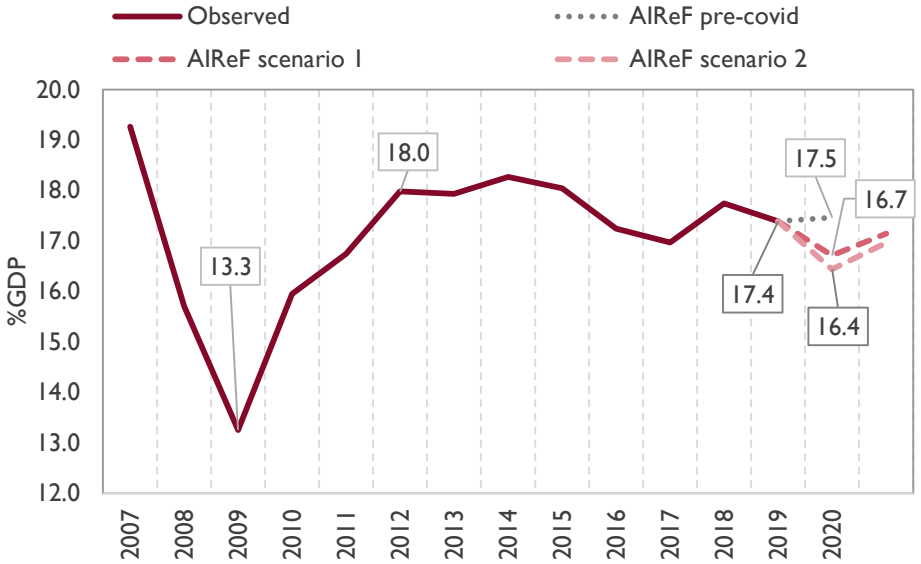
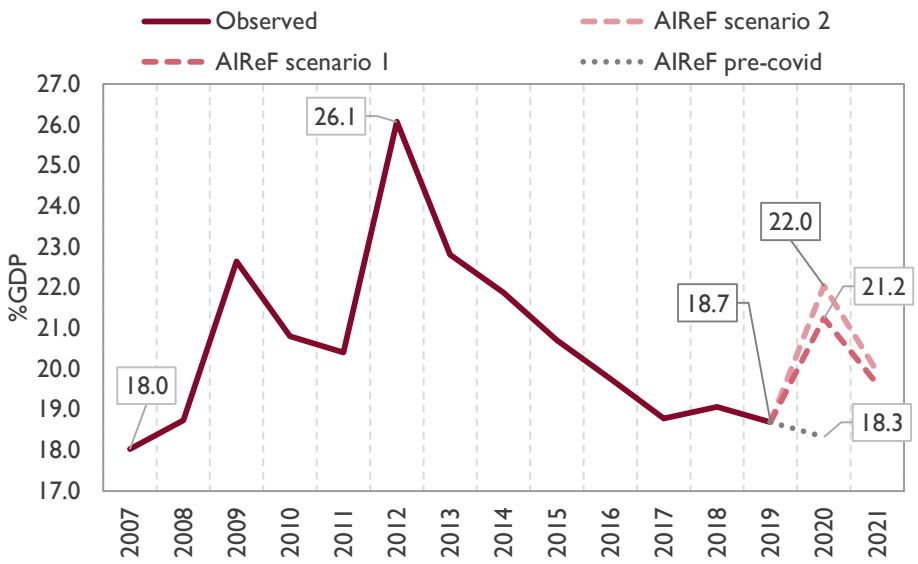


FIGURE 38. EVOLUTION OF THE AC EXPENDITURE



3.4.2. Social Security Funds

The SSF increase their deficit in 2020 to a range between 5.0% and 6.1% GDP depending on which scenario materialises. The COVID-19 crisis has doubly affected the SSF. On the one hand, the measures taken to alleviate the crisis and, on the other hand, the worsening of the macroeconomic situation, and more specifically of employment, cause an increase in expenditure on cash benefits and, on the revenue side, a decrease in social contributions. The situation improves in 2021, but the remaining balance will be between 1.8 and 2.6 points more than the -1.3/-1.4 we had stabilised in recent years. The SSF revenue increases its weight over GDP in 2020, due to the denominator effect. Despite the decline in contributions, due to both the measures and the reduction of the tax base, the contraction in GDP offsets this. The increase in social benefit expenditure triggers an increase in expenditure of between 4% and 5.3% GDP. This is due, almost equally, to the extraordinary expenditure measures and adverse macroeconomic scenario.

FIGURE 39. EVOLUTION OF THE SSF BALANCE

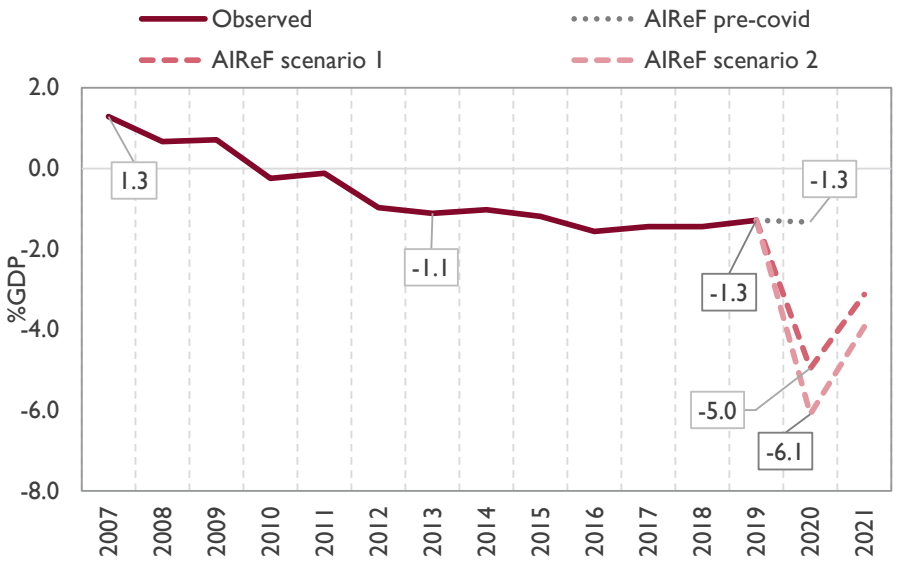


FIGURE 40. EVOLUTION OF THE SSF REVENUE

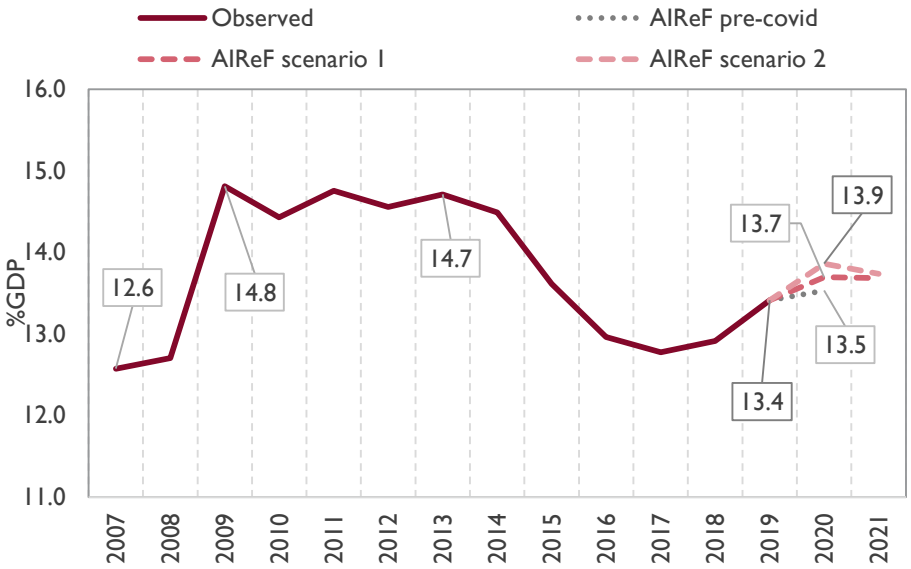
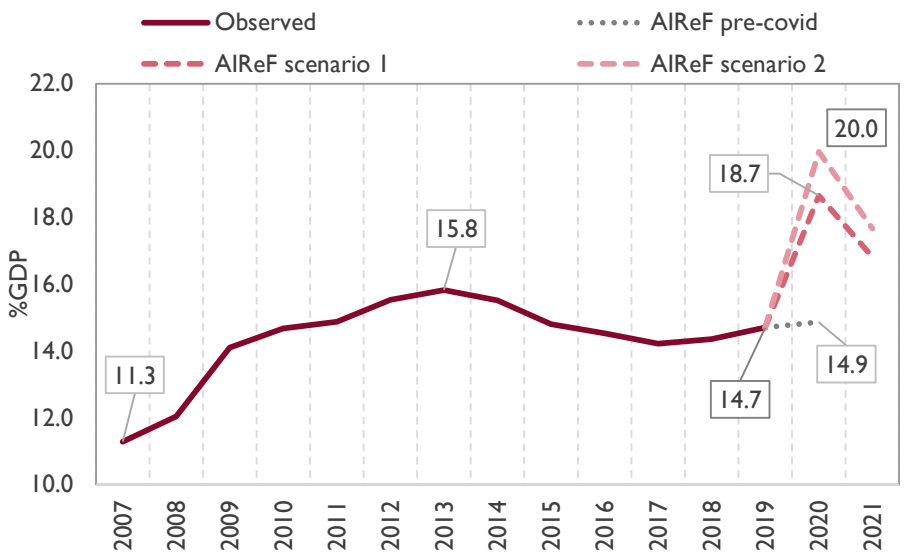


FIGURE 41. EVOLUTION OF THE SSF EXPENDITURE



During the state of alarm caused by the COVID-19 crisis, the Government has approved measures to alleviate the effects of the crisis in the amount of between 2.4% and 2.9% GDP. These measures, whose impact has been detailed above, will have a very significant effect in 2020, but will largely revert automatically when the alarm state ends. Therefore, expenditure is expected to decline in 2021 for this reason.

These measures do not affect the various agents of the SSF in the same way. By carrying out a simplified analysis, based on the pre-COVID situation of each agent, the impacts are broken down into a denominator effect, a measure effect and a macro effect. Regarding the macro effect, within the SSF, the reduction in cyclical revenues is almost entirely from the social security system (SSS), while the increase in cyclical expenditure is almost entirely from the SEPE. Of the projected increase in the SSF deficit (between 3.6% and 4.8% GDP), slightly more than half pertains to the SSS, and the rest to the SEPE.

TABLE 12. BALANCE BY SSF AGENTS (%GDP)

SCENARIO 1

	Pre-pandemic forecast (1)	2020				
		COVID effect			Total COVID impact (2) = (a)+(b)+(c)	Actual forecast (3)=(1)-(2)
		Denominator effect (a)	Measures effect (b)	Macro effect (c)		
SSF	**-1.3**	**-0.3**	**-2.2**	**-1.1**	**-3.6**	**-5.0**
SSS	-1.5	-0.3	-0.9	-0.7	-2.0	-3.4
SEPE	0.1	0.0	-1.3	-0.3	-1.7	-1.5

SCENARIO 2

	Pre-pandemic forecast (1)	2020				
		COVID effect			Total COVID impact (2) = (a)+(b)+(c)	Actual forecast (3)=(1)-(2)
		Denominator effect (a)	Measures effect (b)	Macro effect (c)		
SSF	**-1.3**	**-0.5**	**-2.8**	**-1.5**	**-4.8**	**-6.1**
SSS	-1.5	-0.4	-1.1	-1.0	-2.5	-3.9
SEPE	0.1	-0.1	-1.6	-0.6	-2.3	-2.2

3.4.3. Regions

3.4.3.1 Regional sub-sector

The AIReF estimates that the Regions could reach a deficit of between -1.5% and 2% GDP in 2020, of which the impact of COVID-19 would be between 1.2% and 1.7%. The pandemic has caused a sharp increase in expenditure and a moderate increase in revenue in the Regions. Expenditure growth over the previous year's figures would be between 7% and 9% and, due to the estimated fall in GDP, would increase its weight over GDP by between 2.5% and 3.4%. The variation in revenue, before the transfers announced by the Government of €16 billion, is estimated at between 1.4% and 0.4%, increasing its weight over GDP by between 1.6% and 2 points. Not counting the negative impact of the Immediate Information System in 2019, revenue would register a slight decrease, with a 0.2% lower increase in weight over GDP. Eliminating the part resulting from the impact of COVID-19, the balance that the Regions are expected to have reached in 2020 would be close to -0.3% GDP.

FIGURE 42. EVOLUTION OF THE BALANCE IN THE REGIONS (% GDP)

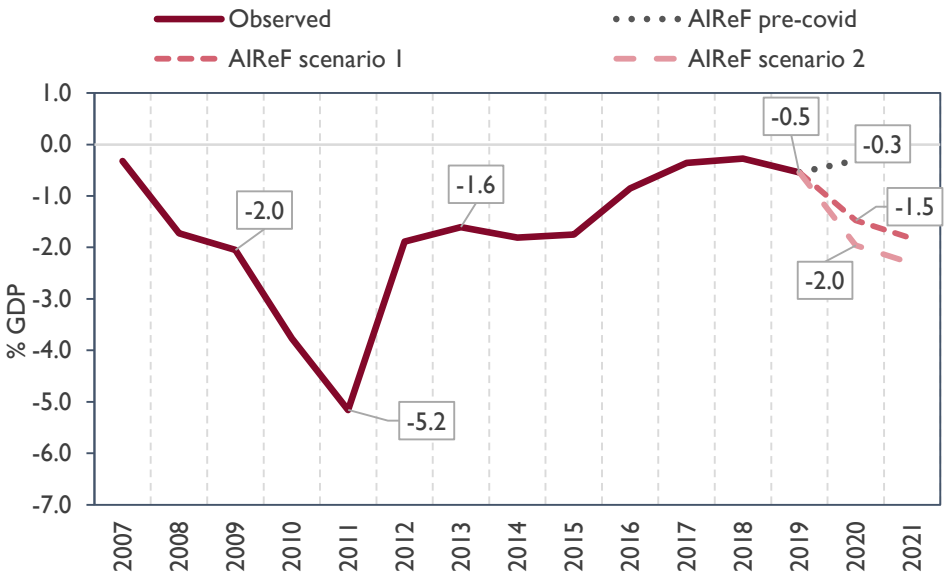


FIGURE 43. EVOLUTION OF REVENUE IN THE REGIONS (% GDP)

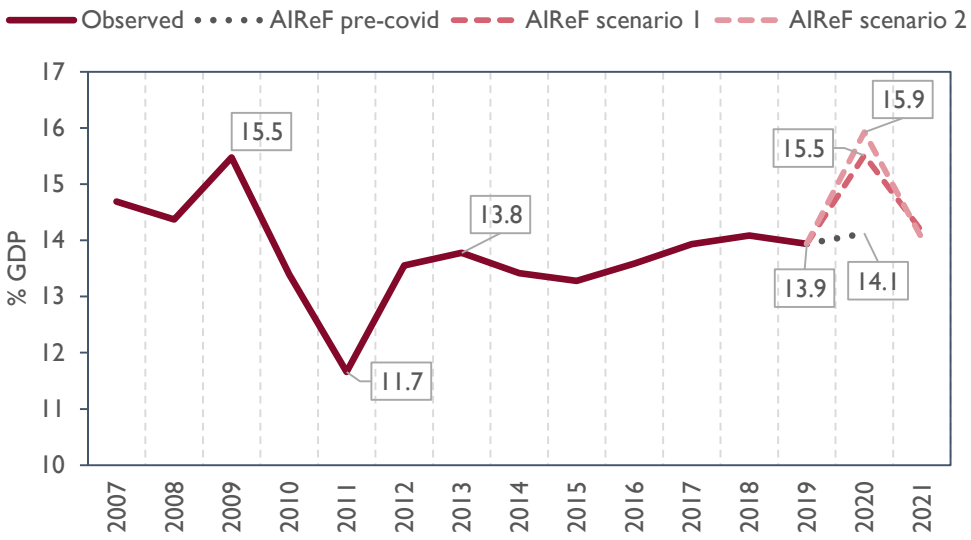
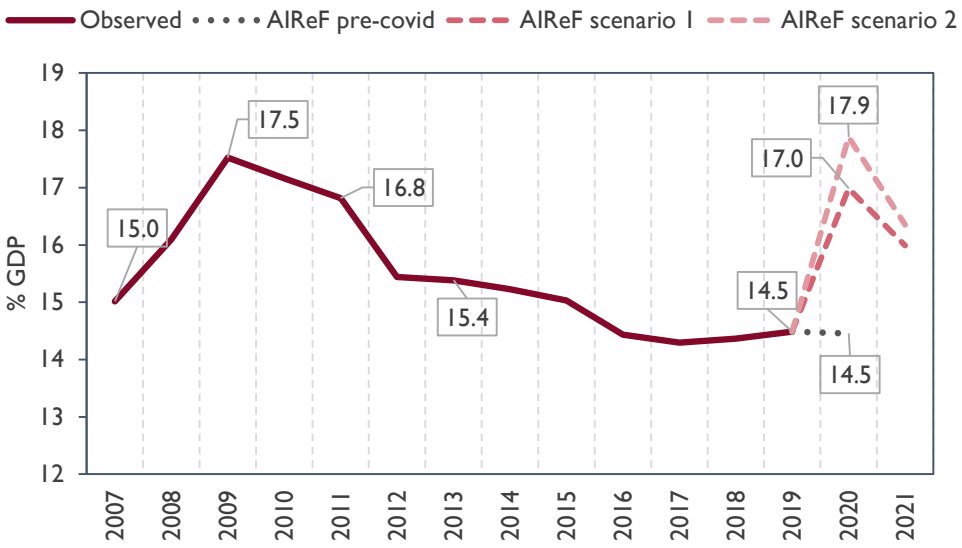


FIGURE 44. EVOLUTION OF EXPENDITURE IN THE REGIONS (% GDP)



Since the report on the main budgetary lines, several factors have changed AIReF's perspective on the Regions in 2020. Chief among them would be the preliminary estimate of the impact of COVID-19, the effect of which can be cancelled out in the sub-sector with the State transfers from the announced Non-Reimbursable Fund. With no significant changes, in general, in the regional budgets initially approved based on the draft budgets and budgetary lines reported on, the prospects for the 2020 closure in the sub-sector have worsened significantly with respect to those considered in the last report of 5 December on the main budgetary lines for 2020 of the Regions[26]. Since the previous pronouncement, several factors have been updated:

- **The publication of the 2019 closure worsened expectations for 2020 by 0.1% compared to the December report.** Closing data for 2019, a deficit of 0.5% GDP in the sub-sector, turned out to be more negative than expected with October's data, worsening the outlook for 2020 by 0.1% GDP.
- **The instalment payments that the Regions will receive are similar to those estimated in December, without incorporating the drop in tax revenue expected as a result of COVID-19.** The instalment payments of the financing system that the Regions under the common regime will eventually receive in 2020 have proved to be similar to those estimated by AIReF in December and therefore do not change the forecasts in the report on the main budgetary lines. They do not,

[26] Report on the main budgetary lines of the 2020 budgets of the Regions.

therefore, incorporate the expected drop in State tax revenues, so much of the impact of the pandemic in the sub-sector is deferred to subsequent years.

- **AIReF estimates that the impact of COVID in the Regions could mean a greater deficit by between 1.2% and 1.7% GDP in 2020, mainly due to the increase in health expenditure and the fall in other revenue.** The preliminary estimate of the impact that COVID-19 will have on the regional accounts for 2020 takes into account the expected increase in healthcare expenditure and the measures adopted by the Regions in response to the pandemic, as well as the expected loss of revenue due to the fall in economic activity in resources other than those of the financing system of the Regions under the common regime. The joint impact of these factors has been estimated at between 1.2% and 1.7% GDP.

The impact of the COVID-19 on the Regions' accounts could be totally or mostly offset if it is financed by transfers from the Non-Reimbursable Fund announced by the Government of €16 billion. The above factors would be totally or mostly offset by the announced transfers from the Non-Reimbursable Fund, provided that the amounts received are used exclusively to finance the increased expenditure and to compensate for the reduced revenue resulting from COVID-19. Under the scenario considered and assuming that the funds received are dedicated exclusively to mitigating the effects of COVID-19, the outlook for the sub-sector could improve slightly or worsen by only a few tenths of a percent over the December estimates.

In the regional sub-sector, the impact of the current crisis is postponed to the following years through the regional financing system resources and the other transfers received from the State in 2020 to alleviate the impact of COVID-19 in the Regions. As indicated above, the instalment payments of the regional financing system that the Regions under the common regime, established by Royal Decree Law 7/2020[27], will receive during the year have been calculated without considering the expected macroeconomic deterioration. The instalment payments approved entail an increase over those envisaged in the extension. This annual increase has been brought forward in March and April to deal with the exceptional situation resulting from COVID-19. These instalment payments do not incorporate the expected negative impact on tax revenues as a result of the pandemic. In addition, the expected fall in revenue outside the common financing system, which will be particularly significant in the Regions under the provincial regime, could be offset by the transfers received from the State from the Non-

[27] Royal Decree-Law 7/2020, of 12 March, adopting urgent measures to respond to the economic impact of COVID-19

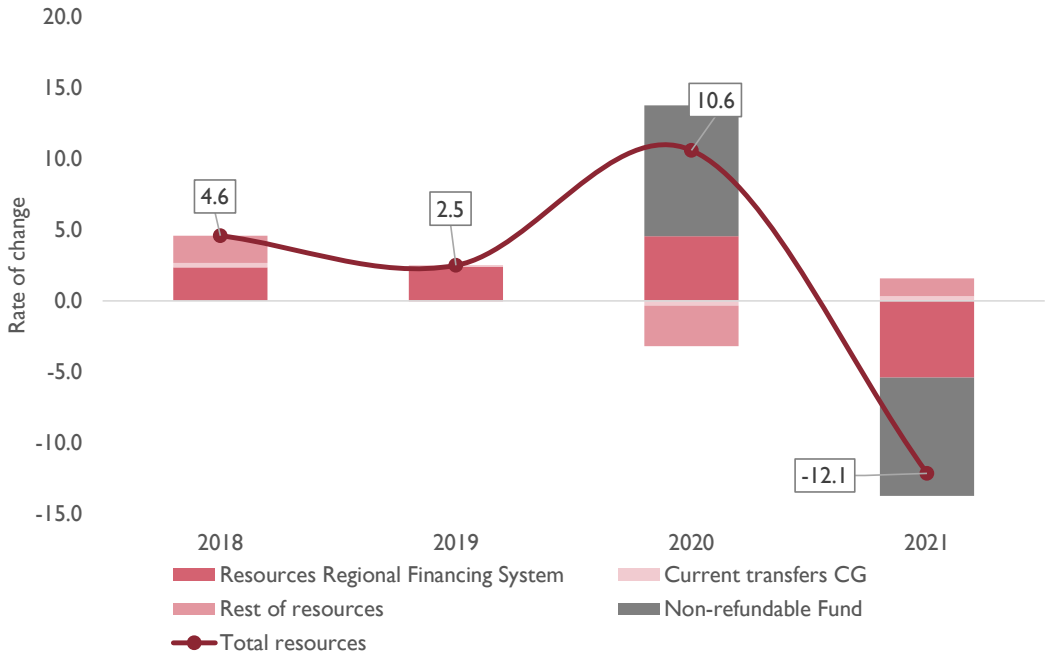
Reimbursable Fund earmarked for this purpose and announced to date, amounting to €5 billion. In short, if we add to the above the transfers from the aforementioned Fund of €11 billion for health and social expenditure, in 2020 the State would assume the entirety of the reduction in revenue resulting from the pandemic, as well as the increase in expenditure caused by COVID-19.

The outlook for the sub-sector in 2021 and 2022 is worse than in 2020. Regional revenue will therefore be affected by the crisis in 2021, with the updating of the common regime financing system resources and the evolution of the rest of the resources in accordance with the real macroeconomic scenario. In 2022, on the other hand, the Regions under the common regime will have to deal with the final settlement of the financing system in that year in accordance with the tax revenues collected by the State in 2020.

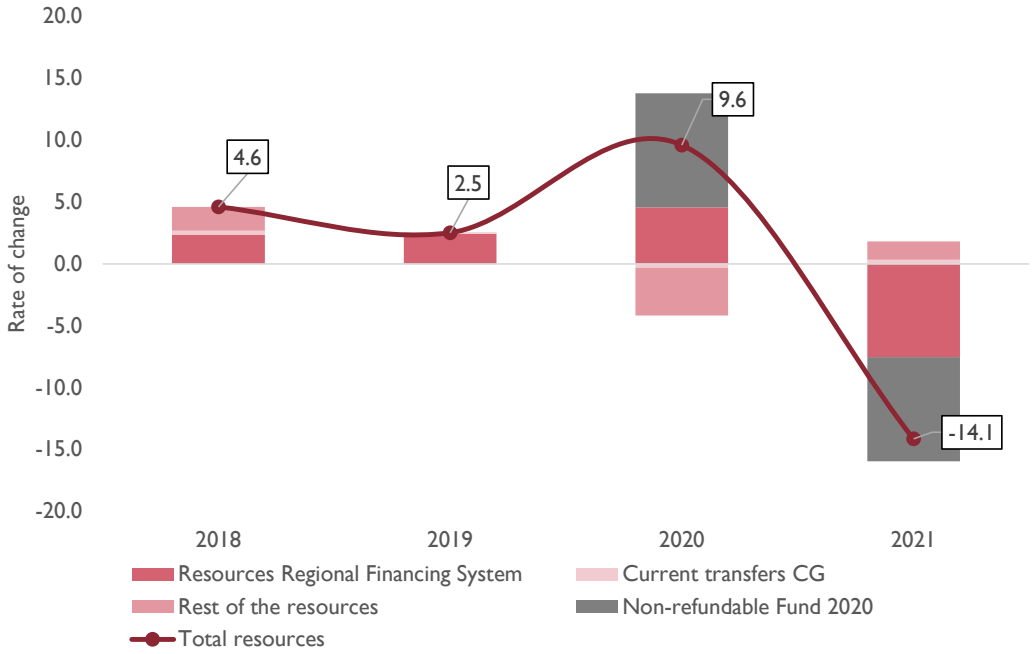
The Regions' resources could fall by between 12% and 14% in 2021, incorporating an estimated fall in the common regime system resources of between 9% and 12% with respect to the amounts paid in 2020. Considering the aforementioned revenue forecasts, despite the negative evolution expected in non-financial expenditure as most of the expenditure incurred in 2020 has not been replicated as a result of the pandemic, a significant deterioration in the sub-sector's balance in this financial year is expected, exceeding the 2020 figure by 1.5% GDP. The fact that the instalment payments to the Regions under the common regime have not been adjusted to the decline in revenue, as well as the fact that the CG has offset the expenditure and revenue reductions due to the pandemic by means of extraordinary transfers, means that the effect of the economic cycle on the Regions will be softened in 2020, but the effects will be very negative in subsequent years. The following figures show the evolution of the Regions' total revenue from 2018 to 2021, as well as the contribution of the most important Regions to this evolution. In 2020, there is an increase of around 10% mainly due to the extraordinary transfers from the Non-Reimbursable Fund and the System's resources, which have a negative effect in 2021.

FIGURE 45. FACTORS THAT CONTRIBUTE TO THE EVOLUTION OF THE REGIONS' REVENUE

SCENARIO 1



SCENARIO 2



In addition, in 2022 the Regions under the common regime will have to face the definitive negative settlement of 2020, which could range from 0.6 to 0.9% GDP. Only in the regions of the foral regime is a recovery expected in 2022 in line with the expected improvement in the macroeconomic scenario.

3.4.3.2 Impact of COVID-19. Measures

The main impact of COVID-19 in the Regions is concentrated in the healthcare sector, estimated at between 0.6% and 0.9% GDP. Based on the information provided, it has been estimated that the pandemic may require increased healthcare expenditure in the Regions of between 0.6% and 0.9% GDP in 2020. This is mainly current expenditure, with a special emphasis on intermediate consumption and the compensation of employees due to the increase in the workforce and the extension of working hours and shifts. About one tenth of these needs would be borne by the CG accounts with the State purchasing part of the medical equipment and the temporary reduction of the VAT rates for the purchase of certain medical products[28]. By agreement of the Council of Ministers on 31 March[29], the State distributed €300 million in direct transfers to the Regions to meet these needs and has announced further non-reimbursable transfers to cover healthcare expenditure of €10 billion.

On the other hand, measures and actions have been implemented in other areas of expenditure and revenue that could lead to an additional 0.1% to 0.2% of deficit. The Regions have implemented additional measures focused, in the area of expenditure, on subsidies to companies or individuals, both through the application of funds received from the State for social services, child feeding and housing[30] (421 million), and additional measures aimed at strengthening social centres and benefits (family financial aid and minimum income), actions aimed at alleviating the effects of the crisis on companies and self-employed workers (direct subsidies in various formats and increased resources for guarantee operations and aid to local governments and other affected groups and sectors, such as children's education centres or passenger transport concession companies). The total of these additional measures amounts to between 0.1% and 0.2% GDP, depending on the assumptions made. Although there is no specific information on this subject, AIReF considers that the Regions will reduce expenditure on training for employment as the State funding associated with this expenditure (for €1.2 billion) has been suspended. Therefore, in net terms, the impact of these non-healthcare expenditure measures would be residual in the first scenario and would reach almost 0.1% GDP in the second, and their cost would be

[28] Royal Decree-Law 15/2020 on supplementary urgent measures to support the economy and employment

[29] Council of Ministers of 31 March 2020.

[30] Royal Decree-Law 7/2020 adopting urgent measures to respond to the economic impact of COVID-19;

Royal Decree-Law 11/2020 adopting supplementary urgent social and economic measures to deal with COVID-19

borne entirely or mostly by the State through transfers from the non-reimbursable fund announced for this purpose of €1 billion. On the revenue side, the Regions' main actions have been aimed at granting tax deferrals, suspension of instalment payments, exemption from rent and free provision of certain services, of which the effect in terms of GDP is estimated to be low. State funds have been received to cover the above-mentioned social expenditure and, conversely, the usual transfers to finance training for employment are not expected, which means about 0.1% lower revenue.

TABLE 13.ESTIMATED IMPACT OF COVID-19 IN THE REGIONS AS A RESULT OF THE INCREASE IN HEALTHCARE EXPENDITURE AND MEASURES ADOPTED DUE TO THE PANDEMIC. % GDP

Estimated impact of COVID-19 on 2020 expenditure and revenue for health spending and other measures adopted in the Regions (% GDP)	Scenario 1	Scenario 2
IMPACT ON EXPENDITURE	0.6	0.9
Health expenditure	0.5	0.8
Social services	0.0	0.1
Economic promotion	0.0	0.1
Training for employment	-0.1	-0.1
Education, housing, transportation and others	0.0	0.1
IMPACT ON REVENUE	-0.1	-0.1
Tax measures	0.0	0.0
Transfers from the CSA	0.0	-0.1
Free benefits, leases and others	0.0	0.0
TOTAL IMPACT ON DEFICIT	-0.6	-0.9

Source: Information from the Regions' and AIReF's estimates

3.4.3.3 Impact of COVID-19. Macroeconomic effect

In the sub-sector the expected fall in economic activity may result in a lower expected collection of between 0.5% and 0.7% GDP in the regional revenues that are not part of the resources of the Regional Financing System (RFS). As we have noted, the main revenues of the Regions under the common regime, derived from the RFS, will not be affected in 2020 by the expected fall in economic activity. However, the main effects are expected in the collection derived from the Tax on Asset Transfers and Documented Legal Acts (ITPAJD for its Spanish acronym), in the revenue associated to production (sales) and in the taxes of the Region of Navarra and the revenue of the Basque Country associated to the tax collection of the Provincial Councils. The impact of COVID-19 is directly felt in the Regions under the foral regime in 2020, and it is therefore expected that it will have a greater effect in this year and that these Regions' recovery will be faster starting next year. This impact could be offset in the regional accounts for the most part by the recently announced increase in transfers from the State

of €5 billion for this purpose. Therefore, the effect on the entirety of the Regions would be transferred to the CG.

TABLE 14. ESTIMATED IMPACT OF COVID-19 IN THE REGIONS BY DETERIORATION OF THE MACROECONOMIC SCENARIO % GDP

Estimated macro impact of COVID-19 in 2020 (% GDP)	Scenario 1	Scenario 2
IMPACT ON REVENUE	-0.5	-0.7
ITPAJD	-0.2	-0.2
Other taxes *	-0.1	-0.2
Sales	-0.1	-0.2
Rest of current expenditure**	-0.1	-0.1
IMPACT ON EXPENDITURE	0.0	0.0
Interest	0.0	0.1
Other current jobs***	0.0	0.0
TOTAL IMPACT ON DEFICIT	-0.5	-0.7

* Includes taxes of the provincial regime of Navarre and the Fiscal Regime of the Canary Islands
** Includes transfers received from the Provincial Councils in the Basque Country
*** Includes the lower transfers to the Island Councils of the Canary Islands due to the Region's drop in revenue
Source: AIReF's estimates

3.4.3.4 Individual analysis by Region

In general, the approved regional budgets do not present substantial differences with respect to the main budgetary lines and draft budgets reported on in December. AIReF must evaluate the changes, with an impact on compliance with the fiscal rules, shown in the initial budgets of the Regions with respect to the main budgetary lines of their draft budgets. Following its legal mandate, AIReF asked the Regions for updated information on their budgets and closing forecasts and the main changes with respect to the information sent in the main budgetary lines. The regional forecasts prior to the pandemic do not include variations that would substantially alter AIReF's outlook indicated in the reports on the main budgetary lines.

The main variations in AIReF's forecasts for each Region are due to deviations in the close of 2019, the individual effect of the updating of the financing system's resources and, fundamentally, the impact of COVID-19. AIReF's forecasts for the close of 2020 in each Region have been revised as from the published close of 2019, the updating of the instalment payments that will finally be received by the Regions under the common regime and the estimate of the impact of the pandemic on regional expenditure and revenue.

At an individual level, the estimated impact of COVID-19 could vary between 0.8% and 2% GDP depending on the Region and scenario considered, with a greater impact in the Basque Country and Navarre. Three main factors determine these estimates:

- In general, the increase in health expenditure resulting from COVID-19, the main element of impact of the pandemic, could vary between Regions and scenarios by between 0.4% and 1.2%.
- Higher expenditures or lower revenue resulting from other measures could amount to between 0.1% and 0.3% GDP depending on the assumptions. Measures reported directly by each region, as well as those announced in newsletters or press, have been considered. In general, most of the actions are concentrated in the areas of social services, economic promotion, education, housing and transport.
- The fall in revenue due to the crisis could have an impact of between 0.3% and 0.9% in the Regions under the common regime, much higher in the Regions under the foral regime.

However, it is not known to what extent the impact of the pandemic will affect each Region. The general uncertainties are compounded at the individual level by those arising from the lack of knowledge about the distribution of the announced non-reimbursable funds. These funds would mean that the part of the impact of COVID-19 funded with transfers would be transferred from each Region to the State. Their knowledge is essential to updating the closing forecasts of each Region.

As a result, AIReF has postponed the assessment of the Regions' 2020 budgets. The individual analysis by Region of the prospects for 2020 and the impact and consequences of the pandemic on each of them requires detailed knowledge of the distribution, elements and conditions of the non-reimbursable funds announced and further information available. Consequently, the issue of the individual reports with the analysis of the impact of COVID-19 and the updating of the closing forecasts in each one is postponed to a later date.

3.4.4. Local Governments

3.4.4.1 LG sub-sector

AIReF estimates that in 2020 the LGs will achieve a result close to fiscal equilibrium, with the possibility of incurring in a deficit for the first time since 2011, mainly a result of the impact of COVID-19. On the basis of current data, and assuming a limited duration of the pandemic, the AIReF forecasts that all the LGs will be able to reach a balance of around equilibrium (0% GDP) in

2020, 0.3% below the surplus obtained in 2019. This result is the consequence of an estimated growth in expenditure of more than 3% and a reduction in revenue of slightly more than 1%. The sub-sector could end up with a deficit of 0.1% GDP in the most pessimistic scenario of a second outbreak of the pandemic in the autumn. In this case, the increase in expenditure and the decrease in revenue are both estimated at close to 4%. If the impact of COVID-19 were eliminated, the LG sub-sector would have reached a surplus close to that of 2019 (0.3%) in 2020.

The main factor that has substantially changed AIReF's outlook for 2020 for the LG sub-sector has been the preliminary estimate of the impact of COVID-19, which could amount to between 0.3% and 0.5% GDP. AIReF's estimates for 2020, included in this year's report on the main budgetary lines of the LGs' budgets, have worsened substantially due to three major factors: The publication in March of the 2019 close, which has meant a reduction in the previous forecasts of around 0.05% GDP, the new information available on the budgets approved by the LGs, which has led to a slight reduction in local lending capacity due to an increase in current expenditure and, essentially, the forecast of the impact of COVID-19 on the result to be achieved in 2020 by the local sub-sector. The joint impact of all these factors has been estimated at over 0.4% GDP.

The publication of the definitive close for 2019 has confirmed AIReF's forecasts of an initial trend towards a reduction in local surpluses, albeit to a greater extent than anticipated. Since July 2019[31], AIReF could already see a trend towards a reduction in the surplus of all the LGs, a trend that was reiterated in its report on the main budgetary lines of the 2020 budgets[32], and confirmed, albeit with greater impact than expected, in the data published in March on the 2019 close. According to these data, the local surplus in 2019 stood at 0.3% GDP, 0.2% below the average of the last five years, and 0.1% less than estimated by AIReF, due to an increase in expenditure of slightly more than 5%, well above the increase in revenue which was less than 2%. The negative impact of these closing figures on AIReF's forecasts for 2020 on the result to be achieved by the local sub-sector is around €500 million, almost 0.05% GDP below previous estimates.

The local budgets finally approved for 2020 confirmed this trend towards an increase in local expenditure. The information received by AIReF from the LGs monitored individually on the budgets approved for 2020 have confirmed previous forecasts of the very probable reduction in the local surplus for the year, in line with the results obtained in 2019, mainly as a result

[31] Supplementary report on expected compliance with the 2019 budgetary stability target, government debt target and expenditure rule

[32] Report on the main budgetary lines of the 2020 budgets of the Local Governments.

of the increase in current expenditure above that permitted by the reference rate of the expenditure rule. These budgets, approved prior to the start of the pandemic, will be significantly affected both by the budgetary modifications necessary to cover the extraordinary expenditure resulting from COVID-19, and by the reductions in revenue caused by the fall in economic activity and the fiscal relief measures approved by LGs. Therefore, the budgets that will finally be executed in 2020 will differ substantially from those approved, with a further impact on the reduction in local results.

FIGURE 46. AIREF'S 2020 FORECASTS. LG SUB-SECTOR. ESTIMATED IMPACT OF COVID-19 ON THE BALANCE. (% GDP)

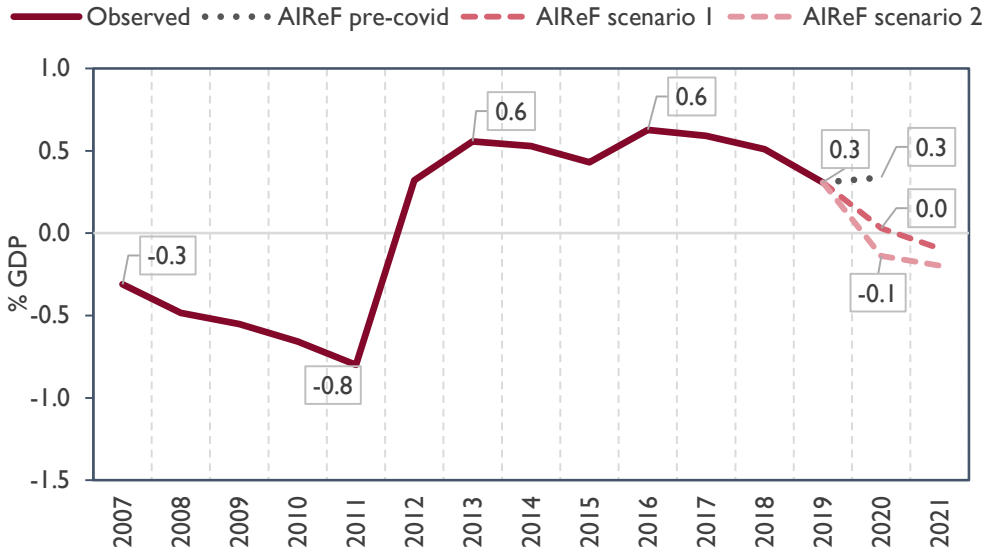


FIGURE 47. AIREF'S 2020 FORECASTS. LG SUB-SECTOR. ESTIMATED IMPACT OF COVID-19 ON REVENUE. (% GDP)

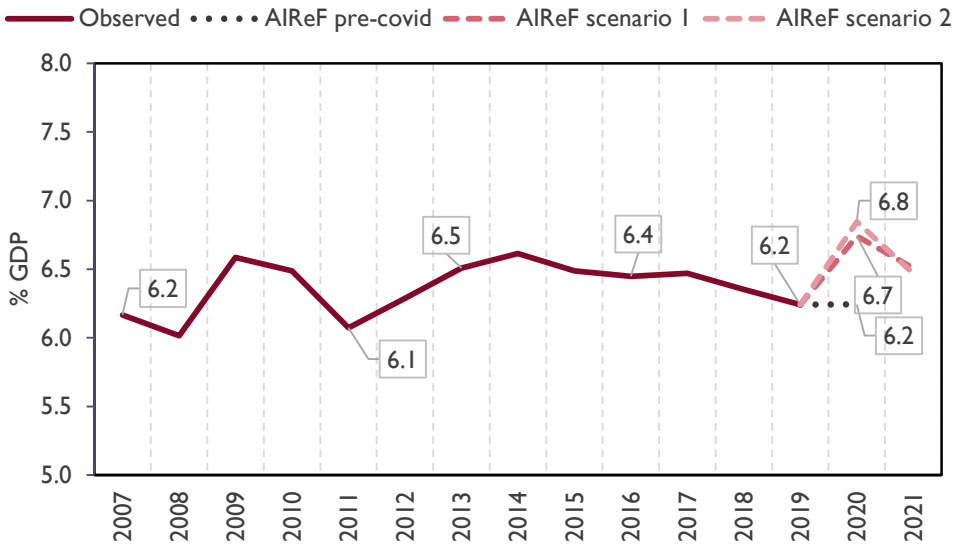
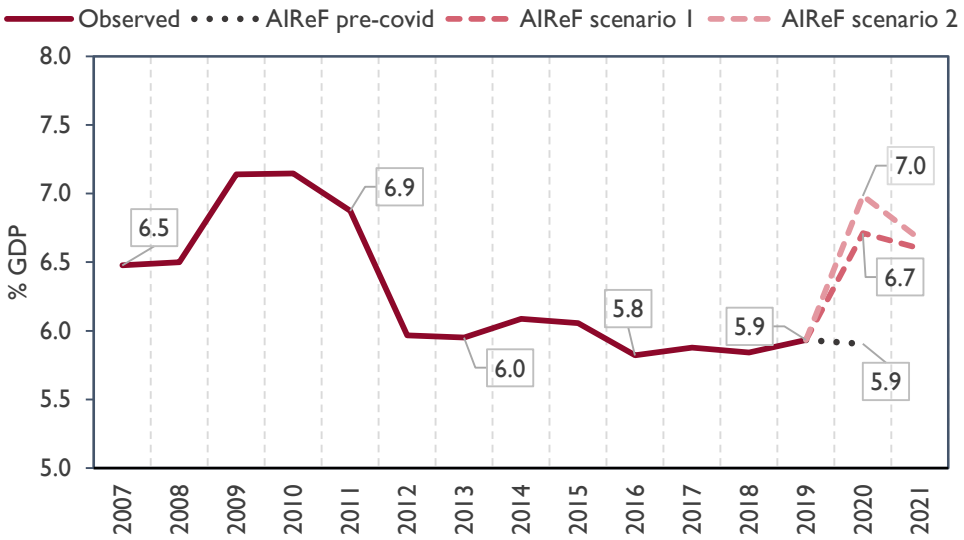


FIGURE 48. AIREF'S 2020 FORECASTS. LG SUB-SECTOR. ESTIMATED IMPACT OF COVID-19 ON EXPENDITURE. (% GDP)



For 2021, AIReF estimates that the LGs will incur in a deficit of between 0.1% and 0.2% GDP, mainly as a result of the fall in the financing system's revenue compared to 2020. AIReF's forecasts of the result to be achieved by the local sub-sector in 2021 are just over 0.1% below balance, and are strongly influenced by the fall in revenue to be received from the State's financing system in 2021 compared to that expected in 2020, a fall estimated by AIReF at between 0.1% and 0.2% GDP (depending on the scenario). This fall in 2021 is the result of the fact that the revenue expected to be received by the LGs from the State in 2020 through the financing system does not include the reduction in tax revenue estimated for 2020 due to COVID-19, while the revenue expected to be received in 2021 will include this effect.

In 2022, AIReF estimates that the final settlement of the financing system will be negative by more than 0.3% GDP. As a result of the fact that in 2020 the revenue expected to be received by the Regions do not reflect the impact of COVID-19, the settlement corresponding to this revenue to be made in 2022 will be negative in favour of the State. With the current scenarios this negative settlement could range between 0.3% and 0.5% GDP. In terms of expenditure, it is estimated that there will be a year-on-year increase of over 3% in 2021, mainly due to the extension to 2021 of some of the current expenditure needed to alleviate the effects of the pandemic.

In both 2020 and 2021, the results expected to be obtained by the local sub-sector following the extraordinary circumstances generated by COVID-19 would not allow compliance with the expenditure rule. According to AIReF's estimates, the minimum lending capacity that would enable compliance with both fiscal rules would be around 0.2% GDP in 2020 and slightly above zero in 2021. The effect of COVID-19 in 2020 and the slow recovery of the

economy in 2021 make it impossible to obtain the necessary result for this purpose.

3.4.4.2 Impact of COVID-19 in 2020

AIReF estimates the impact of COVID-19 on the LGs at between 0.3% and 0.5% GDP. The extraordinary situation generated by the pandemic will have a significant effect on the accounts of all PAs. This effect is produced by three factors: measures adopted by the State, measures arbitrated by the LGs, which involve both increased expenditure and moratoriums or reductions in revenue not provided for in their initial budgets, as well as the impact on economic activity which will significantly reduce revenue.

AIReF estimates the impact of the measures adopted on the worsening of the local accounts to be close to 0.2% GDP. State measure related to implementing the 2019 surplus up to the joint limit of €300 million have an impact on the surplus of the Local Corporations (LCs)[33]. Furthermore, the LGs have adopted their own measures such as the extension of social expenditure, the granting of aid to families in need, an increase in health and public security services, reductions in local taxes on commerce and hotel sectors, deferral or suspension of taxes during the pandemic, etc. Among all these types of measures, the increase in current expenditure on care and security personnel and the provision of social services stands out, due to the greater economic impact expected. The impact of all these measures is estimated to be a drop in the surplus of between 0.1% and 0.2% GDP.

Moreover, in addition to the measures taken, the impact of the standstill in economic activity estimated by AIReF at between 0.3% and 0.5% GDP must be taken into account. The fall in economic activity will have a negative impact by reducing revenue, mainly due to the reduction in revenue from consumption and income taxes in the Provincial Councils, which will directly affect their revenue in 2020 and which, to a large extent, will be transferred via expenditure to the Region of the Basque Country and the Basque city councils, as well as local taxes such as the Property Tax (PT), the Tax on Economic Activities (TEA) and the Tax on the Increase in Value of Urban Land (TIVUL).

[33] *Art.3 of the Royal Decree-Law 8/2020, on urgent measures to deal with the extraordinary economic and social impact of COVID-19 and art.20 of the Royal Decree-Law 11/2020 allow the LGs, as a whole, to allocate up to €300 million from the 2019 surplus to finance economic aid and the provision of social services for primary care and dependence in 2020, with each LG that meets the requirements being able to spend a maximum of 20% of the remaining cash surplus at the end of 2019.*

The measures assessed in the 2020 SPU only refer, at the local level, to the possibility of applying up to €300 million of the 2019 surplus to social expenditure resulting from COVID-19, with a uniform distribution between current and capital items. The Royal Decree-Law 8/2020 allowed the LGs, as a whole, to allocate up to €300 million from the 2019 surplus to finance economic aid and the provision of social services for primary care and dependence-care in 2020. The breakdown of this overall amount reflected in the SPU is distributed equally between the headings of compensation of employees, intermediate consumption, social benefits other than transfers in kind and gross fixed capital formation. Having analysed the measures announced by the large LGs, and given the allocation established in the regulation, AIReF estimates that these amounts will be used mainly for current expenditure, thus reflecting this in its forecasts.

On the other hand, the SPU's forecasts reflect an increase of 2% of the LGs' revenue from PT in 2020 against the stabilisation estimated by the AIReF. The PT revenue included in AIReF's estimates does not foresee increases in this heading, given the small increases obtained in the last two years and the expected evolution this year after the pandemic.

AIReF has preliminarily analysed the measures announced by the large LGs to mitigate the effects of COVID-19 on their websites. The large LGs have published information on their websites on the main measures taken or to be taken to alleviate the negative effects of the pandemic in their municipalities and to contribute to economic and social recovery, although it has not been possible to estimate the economic impact of most of them and this has been postponed to the time when the information they have to send to the Ministry of Finance (Ministerio de Hacienda - MINHAC) in this regard is available before 6 May.

In terms of expenditure, these measures can be summarised in the following three main groups:

- Provision of social services including dependency-care to alleviate situations of particular need.
- Protection of public health.
- Actions to mitigate the effect of the pandemic on local economies and job protection.

The income measures notably include four major blocks:

- The exemption or refund of the payment of certain local taxes (fees for the use of the public domain of terraces, kiosks, fairs, etc.)
- The approval of reductions in the quota to be paid in said taxes (25% PIT, 25% TEA in the City Council of Madrid for companies that maintain employment).

- The postponement of the payment of taxes (such as the cancellation of the PIT instalment payments of the first two quarters for 2020 for self-employed persons in the Provincial Councils).
- The suspension of certain revenue items in 2020 such as those derived from the exercise of enforcement procedures.

The following table 16 shows, both in the area of expenditure and revenue, the main measures that could be identified through the information provided by the websites of each LG analysed. As can be seen from the table, all the large LGs have adopted measures in the areas of social services, public health protection, economic activity and local employment protection.

TABLE 15. MAIN MEASURES IN RESPONSE TO THE PANDEMIC IDENTIFIED ON THE WEBSITES OF THE LARGE LGS

	EXPENDITURE MEASURES		REVENUE MEASURES		
LGs	Social Services and Public Health	Economic Activity and Employment	Installment discounts or exemptions	Temporary suspension of income in 2020	Revenue delays
City Council of Alicante	x	x	x	x	x
City Council of Barcelona	x	x		x	x
City Council of Bilbao	x	x		x	x
City Council of Cordova	x	x		x	x
City Council of Gijón/Xixón	x	x		x	
City Council of Las Palmas GC	x			x	x
City Council of L'Hospitalet	x	x		x	x
City Council of Madrid	x	x	x	x	x
City Council of Malaga	x	x		x	x
City Council of Murcia	x	x	x	x	x
City Council of Palma	x	x	x	x	x
City Council of Seville	x	x		x	x
City Council of Valencia	x	x		x	x
City Council of Valladolid	x	x		x	x
City Council of Vigo	x	x		x	x
City Council of Saragossa	x	x		x	x
Council of Barcelona	x	x			
Council of Seville	x	x			
Island Council of Tenerife	x	x	x		
Island Council of Mallorca	x	x			
Council of Valencia	x	x			
Provincial Council of Araba/Álava	x	x	x	x	x
Provincial Council of Bizkaia	x	x	x	x	x
Provincial Council of Gipuzkoa	x	x		x	x

3.4.4.3 Preliminary analysis of the large LGs

In the large LGs the information on the approved budgets for 2020 does not reflect substantial variations from the budgetary lines reported, although a slight worsening is noted in some lines. AIReF must evaluate the variations, with an impact on compliance with the fiscal rules, that the initial budgets of the LGs present with respect to the main budgetary lines of their draft budgets. Following its legal mandate, in February this year AIReF requested information on the 2019 close and on the budgets (approved or extended) to be implemented in 2020, as well as on the main variations with respect to the information sent in the main budgetary lines of their draft budgets. In

general, the forecasts for 2020 prior to the pandemic of the large LGs have maintained or slightly worsened those submitted in December. The variations detected are a consequence of the 2019 close and the approval of initial budgets with expenditure increases higher than those previously reported, particularly current expenditure on personnel and on goods and services.

The budgets approved by the LGs before the pandemic are not a good indicator of the result to be achieved by the end of 2020, given the need to adapt them to the extraordinary needs arising from COVID-19. Since its inception, AIReF has highlighted deviations at the local level between the planning reflected in the approved budgets and the execution carried out. In this context, and especially this year given the extraordinary circumstances that have occurred, the approved budgets are not an adequate indicator for assessing the likelihood of compliance with the fiscal rules at the end of the year, since they will have to be modified to a greater extent than in other years, in order to make appropriations available to meet the needs arising from the situation caused by COVID-19.

The uncertainties arising from COVID-19 cause substantial scope limitations which make it necessary to postpone the individual assessment of the LGs to the next report. AIReF postpones its pronouncement on individual compliance with the fiscal rules by the large C.L.C. to the July report, where the elements that have affected the outcome are a consequence of the pandemic and will be dissociated from those that were already in the initial planning or are subsequently not linked to the extraordinary situation we are experiencing. To this end, AIReF has asked the large LGs for the information sent to MINHAC on the effects of COVID-19 on revenue and expenditure[34], as well as on the measures taken. The availability of this information following the issue of this Report (only the Provincial Council of Biscay sent information) made it necessary to postpone the individual analysis.

The analysis of the situation of the large LGs before COVID-19 shows, in some of them, a tendency to decrease the surplus as a result of the fact that the increases in recurrent expenditure in 2019 could be consolidated in 2020, a situation that would be aggravated after the pandemic. AIReF has analysed both the approved budgets for the current year of the large LGs and the results obtained in the previous year and its possible effect in 2020. This preliminary analysis suggests that, before the extraordinary situation generated by COVID-19, some of the large LGs were showing a decrease in their surplus. This trend is due to the expansion of expenditure, mainly recurrent and future-consolidated current expenditure, the expansion of

[34] *Annexes II and III of the Royal Decree-Law 11/2020, adopting supplementary urgent social and economic measures to deal with COVID-19.*

which led some of the LGs to not comply with the expenditure rule in 2019, and the extension to 2020 will have a negative impact on the results to be obtained this year. In particular, the city councils of Bilbao, Madrid, Murcia and Valencia and the Provincial Councils of Barcelona and Valencia increased their computable expenditure in the expenditure rule in 2019 by more than twice the approved reference rate, a situation which, if consolidated in 2020, could have a negative impact on their accounts, adding to the effects of the pandemic.

4. IMPLEMENTATION OF THE FISCAL FRAMEWORK

4.1. Ex-post analysis of compliance with the preventive arm in 2019

The Stability and Growth Pact (SGP) has been temporarily suspended in 2020 but was fully in force in 2019. The SGP has been temporarily suspended and therefore the EU tax rules will not apply for at least this year 2020. However, it was fully in force in 2019 and it is now time to carry out an ex-post analysis of compliance with the requirements of the preventive arm to which Spain began to be subject last year after ten years under the Excessive Deficit Procedure (i.e. with a deficit of over 3% GDP).

In 2019, Spain had to comply with the requirements of the preventive arm of the SGP. The preventive arm of the SGP requires Spain to undertake a structural fiscal effort (i.e. discounting the effect of the cycle and non-recurrent revenue and expenditure measures) until a balanced budget is achieved in structural terms and to this end limits the growth of discretionary public expenditure net of revenue measures. Specifically, the recommendations of the European Council in 2019 required Spain to make a structural effort of 0.65 percentage points of GDP in 2019, which was consistent with an annual growth in computable expenditure of 0.9% in nominal terms.

The assessment of compliance with these requirements results in a significant deviation. A comparison of these requirements with estimates of the effort actually made in 2019 reveals a significant deviation in the two relevant metrics:

- AIReF's estimates indicate that fiscal policy took an expansionary tone in 2019 as the structural deficit widened from -1.7% of potential GDP in 2018 to -2.3% in 2019. Compared to the required effort of 0.65

percentage points, the structural deficit would have deteriorated by almost the same amount and thus the deviation from the SGP requirement was 1.2% GDP last year. This deviation is greater than the threshold of 0.5 points which, according to the SGP, determines when a deviation is considered significant.

The second pillar of the preventive arm, the EU expenditure rule (known as the expenditure benchmark) shows a similar result. As mentioned above, the limit on net growth of computable expenditure in 2019 was 0.9% in nominal terms. In contrast, AIReF's estimates indicate that computable expenditure net of revenue measures and non-recurrent items grew by 4.4%. This represents a deviation of 1.4% GDP, which again exceeds the threshold of 0.5% that determines when a deviation is significant.[35]

TABLE 16. EX-POST COMPLIANCE WITH REQUIREMENTS OF THE PREVENTIVE ARM

	Required	Completed	Deviation (% GDP)
Variation of structural balance (% GDP)	**0.65**	**-0.6**	**1.2**
Net computable expenditure *(expenditure benchmark)*			
nominal annual variation rate	**≤ 0.9%**	**4.40%**	**-**
Increase in millions of euros (approx)	**2,800**	**20,300**	**1.4**

4.2. Escape clauses

Both European and national regulations provide, in exceptional situations, for flexibility in compliance with the fiscal rules. The European and Spanish fiscal framework contains elements of flexibility, allowing the activation of escape clauses from compliance with fiscal rules under exceptional circumstances.

4.2.1. European fiscal framework

The SGP provides for a general escape clause in the event of a severe economic recession. At EU level, the SGP has always included elements of flexibility that allow for deviations in circumstances beyond the control of the governments. But the lessons learned from the 2009 crisis led to strengthening this flexibility, introducing, as part of the 2011 SGP reform, the so-called general escape clause (GEC). Its distinctive feature is that the determining

[35] In absolute terms, the maximum increase in net computable expenditure allowed in 2019 was €2.8 billion, according to the SGP. In contrast, net computable expenditure increased by just over €20 billion last year - this excess of just over €17 billion represents 1.4% GDP.

factor for activation is a situation of severe economic recession in the euro area or in the European Union (EU) as a whole.

It has implications for countries subject to both the preventive and corrective arms. In the first case, it is expected that countries may temporarily deviate from their medium-term budgetary objective or from the adjustment path towards it. This is a deviation that must be temporary and not endanger the sustainability of public finances in the medium term. In the case of countries subject to the excessive deficit procedure (none at the moment), the activation allows the Council to review the recommendations in which the fiscal objectives for the country are set.

The ECOFIN Council of 23 March supported the Commission's activation of this clause. This is the first time since its introduction and has been deemed necessary to provide an adequate response to the COVID-19 crisis. In fact, this has complemented and strengthened the previous decisions of the Eurogroup of 16 March to make full use of the flexibility allowed by the SGP. These decisions already meant admitting that falls in revenue and increases in expenditure due to the action of automatic stabilisers, as well as the budgetary effect of the temporary discretionary measures adopted by countries in response to COVID-19, will not be taken into account when assessing compliance with the fiscal rules, targets and European requirements.

Since this is the first time that it has been activated and all its consequences are not regulated, there is some uncertainty about its implementation. The ECOFIN Council has backed going one step further with the activation of the SGP. However, since this is the first time it has been activated and all its consequences and implications are not regulated, there is some uncertainty about how it will be implemented in practice. From the ECOFIN statements, the Council understands that the SGP allows them the necessary flexibility so that all measures can be taken in support of health systems, civil protection systems and economies, including additional discretionary fiscal stimuli. For ECOFIN, the clause allows coordination of Member States' actions to be timely, temporary and targeted.

They have provided themselves with the necessary space to face the crisis without losing sight of the sustainability of public finances. The Commission has also clarified that, without suspending the SGP, the Commission and the Council have given themselves the necessary space to allow a strong national response to the crisis without losing sight of the sustainability of public finances. The Commission has already announced that the content of its spring package will have to be adapted to these exceptional circumstances, including the need to reflect the response to the crisis. The Commission could, for example, include indications on appropriate fiscal

guidance at national and aggregate level. Such guidance is likely to be proposed taking into account an assessment of the impact of the measures both on overcoming the consequences of the pandemic and on the medium-term sustainability of public finances.

Therefore, the possibility of a coordinated and temporary deviation is enabled, which will soon become a reality. In short, what is enabled is the possibility of a coordinated and temporary deviation in the face of widespread crisis in the EU. Its implementation will be seen in the Commission's spring package and in its subsequent assessment and decisions by the Council.

4.2.2. National fiscal framework

Spanish law also provides for flexibility in complying with fiscal rules in exceptional circumstances. At national level, Article 135 of the Spanish Constitution and the Organic Law 2/2012 on budgetary stability and financial sustainability (LOEPSF for its Spanish acronym) under which it is implemented also provide for elements of flexibility in complying with the fiscal rules in exceptional circumstances. This would be in cases of natural disaster, severe economic recession or extraordinary emergency that are beyond the control of the PAs and significantly harm their financial situation or their economic or social sustainability.

The activation of the escape clauses requires certain formalities to be fulfilled. In these cases, the escape clauses from the fiscal rules can be activated, but certain guarantees are required in order to make use of this flexibility. In this sense, it is required that the circumstance alleged for its activation be acknowledged by the absolute majority of the members of the Congress of Deputies, following a report by AIReF.

Its activation permits temporary deviation from the fiscal rules without endangering medium-term sustainability. Once the escape clause is activated, the PAs may exceed the limits imposed by the fiscal rules without activating the corrective measures established by law. However, it is specified as a condition that the deviation must be temporary and not endanger medium-term sustainability. For this reason, the law establishes the duty to draw up a rebalancing plan that sets out the path to return to the beginning of this exceptional situation and return to compliance with the fiscal rules.

Since the entry into force of the LOEPSF, in May 2012, the escape clauses have never been activated. However, the expected impact of the pandemic on public accounts is such that, as in the European sphere, it would be necessary to activate the escape clauses in order to provide an

adequate response to the COVID-19 crisis without it being incompatible with the Spanish fiscal framework.

5. DEBT SUSTAINABILITY ANALYSIS

5.1. Recent evolution and starting point

Spain closed 2019 with a public debt-to-GDP ratio of 95.5% and a general government deficit of 2.8%. In 2019, public debt rose by €15,514 million, reaching €1,189 billion, bringing the debt-to-GDP ratio to 95.5%.

This starting fiscal position of the Spanish economy, with high debt and low but persistent public deficit, represents an added difficulty when facing the challenges that will arise from the economic crisis caused by the pandemic. Spain is once again facing a crisis of greater magnitude and depth than that of 2008-12, based on an adverse fiscal situation, as the effects of the *Great Recession* have not yet been absorbed, when the debt-to-GDP ratio increased by 65 points to 100.7% of GDP

The debt-to-GDP ratio reduction in recent years has been very moderate. Between 2008 and 2014, two thirds of the increase in the debt-to-GDP ratio was due to the tax bill, i.e. the accumulation of fiscal imbalances, while the remaining third was caused by the economic downturn (in those seven years nominal GDP contracted by 4%) and high debt financing rates (by mid-2012 the risk premium stood at 634 b.p., with the 10-year interest rate at 7.5% and the implicit interest rate at 4.5%). Assistance programmes for financial institutions also contributed substantially. In contrast to this notable increase, in the last five years the debt-to-GDP ratio has barely fallen by five points, and this in a context of notable economic growth (from 2015 to 2019 nominal GDP grew by 20.7%) and extraordinarily low interest rates, since, as a result of the European Central Bank's accommodative monetary policy, the Treasury's cost of issuance reached historic lows (0.2%) in 2019. As can be seen in figure 49, the decrease in the debt-to-GDP ratio has been determined exclusively by the "*snowball*" component (interest-growth differential, in this case, negative) of the dynamics of debt accumulation in

the classic sustainability analysis, with no contribution from the reduction of the public deficit in the period.

FIGURE 49. RECENT EVOLUTION OF PUBLIC DEBT (%GDP)

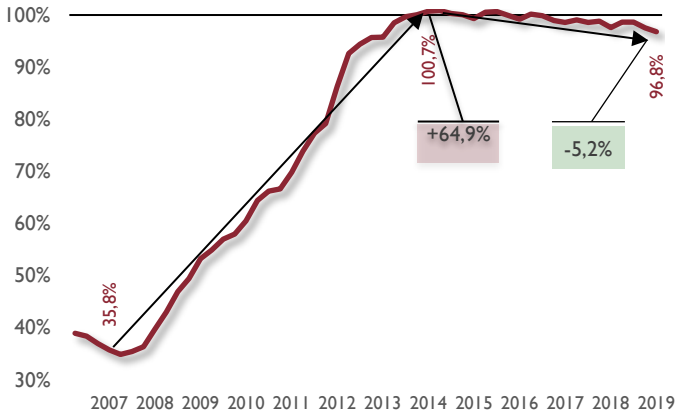
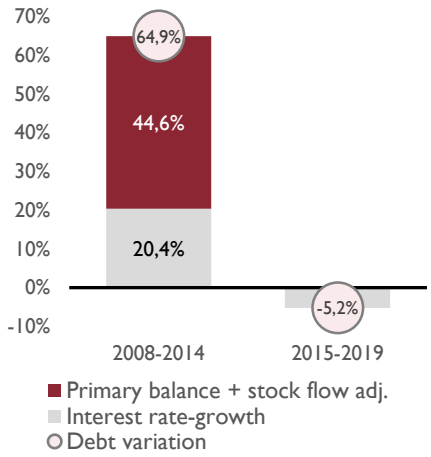


FIGURE 50. CONTRIBUTION TO THE CHANGE IN DEBT (POINTS OF GDP) BY PERIODS



After the fiscal consolidation exercise during the crisis years, in recent years there are signs of some fiscal fatigue. The Spanish economy has undertaken a very intense and prolonged public deficit reduction, from 11.3% GDP in 2009 to 2.5% in 2018. In the first years after the crisis, much of this improvement was due to structural factors. However, in recent years the reduction in the deficit has been almost entirely due to cyclical factors. This trend has been reversed in 2019 with a rebound of 0.3%. The primary balances generated have not been sufficient to significantly reduce the debt-to-GDP ratio and generate more fiscal space. This has been pointed out by AIReF on several occasions, in line with the requirements of the Organic Law on Budgetary Stability and Financial Sustainability, a circumstance that has been aggravated in 2019 which closed with a structural deficit of 2.8%, far from the target of structural balance set in the standard for 2020.

5.2. Debt forecasts associated with the macro-fiscal scenarios of the COVID-19 crisis

The macro-fiscal assumptions in AIReF's scenarios project an increase in the debt-to-GDP ratio of between 20 and 27 points in 2020, and a further 2 points in 2021. Under the different macro-fiscal scenarios estimated by AIReF (gráfico 48) the debt-to-GDP ratio would be between 115 and 122% in 2020 and between 117 and 124% in 2021, deviating completely from the paths projected at the beginning of the year.

FIGURE 51. DEBT FORECASTS (%GDP)

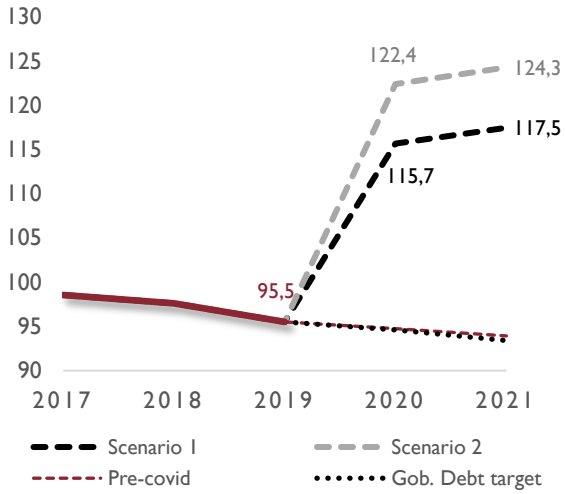


TABLE 17. MACRO-FISCAL ASSUMPTIONS

	Escenarios		
2020	Pre-covid	Scenario 1	Scenario 2
Real GDP	1,6	-8,9	-11,7
Deflator	1,7	0,0	-0,5
Nominal GDP	3,4	-8,8	-12,1
Primary déficit	-0,1	-8,4	-11,2
Public déficit	-2,3	-10,9	-13,8

2021	Pre-covid	Scenario 1	Scenario 2
Real GDP	1,5	4,6	5,8
Deflator	1,6	0,4	0,5
Nominal GDP	3,2	5,0	6,3
Primary déficit	-0,1	-5,0	-6,8
Public déficit	-2,1	-7,5	-9,4

The combination of rising public deficits and falling growth in 2020 is likely to be the largest in modern history. In both scenarios, the accumulation of primary deficits projected for the next two years will be the largest contributor to the increase in public debt (between 13% and 18% GDP depending on the scenario), while the fall in nominal GDP will significantly increase the debt-to-GDP ratio in 2020 through the denominator effect (between 11% and 15%). The expected rebound in economic activity and the low interest rate environment will contribute to the reduction of the debt-to-GDP ratio by 3% to 5% in 2021, but will not be sufficient to offset the projected budgetary imbalance in that year, thus leading to a further increase in the debt-to-GDP ratio in 2021, albeit to a lesser extent than in 2020.

FIGURE 52. CONTRIBUTIONS TO THE CHANGE IN DEBT (%GDP) SCENARIO 1

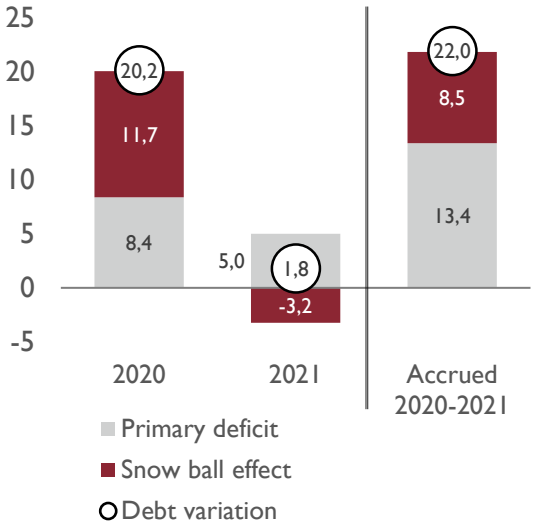
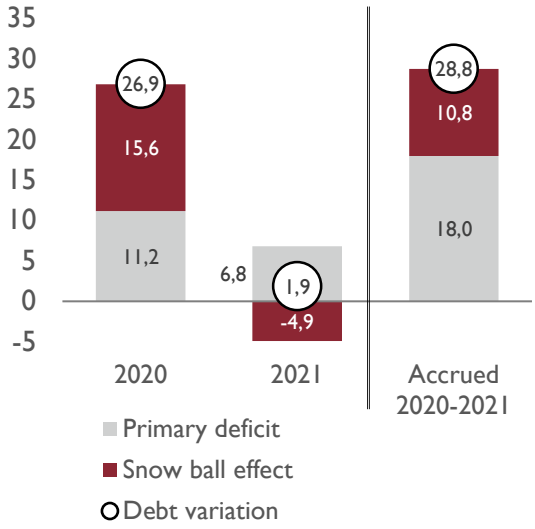


FIGURE 53. CONTRIBUTIONS TO THE CHANGE IN DEBT (%GDP) SCENARIO 2



A rebound in sovereign debt financing rates has a limited short-term impact in the short term. However, a low interest rate environment will be essential to alleviate the fiscal effort in the medium to long term. The pressure on the sovereign debt of the countries most affected by the pandemic has translated into slight rises in yields and risk premiums. Thus, the Spanish yield curve has shifted upward in the last two months by around 70 b.p. across all maturities. According to AIReF's calculations, an additional rate increase of another 100 b.p. does not imply a substantial change in the level of debt in 2021, although it does imply some increase in the financial burden as a percentage of GDP (gráfico 53) and an additional accumulated expenditure on interest of around €6 billion.

FIGURE 54. INTEREST RATES ON NEW ISSUES

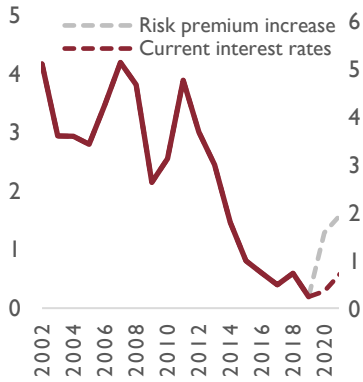


FIGURE 55. AVERAGE DEBT INTEREST RATES

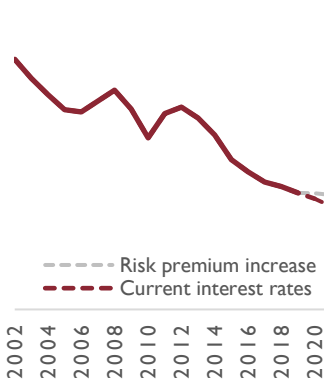
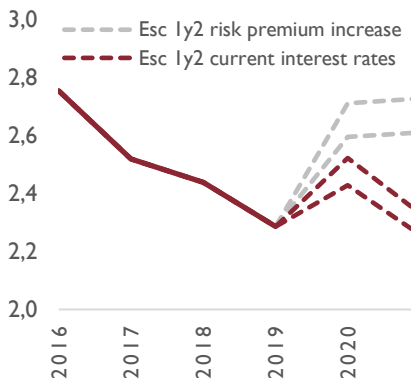
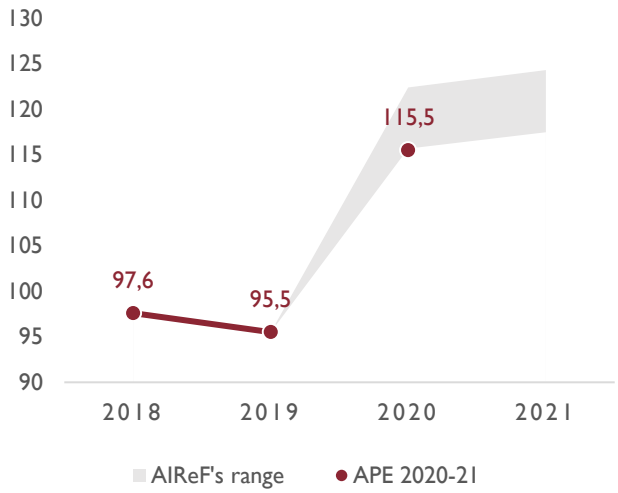


FIGURE 56. INTEREST EXPENDITURE (% GDP)



The SPU's debt projection is in line with the more optimistic scenario prepared by AIReF. The SPU only presents the projection of the debt-to-GDP ratio for 2020, placing it at 115.5%. This estimate is within the range of scenarios developed by AIReF, although more in line with scenario 1.

FIGURE 57. DEBT FORECASTS (%GDP) GOVERNMENT AND AIREF RANGE



5.3. Sustainability analysis

Although the current economic outlook is surrounded by unprecedented uncertainty, its high impact on debt levels is certain. One of the few certain elements in the current context is that the spread of COVID-19 will lead to a sharp, and in principle temporary, increase in the public deficit which will in turn lead to a permanent increase in the public debt-to-GDP ratio. This will be a feature of the new macro-fiscal landscape of all advanced economies, as evidenced by major economic disruptions in the past [36].

From the point of view of public finances, one of the main risks of the current situation is that the recession will turn into a depression so in the future we will not only have to deal with a higher public debt-to-GDP ratio but also a larger and more persistent structural deficit. The longer the economic crisis lasts, the more likely it is that business failure, investment write-offs, deteriorating capital stock and long-term unemployment will erode the capacity for medium-term growth (i.e. potential growth). This would make it difficult to reverse part of the current increase in the public deficit, and alleviating it is directly related to the intensity of the subsequent recovery. Likewise, the contingent liabilities that the State is assuming with the guarantee umbrella

[36] The CBO projects a cumulative increase of 26% GDP in U.S. federal debt in 2021 over the March scenario. In addition, the IMF forecasts that this year the public debt-to-GDP ratio of the advanced economies will be, on average, almost 18 points higher than they estimated six months ago.

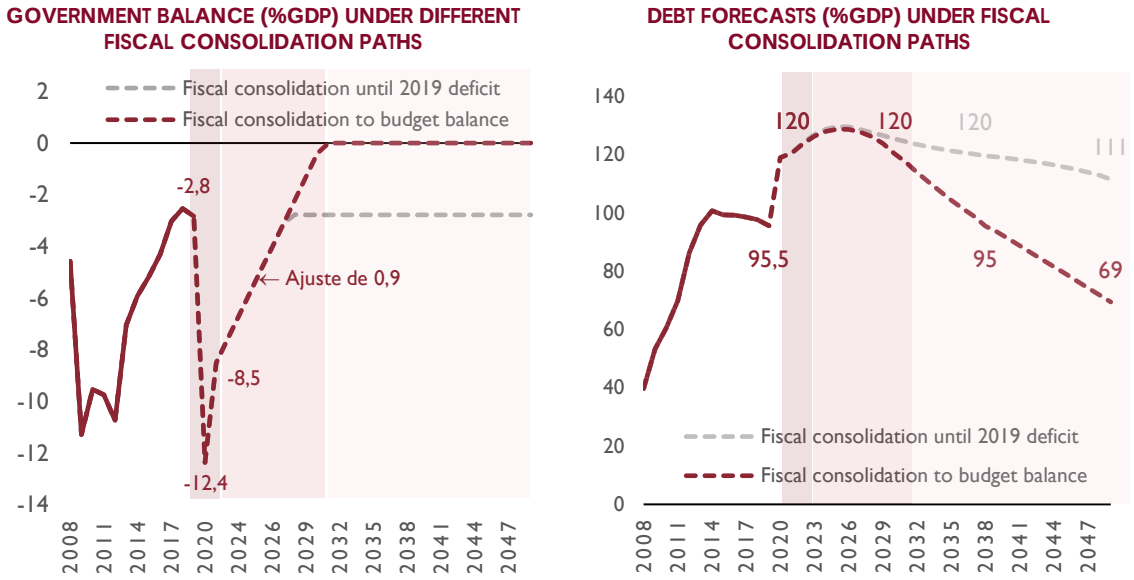
programme would result in losses, which would also be reflected in an increase in the public debt level.

The current challenge for fiscal policy is to design - together with monetary policy - a strategy that supports economic activity and relations and prevents the materialisation of a depression. But this does not imply one should not assess the fiscal policy stance suitability, whether its scale is proportionate and whether its composition is balanced. The speed with which the crisis has unfolded prevents a thorough analysis at the present moment. The current uncertainty relates both to the quantification of the impact that this crisis will leave in terms of debt, and to the impact of other variables that affect its long-term dynamics, such as potential growth, inflation and the government balance, making it difficult to analyse debt sustainability.

According to AIReF's simulations show, the high levels of debt mean that appropriate consolidation plans will have to be designed in the medium term, when the crisis has been overcome. Below are some simulations on the dynamics of the debt-to-GDP ratio based on the levels projected for 2021 according to AIReF's scenarios. These projections assume that the economy grows in line with projected long-term potential growth (in AIReF's long-term model[37]), inflation dynamics are consistent with current expectations and assuming the midpoint for government debt and balance between scenarios 1 and 2 as a starting point for 2021 (i.e. a debt and deficit of 121% and 8.5% of GDP). Under this setup, to keep the same public debt-to-GDP ratio in 2030 as projected for 2021, it would be necessary to carry out a fiscal consolidation over the next decade similar to the one carried out in the last ten years. This would imply achieving a headline balance close to equilibrium in 2030 (gráfico 55). The latter would imply an annual improvement in the budget balance of around 0.9% GDP, to reduce the 8.5% deficit projected for 2021 to reach balance in 2030. In addition, it would be necessary to maintain budgetary balance for almost another decade to be able to fully digest the consequences of the current crisis and return to the previous debt-to-GDP ratio of 95.5% in 2038. Finally, even another decade under the same assumptions would not be enough to reach the reference limit of 60% GDP. It should be emphasised that if the deficit recorded at the end of last year (2.8%) is maintained, the debt-to-GDP ratio is projected to stabilise above 110%.

[37] AIReF model to project pensions expenditure in Spain (WP 2019/1)

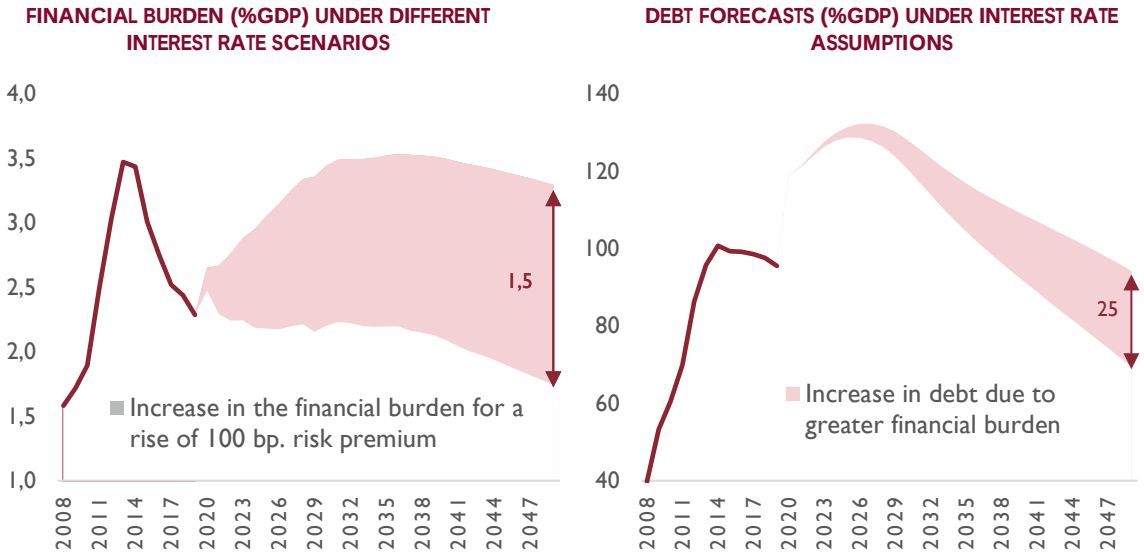
FIGURE 58. GOVERNMENT BALANCE PROJECTED TO 2021, FISCAL CONSOLIDATION ASSUMPTIONS AND ASSOCIATED DEBT SIMULATION



Therefore, the dynamics of stabilisation and restraint of the debt-to-GDP ratio will require a convergence towards budgetary balance in the future, although it will be essential that the adjustment path is appropriate so as not to jeopardise growth in the short and long term.

Beyond budgetary discipline, subdued risk premia will be a key element for debt sustainability. As noted above, although the impact of a rise in interest rates in the very short term is limited, in the medium and long term a low rate environment will be necessary to lighten the fiscal effort required for a sustainable debt path. As shown in gráfico 56, an additional 100 b.p. increase in the risk premium over current levels would mean a 1.5% GDP increase in interest expenditure in the medium to long term by the end of the 2040s. Under no further fiscal adjustment, this would translate into a 25-point accumulation in the debt-to-GDP ratio over the next few decades.

FIGURE 59. IMPACT OF THE RISE IN INTEREST RATES ON EXPENDITURE AND DEBT



In the long term, AIReF continues to identify a challenge to the sustainability of Social Security[38] arising from the increase in pension expenditure due to an ageing population, with demographic pressures beginning to have a significant impact on expenditure forecasts by the middle of the next decade. Over the next 30 years, this expenditure is expected to increase by 2% to 4% GDP. Financed via debt, it could result in an increase in the debt-to-GDP ratio of up to 50 points. Therefore, in this new environment it becomes more necessary and urgent to deepen the 2011 parametric reforms, which according to AIReF's recommendation, would be the most viable solution for correcting most of the expenditure increase.

[38] Opinion 1/19 on the Sustainability of the Social Security System

6. RECOMMENDATIONS

6.1. New recommendations

AIReF's recommendations are also adapted to this exceptional and uncertain situation. The national and European fiscal framework allows flexibility in these exceptional situations. The European Union has already made use of this flexibility, which should also be used in the case of Spain. There is no doubt that the short-term requirements to protect against the effects of COVID-19 on health, society and the economy require unprecedented measures at both the national and European level. This short-term response now takes precedence over other considerations.

However, both the national and European fiscal frameworks are losing sight of the impact on the sustainability of public finances.

At the European level measures are expected to be timely, temporary and targeted. Activation of the escape clause facilitates a coordinated and temporary deviation. It also allows the Commission and Council to take their guidance into account, considering the impact of measures on both the response to the consequences of the pandemic and the medium-term sustainability of public finances.

Nationally, there is also the possibility of temporary deviation without jeopardising medium-term fiscal sustainability. The formulation of a Rebalancing Plan is expressly recommended. From AIReF's perspective, the current priority is to respond to the crisis, but without losing sight of the medium-term effects of the pandemic. For this reason, it recommends utilising the fiscal margins permitted by regulations and, in particular, to activate the national escape clause. On the other hand, it also recommends continuing to start preparing a fiscal exit strategy, which by law requires a Rebalancing Plan, that takes the European context into account.

The rebalancing plan thus becomes an essential tool to guide the PAs' medium-term fiscal policy, so that, once the urgent economic measures required to tackle the COVID-19 crisis have been implemented, it will mark the path that will allow a return to the beginning of this exceptional situation. In this respect, AIReF has on many occasions recommended the need for real multi-annual budgetary planning, stressing that fiscal policy should be framed by the medium-term framework.

However, a credible and realistic path to recovery is essential for an effective Rebalancing Plan. Likewise, the content of the plan should be complete, containing at least the information established in Article 22 of the LOEPSF, so as to ensure that the scenario is consistent with the aforementioned path and that it has a sufficient degree of detail by revenue and expenditure headings to identify the impact of the measures planned to achieve the new path. In addition, according to the definition of the fiscal rules themselves, it should contain the scenario expressed in national accounting terms, or at least allow it to be monitored in such terms.

Adequate multi-annual budgetary planning has the benefits not only of facilitating the sustainability of public accounts in the medium and long term, but also of reducing uncertainty stemming from permanent fiscal policy decisions, such as the introduction of a minimum income, by allowing the government to anticipate the future impact of current policies and to consider the allocation of resources in the medium term.

For this reason, AIReF recommends:

1. ***That the Government should activate the exceptionality clause referred to in article 11.3 of Organic Law 2/2012 on Budgetary Stability and Financial Sustainability.***
2. ***That the Government should start work to establish a Rebalancing Plan, which will serve as medium-term fiscal guidance and ensure the realistic and credible financial sustainability of the PAs. This requires the participation and joint responsibility of all levels of the Administration and, therefore, the fiscal reality in terms of each sub-sectors' resources and competencies to be taken into account. As far as possible, this plan should be consistent with the schedule and approach that may be determined at the European level.***
3. ***To carefully plan any permanent measures, particularly considering their financing, with the aim of preserving the sustainability of public accounts. These permanent measures should be included in the Rebalancing Plan.***
4. ***To closely monitor the measures that do not have an immediate impact on the public deficit, but that generate contingent liabilities. These must be included and considered in the Rebalancing Plan. It is also***

recommended that sufficient information be sent to AIReF on a quarterly basis in order to be able to assess the impact on sustainability.

6.2. Reiterated recommendations

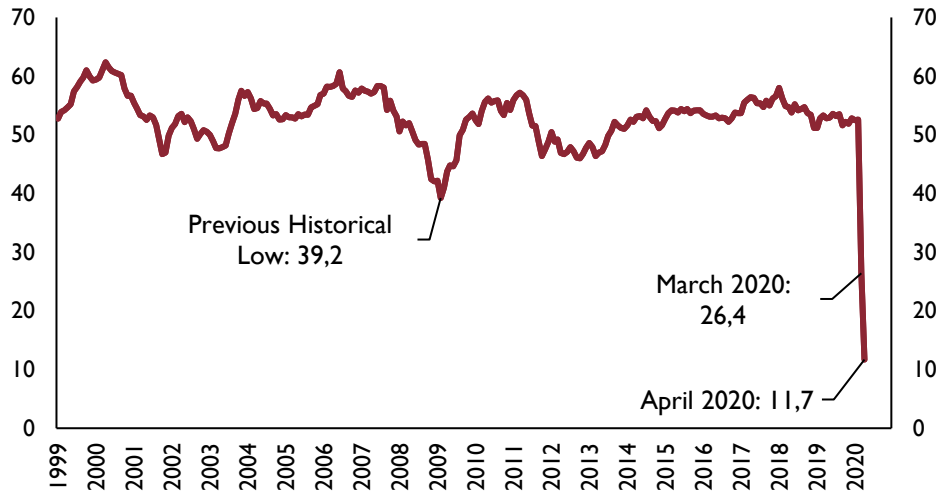
While the information flexibility allowed this year by the European Commission is understandable, AIReF stresses the importance of systematising information exchange and adding more detail to the assumptions and hypotheses that have been incorporated into the Government's macroeconomic scenario design. More specifically, it is more desirable than ever to have more detail on the no-change-policy scenario as this allows the estimated impact of measures taken to deal with the crisis to be assessed more accurately. Likewise, it is essential to accompany the macroeconomic scenario with the fiscal scenario, so that consistency between the two is ensured. Based on its experience of preparing this report, AIReF reiterates the following recommendations:

5. ***That the information provided to AIReF by the Government in order to issue the reports referred to in article 14.1 of Organic Law 6/2013 should include a fiscal scenario and a no-policy-change scenario that details and quantifies the impact of the measures taken or planned and their translation to the final macroeconomic scenario.***
6. ***That, in line with standard practice in surrounding countries in the interaction between the Government and the National Independent Fiscal Institution, the flow and schedule of information exchange should be regulated through a convention or "memorandum of understanding".***

ANNEX I. IMPLICATIONS FOR THE GLOBAL ECONOMY FROM COVID-19

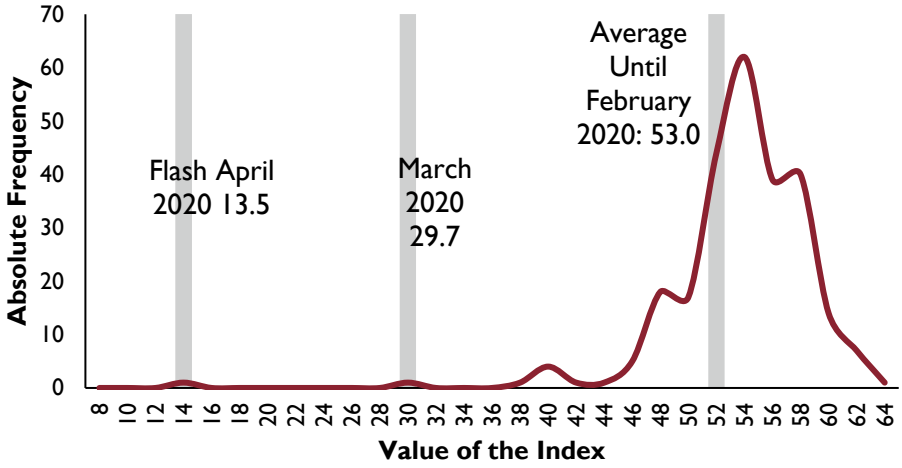
This annex reviews the global economic situation that conditions the design of AIReF's scenarios. In general, the available information, although incomplete, points to a very intense contraction of global economic activity. There is still not enough information to assess the macroeconomic impact of measures to control the epidemic, but the available indicators unanimously point to an unprecedented contraction. Among them, due to the close relationship they have with the evolution of GDP, we can highlight the opinion surveys carried out on corporate purchasing managers (PMI), which registered historical lows in March and April overall. In the euro area countries, the disruption in economic activity suggested by these figures is unprecedented, on a much larger scale than that observed between 2008 and 2009. Other indicators related to freight and passenger transport, car registrations or energy consumption also showed exceptional drops.

COMPOSITE PMI FOR THE EURO AREA (SEASONALLY ADJUSTED INDEX. <50 EQUIVALENT TO CONTRACTION // > 50 EQUIVALENT TO EXPANSION)



Source: IHS Markit.

HISTOGRAM OF THE COMPOSITE PMI FOR THE EURO AREA (ABSOLUTE FREQUENCIES)



Source: IHS Markit and AIReF's own calculations.

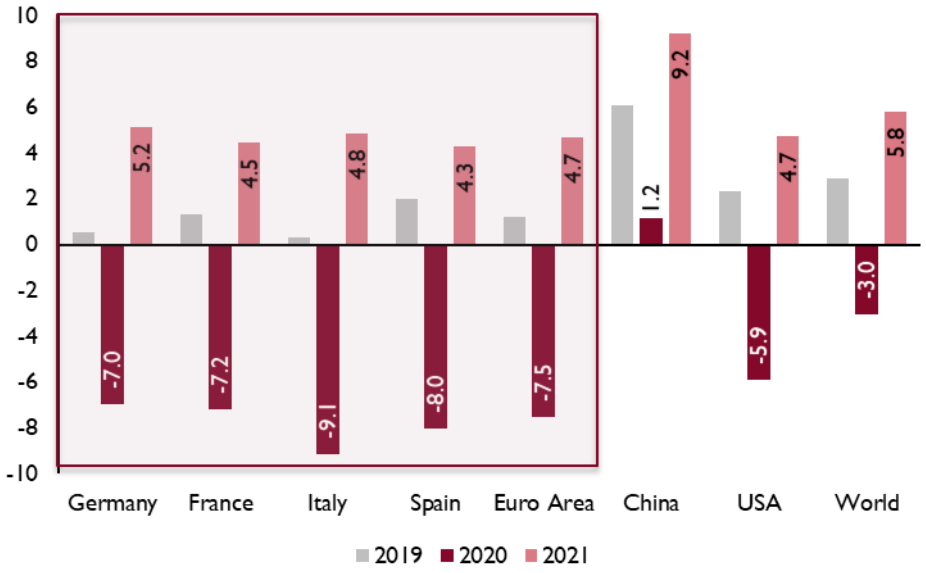
The standstill in economic activity is having a devastating effect on employment and household incomes worldwide. In the case of the United States, for example, a peak of 665,000 new claims for unemployment benefits per week was recorded during the past financial crisis, while weekly claims have now reached 6.6 million. In the euro area, the existence of flexible working time schemes has helped employment to react less strongly and less quickly to the fall in economic activity, so that the deterioration in the unemployment figures recorded in March was moderate (from 7.3% to 7.4%) - which also partly reflects the fact that control measures were adopted after March in many countries. However, the Spanish case stands out, where the unemployment rate increased by 0.9%, standing at 14.5%.

In this context there has been a significant lowering of global growth forecasts and an unprecedented recession is now projected. The latest IMF forecasts (WEO, April 2020) point to an unprecedented synchronised global recession, with a severe impact on the borrowing needs of the Public Administrations. In particular, the IMF expects a 3% contraction in global GDP in 2020, the largest contraction since 1930, and this under the assumption that containment of the pandemic will allow activity to gradually return to normal in the second half of 2020. According to the IMF, more adverse epidemiological scenarios would intensify the fall in global GDP to 6% by 2020. In 2021, the economic policy measures implemented by governments and monetary authorities would allow for an intense recovery in growth, with an expansion of global activity of 5.8%.

In the euro area the recession could be more severe and the subsequent recovery slower. In the case of the euro area, the IMF estimates a drop in GDP of 7.5% in 2020 - almost two points more than that predicted for the

United States. Moreover, an incomplete recovery is expected for 2021, when GDP would grow by 4.7%. In the case of China, expected GDP growth stands at 1.2%, a much lower rate than the nearly 6% increase observed in previous years (see 0)

IMF GDP GROWTH FORECASTS 2020-2021



Source: International Monetary Fund (WEO, April 2020).

The outlook for world trade has also worsened markedly, with declines that could exceed those seen in 2009. The appearance of the coronavirus in China initially led to the disruption of supplies needed for some activities and countries (United Nations Conference on Trade and Development - UNCTAD, 2020)[39], as this economy provides 20% of the intermediate consumption used in global production chains. The impact of this initial supply shock has been significantly amplified by the subsequent spread of the crisis to the rest of the world. The closure of borders and the introduction of restrictions on international travel, alongside the fall in global demand, point to a historic contraction in trade in goods and services.

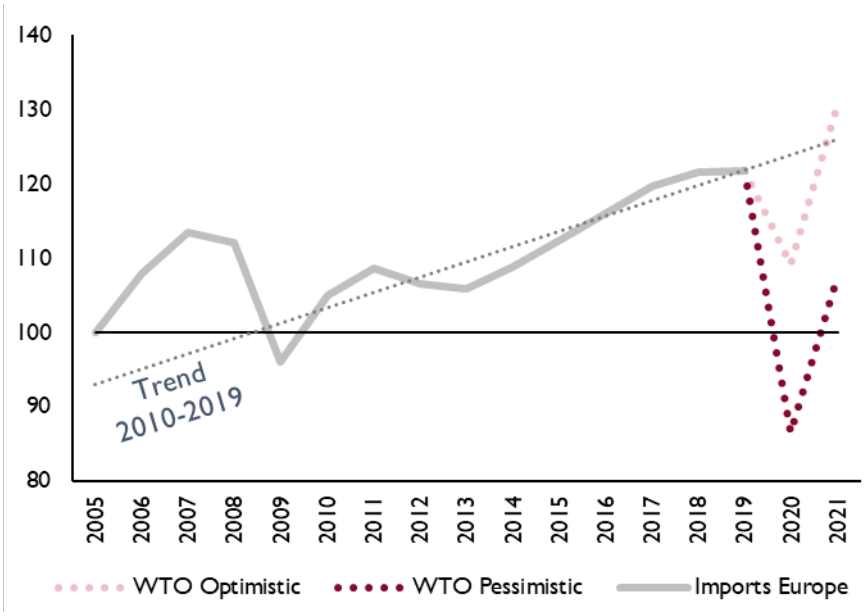
International bodies such as the World Trade Organization (WTO) predict a collapse in world trade in goods and services in 2020. The WTO has established several scenarios on the possible evolution of world trade in goods in real terms, in which it projects falls in European imports of between 10.3% and 28.9% in 2020, followed by growth of between 19.9% and 24.5% in 2021[40] (see figure). This could be compounded by a sharp deterioration in

[39] UNCTAD (2020). Global Trade impact of the Coronavirus (COVID-19) Epidemic.

[40] World Trade Organization, "Trade set to plunge as COVID-19 pandemic upends global economy", 8 April 2020.

world trade in services, especially with regard to international tourism, as reflected in the most recent reports of the International Air Transport Association (IATA).

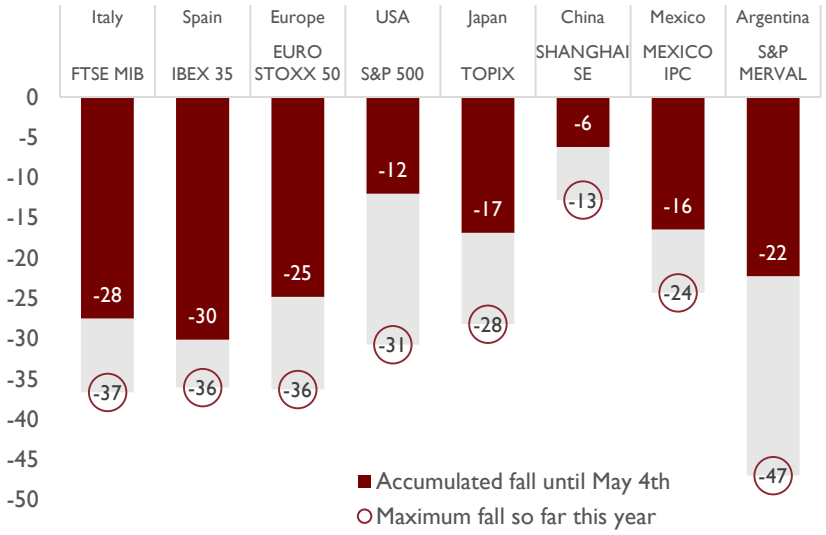
EUROPEAN IMPORT EVOLUTION SCENARIOS IN THE COVID-19 CONTEXT. VOLUME INDEX (2005=100).



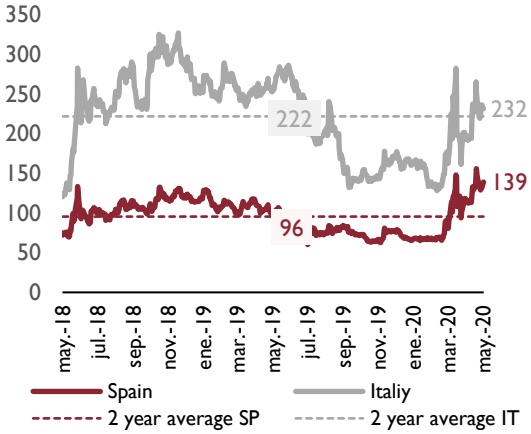
Source: World Trade Organization.

The financial markets have contributed to intensifying the fall in economic activity due to the deterioration in the economy's financing conditions. The financial markets' initial reaction to the spread of the epidemic was very adverse, with a strong shift of funds towards assets considered to be of lower risk, which led to a significant decline in the stock markets and an increase in the risk premiums on sovereign debt in the European economies most affected by the epidemic. Between 21 February, when the first cases of the disease began to be confirmed in Europe, and mid-March, the European, Asian and US stock market indices recorded drops of around 30-40%, which were worse in Europe and in particular in Italy and Spain (see Figure 10). The strong instability of the stock markets resulted in a significant increase in volatility indicators, such as the VIX index. Long-term interest rates rose and spreads on Spanish and Italian sovereign debt widened, although they did not reach the levels of summer 2012 (see figures below) In the exchange markets, the exchange rate of the euro against the dollar followed a downward trend. All this resulted in a significant tightening of financial condition indices, which was more intense in European economies.

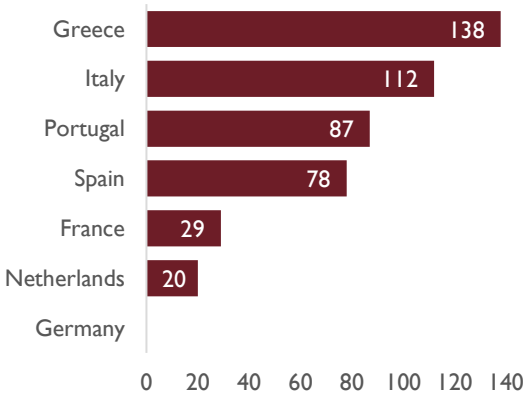
STOCK MARKETS, ACCUMULATED RETURNS IN 2020. (%)



RISK PREMIUM (BP)



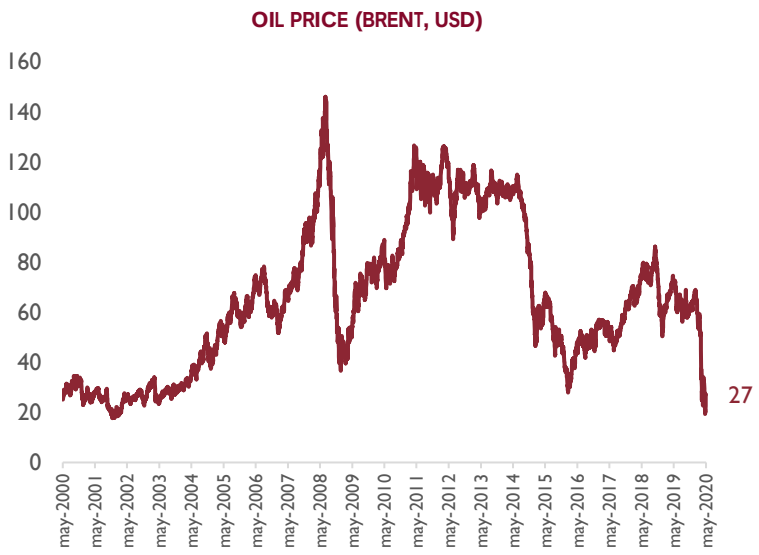
INCREASE IN THE RISK PREMIUM 21 FEBRUARY - 5 MAY (BP)



Source: Refinitiv.

The reaction of the monetary authorities has helped to ease tensions in the financial and debt markets. The measures taken by the monetary authorities and, more recently, the perception that we might be entering a phase of containment of the pandemic, have helped to ease tensions in the stock and sovereign debt markets.

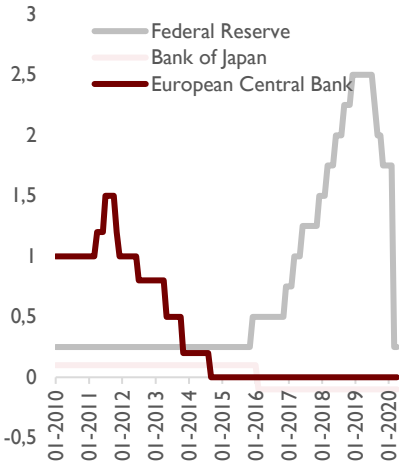
The paralysis of global economic activity has reduced oil prices to levels not seen for two decades. The price of the Brent barrel was around $21 per barrel at the end of April, which represents a substantial drop from the $65 per barrel at the start of the year and from the records of over $100 per barrel seen during the European sovereign crisis. The price of the West Texas barrel was even temporarily listed at negative values (see 0).



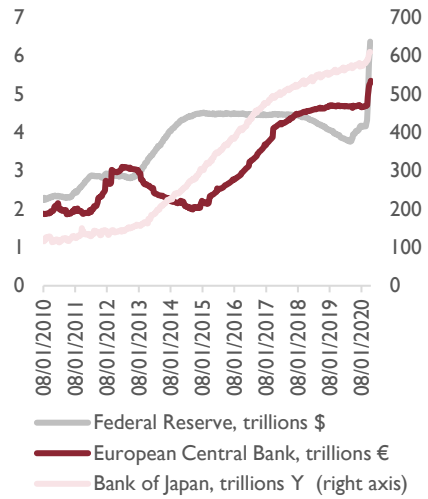
Source: Refiniv.

The severity of the crisis has necessitated unprecedented measures from economic authorities to mitigate the economic impact of the pandemic. In the monetary area, the authorities stepped up their liquidity operations and strengthened their asset purchase programmes to preserve the economy's financing conditions. The U.S. Federal Reserve's balance sheet grew to an all-time high of $5.8 trillion at the end of April. Similarly, the Governing Council of the ECB adopted a number of measures to ensure banks' liquidity by improving the conditions for long-term liquidity operations (LTRO and TLTRO) and creating a new line linked to the pandemic (PLTRO). In addition, it approved large-scale purchases of financial assets and reiterated its willingness to do whatever it takes to preserve favourable financing conditions and the transmission of monetary policy measures to all countries in the area. Specifically, the Council decided to extend its existing asset purchase programme until the end of 2020 and to introduce a new Pandemic Emergency Purchase Programme (PEPP) of €750 million, which will bring the total volume of purchases made to almost 11% of the area's GDP over the course of 2020. There was also an adjustment in collateral requirements to facilitate banks' access to core financing operations and the Single Supervisory Mechanism agreed to temporarily relax capital and liquidity requirements. All these measures have the ultimate goal of enabling credit institutions to bring liquidity to businesses and families.

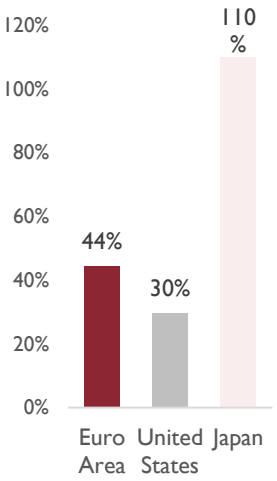
OFFICIAL INTEREST RATES



CENTRAL BANKS BALANCE SHEET, TRILLIONS



CENTRAL BANKS BALANCE SHEET, APRIL 2020 (% GDP)



Source: Refinitiv.

In the budgetary area, measures were deployed to increase the capacity of health systems, to mitigate the loss of household income and to contain business liquidity difficulties. Box 1 presents a comparison of the magnitude and characteristics of these measures in the largest euro area economies and other advanced economies. At European level, the initiatives proposed by the Eurogroup on 9th April are: a guarantee scheme of €25 billion to support credit to companies, through the European Investment Bank (EIB), for a value of €200 billion; a guarantee scheme for the European Commission to lend to Member States that request it, for a total value of €100 billion (European Commission's SURE proposal); and the use of part of the existing lending capacity in the European Stability Mechanism (ESM) to make a precautionary loan line for financing "direct and indirect healthcare expenditure" available to euro zone countries that request it, for a total value of 2% of the euro zone's 2019 GDP. The European Council estimates that these measures, which together amount to €540 billion, will be operational by 1 June.

ANNEX II. EX-POST ASSESSMENT OF THE 2016-2019 FORECASTS

In line with European and national regulations, AIReF has developed a methodology to ascertain whether there are major biases in the Government's macroeconomic forecasts. National and European regulations require that macroeconomic and budgetary projections for budgetary planning purposes be realistic or prudent and that they do not contain significant biases. To verify this requirement, a periodic evaluation (at least once a year) is required based on (at least) the last four closed financial years[41]. If significant biases are identified, the Government must take the necessary actions to correct them and make them public. AIReF has developed a methodology[42] that has been implemented in recent years that makes it possible to identify whether there are systematic biases in the SPU's forecasts[43].

Based on a similar methodology, the SPU 2020-2021 contains a retrospective analysis of macroeconomic forecasts for 2015-2019, in which no significant biases are identified. For the second consecutive year, the SPU presents a retrospective assessment of macroeconomic forecasts (current year only) and external assumptions for the last five years, using a methodology similar to AIReF's[44]. Although this analysis identifies a large number of large errors,

[41] According to current regulations, the government must formulate medium-term budgetary planning on the basis of realistic or probable macroeconomic and budgetary forecasts that do not contain significant biases (Council Directive 2011/85/EU of 8 November 2011 and Royal Decree 337/2018 of 25 May).

[42] A detailed description of the methodology can be found in the Report on the Macroeconomic Forecasts of the Draft General Government Budget 2015.

[43] To classify a bias as significant, the methodology developed by AIReF analyses the bias of forecasting errors made with respect to the first publication of the National Accounts. The forecasting error of a variable is measured as the forecast minus the observed value. Optimistic biases that may lead to an underestimation of the public deficit are analysed. By convention, in the case of public consumption, imports and the unemployment rate, the bias is considered optimistic when the average error is negative and significantly different from zero. First, those that fall outside the interquartile range of the Consensus of analysts included in the FUNCAS panel are identified as significant errors. If a forecasting error is large and its size (in absolute value) is greater than that of the Consensus, it is deemed to be unjustified. Finally, a significant bias is identified when large and unjustified errors in the same variable are systematically repeated over four years.

[44] AIReF's analysis also incorporates an analysis of the forecast errors at each point in time available in the FUNCAS panel, both for the current year and for the following year, and uses a tolerance margin of 0.05 when comparing the intervals. For its part, the analysis included in the SPU adds the criterion of prudence when identifying large errors. In addition, based on its own methodology (pending publication), interquartile ranges are constructed to increase the number of variables under study.

when the size and degree of persistence of the errors is taken into account it is concluded that there are no significant biases. However, by not evaluating the one-year forecasts as AIReF does, the analysis of the SPU 2020-2021 cannot identify some significant biases such as that found by AIReF for Public Consumption forecasts in previous reports.

On the other hand, also for the second consecutive year, the SPU 2020-2021 includes a description of the forecasting errors of the main fiscal variables contained in the 2020 Budgetary Plan. While this is a good start, it is important to note two issues regarding the analysis performed. Firstly, as indicated in the SPU 2019-2022, this analysis must be taken with great caution, as it is not based on a comparison with the previous SPU forecast but on one formulated six months ago. Secondly, there is no retrospective analysis using at least four consecutive years, as required by the regulations. In this way, and like last year, AIReF is still waiting for the Government to carry out an evaluation like that performed with the macroeconomic forecasts.

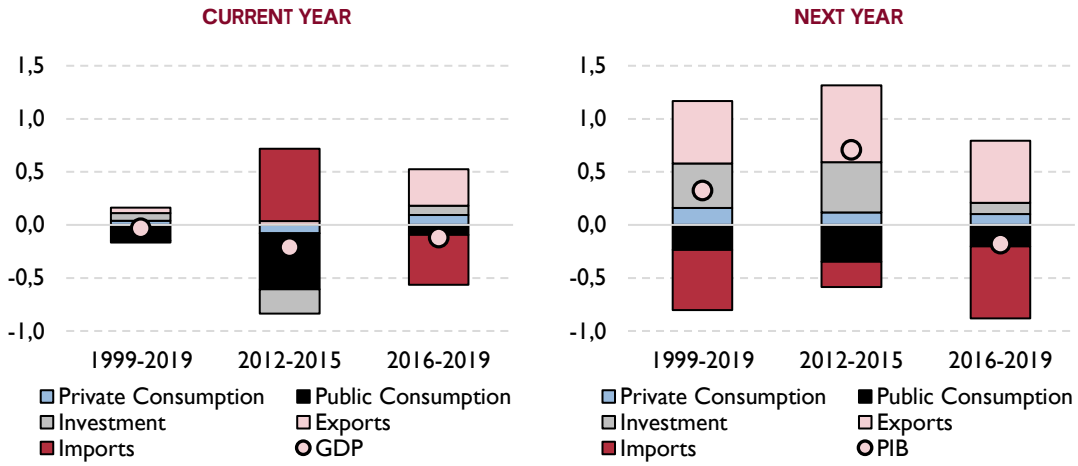
According to AIReF's analysis, unlike the previous 2012-2015 period, the optimistic bias identified in many variables seems to have disappeared in the 2016-2019 period. During the 2012-2015 period, large and unjustified errors were identified in the forecast of 11 of 13 variables analysed, in most cases optimistic biases. On the other hand, in the 2016-2019 period less than half of the forecasts presented this type of error as compared to the previous period. However, this result may have been influenced not only by improvements in forecasting capacity or by AIReF's monitoring work, but also by the cyclical pattern of macroeconomic forecasting errors.

FORECASTING ERROR SIGNIFICANTLY DIFFERENT FROM ZERO

	Forecasts for current year			Forecasts for the following year		
	1999-2019	2012-2015	2016-2019	1999-2019	2012-2015	2016-2019
Gross Domestic Product	-	Prudent	Prudent	-	Optimistic	-
National Demand	-	Prudent	-	-	-	-
Private Consumption	-	-	-	-	-	-
Public Consumption	Optimistic	Optimistic	-	Optimistic	Optimistic	Optimistic
Investment	-	Prudente	-	-	Optimistic	-
External Demand	-	-	Optimistic	Optimistic	Optimistic	-
Exports	-	Optimistic	Prudente	-	-	-
Imports	-	Optimistic	-	-	Optimistic	-
Compensation per Employee	Optimistic	Optimistic	Optimistic	-	-	Optimistic
Employment	-	-	-	-	Optimistic	-
Unemployment	-	-	-	-	-	-
Current account	Optimistic	Optimistic	-	-	-	-
Budget Balance	-	Optimistic	-	Optimistic	Optimistic	-

Source: AIReF's own calculations Note: A forecast has an optimistic or prudent bias if the average error falls outside of the confidence interval calculated from the series of errors.

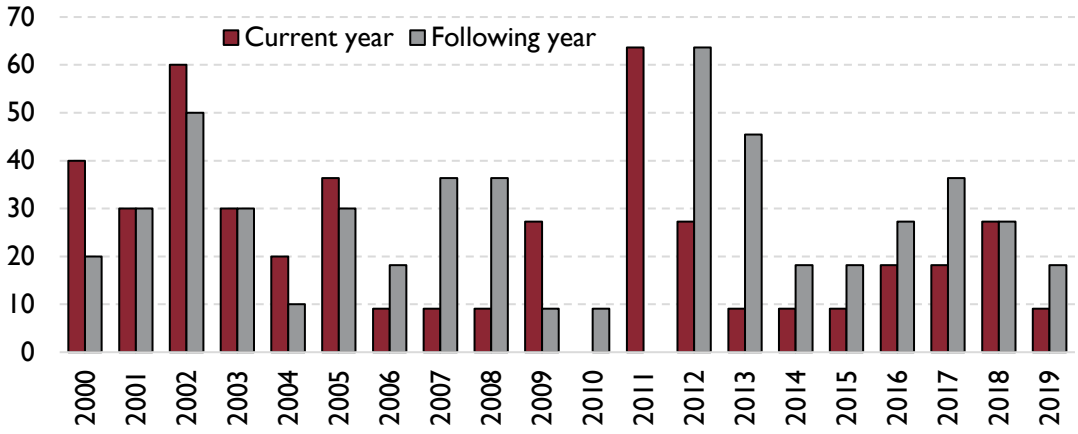
BREAKDOWN OF GDP FORECASTING ERRORS



Source: AIReF's own calculations

AIReF's analysis does not identify significant biases in the aggregates of the SPU's macroeconomic scenario in the 2016-2019 period. Unlike during the 2012-2015 period, the presence of large and unjustified errors significantly reduced in the 2016-2019 period, especially in 2019. In fact, in the last four years no large and unjustified errors have been identified systematically in any of the variables analysed, both in the forecasts for the current year and for the following year. In addition, the trend of worsening forecasting accuracy detected in the previous year has been halted, particularly in the current year's forecasts. Thus, in 2019 only a large and unjustified error is identified in the projection of gross fixed capital formation at one year.

PERCENTAGE OF UNJUSTIFIED ERRORS IN THE OFFICIAL FORECASTS OVER TOTAL VARIABLES ANALYSED



Source: AIReF's own calculations

There are large and unjustified errors in the one-year forecast of the budgetary balance, except in 2017, despite unbiased macroeconomic forecasts. This contrasts with what is observed in the analysts' Consensus

forecasts for that variable, where the distribution of the sign of the errors is relatively equal. This type of phenomenon is also observed in the 2016-2019 period , where the GDP forecasting errors are negative (i.e. observed growth higher than expected) on three out of four occasions and the forecasting errors of the budgetary balance are always positive (i.e. observed budgetary balance worse than expected). In this case, although the errors made in forecasting GDP are not large and unjustified, those concerning the budgetary balance are always large and unjustified from 2015, except in 2017.

ANNEX III. MODELS AND EXTERNAL ASSUMPTIONS USED IN AIREF'S MACROECONOMIC SCENARIOS

ERROR CORRECTION MODELS

LONG-TERM EQUATION		SHORT-TERM EQUATION	
PRIVATE CONSUMPTION			
Household and ISFLH gross disposable income (volume) (log)	0.634	Household and ISFLH gross disposable income (volume) (dlog)	0.146
Net financial assets Volume (log)	0.113	Total credit to households (volume) (Dlog)	0.119
Real estate wealth of homes. Volume (log)	0.054	Employment rate (difference)	0.006
Total credit to households. Volume (log)	0.044	Long-term error	-0.233
Household interest rate Real (levels)	-0.002	Constant	0.002
Constant	0.745		
INVESTMENT IN EQUIPMENT			
GDP Volume (log)	0.858	GDP Volume (dlog)	2.724
Relative unit labour cost (log)	-0.413	Productive capacity utilisation (differences)	0.006
Financing to resident companies. Balance. Real (log)	0.180	Long-term interest rate. Real (differences)	-0.008
Utilisation of productive capacity (levels)	0.028	Long-term error	-0.177
Effective corporation tax rate * Dummy before 2008q1	-0.127	Dummy between 2013q1 and 2013q4	0.037
Effective corporation tax rate * Dummy after 2008q1	-0.142	Constant	-0.009
INVESTMENT IN CONSTRUCTION			
INE Housing Square Metre Price. Real (log)	0.154	INE Housing Square Metre Price. Real (dlog)	0.135
Unemployment Rate (levels)	-0.022	Employment rate (differences)	-0.018
Home Credit. Housing Volume (log)	0.195	Home Credit. Housing Volume (dlog)	0.228
Household Financial Wealth. Volume (log)	-0.172	Dummy 2014q1	0.049
Climate Index in the Construction sector (levels)	0.001	Long-term error	-0.278
Constant	4.289		
EXPORTATIONS			
World Trade in Goods. Volume (log)	0.975	World Trade in Goods. Volume (dlog)	0.750
Euro-dollar exchange rate (log)	-0.232	Long-term error	-0.247
Relative unit labour costs (log)	-0.425	Constant	0.003
Constant	2.020		
IMPORTS			
Investment in equipment and cultivated activities. Volume (log)	0.502	Investment in equipment and cultivated activities. Volume (dlog)	0.279
Private consumption Volume (log)	0.818	Private consumption Volume (dlog)	1.024
Exports of goods and services. Volume (log)	0.249	Exports of goods and services. Volume (dlog)	0.633
Dummy from 2015q2	-0.052	Euro-dollar exchange rate (dlog)	0.089
Constant	-2.594	Long-term error	-0.182
PRIVATE-SECTOR EMPLOYEES			
GDP Volume (log)	2.035	GDP Volume (dlog)	1.170
Working-age population Total (log)	1.573	Nominal compensation per employee (dlog)	-0.111
Private equity stock (log)	-1.299	Dummy (2008T2 2012T4)	-0.009
Constant	3.136	Long-term error	-0.227
COMPENSATION BY EMPLOYEE PRIVATE			
Overall CPI (log)	1.036	Overall CPI (dlog)	0.535
Productivity by employee (log)	0.381	Productivity by employee (dlog)	0.605
Compensation by employee Public (log)	0.044	Compensation by employee Public (dlog)	0.199
Effective rate of social contributions (levels)	-0.027	Effective rate of social contributions (differences)	-0.018
Dummy 2008q1 2012q4	0.017	Long-term error	-0.250
GROSS AVAILABLE INCOME FROM HOUSEHOLDS AND ISFLSH			
Compensation of employees Total. Nominal (log)	0.513	Compensation of employees. Total. Nominal (dlog)	0.465
Gross Operating Surplus. Households and ISFLSH. Nominal (log)	0.273	Gross Operating Surplus. Households and ISFLSH. Nominal (dlog)	0.344
PIT Proxy rate (Levels)	-0.006	PIT Proxy rate (differences)	-0.007
Different Social Benefits TSE. Nominal (log)	0.174	Different Social Benefits TSE. Nominal (dlog)	0.160
Constant	1.339	Long-term error	-0.343
UNDERLYING CPI			
		GDP Volume (dlog)	0.134
		Employment rate (differences)	0.000
		VAT effective rate (differences)	0.002
		Dummy 2012q4	-0.004
		Constant	0.007
OVERALL CPI			
		Underlying CPI (dlog)	1.030
		Brent in € = Brent*exchange rate €/$ (dlog)	0.016
GDP DEFLATOR			
		General CPI	0.233
		INE Housing Price. Nominal	0.074
		Unit labour costs	0.316
		Dummy97q4	0.014
		Constant	0.002

Sample 1995T1 - 2018T4 (except for Private Consumption and Imports due to anomalous data at the beginning of the sample, 2000T1-2018T4 is taken)

EXTERNAL ASSUMPTIONS TO AIREF'S SCENARIOS

EXTERNAL ASSUMPTIONS	SCENARIO 1		SCENARIO 2	
	2020	**2021**	**2020**	**2021**
Long-term interest rates (Government debt at 10 years, Spain)	0.74	1.02	0.74	1.02
Exchange rate USD/EUR (level)	1.09	1.09	1.09	1.09
Brent oil prices (USD per barrel)	39.6	39.9	39.6	39.9
World trade in goods	-27.0	20.7	-35.7	13.1

ANNEX IV. EVALUATION OF EXPENDITURE AND REVENUE MEASURES ADOPTED IN RELATION TO COVID-19

Income measures approved to respond to the economic impact of COVID-19					
RD Law	Art.	DESCRIPTION OF MEASURE	Does it result in an increase or decrease in NA revenue?	GOVERNMENT ESTIMATE	2020 AIReF ESTIMATE
7	14	Relaxation of requirements regarding tax debt referral up to a term of 6 months, for those taxpayers with a volume of operations not exceeding 6 million euros in 2019	NO	9	No impact on NA
8	33	Extension of the payment period of tax debts that have already been settled and notified to 30 April and extension of those that have been notified since the entry into force of RD-law to 20 May	NO		No impact on NA
11	41	Suspension of interest payments and amortisations of EMPRENDETUR loans granted by SET	NO	0.74	0.74
11	52	Deferral of debts derived from customs declarations: Deferral of revenue from customs and tax debt corresponding to customs declarations presented up to 30 May 2020, provided that the amount of debt to be deferred is over 100 euros.	NO	2.7	No impact on NA
14	1	Extension of the term for presenting and submitting self-assessments with maturity from the entry into force of the RD Law for taxpayers with an operations volume not exceeding 600,000 euros in 2019 to 20 May	NO		No impact on NA
15	8	**VAT** Zero rate VAT application for medical devices aimed at fighting COVID-19 and whose buyers are Public-Law Entities, clinics or hospital centres	YES	1,022	297
15	9	**Corporate Income Tax** Extraordinary option for calculating fractional payments during the 2020 financial year on the year's accumulated tax base to taxpayers with an operations volume not exceeding 6 million euros	YES		425
15	10	**PIT and VAT** The objective estimation regime for PIT and the simplified and special regime of agriculture for VAT is allowed to be waived exclusively for 2020	YES	1,130	596
15	11	**PIT and VAT** Will be deducted from fractional payments in the objective estimation method of PIT and from the quarterly quota of the simplified VAT regime proportionately to the number of days of each quarter for which the state of emergency is active	YES		99
15	DF 2ª	**VAT** Reduction of the VAT rate applicable to digital books, newspapers and magazines to 4%	YES	24	20
TOTAL REVENUE MEASURES				**2,188**	**1,437**

Impact of measures approved to respond to the economic impact of COVID-19					
RD Law	Art	DESCRIPTION OF MEASURE	Does it result in an increase or decrease in NA expenditure?	GOVERNMENT ESTIMATE	AIReF's estimate
		Reinforcement measures in the health field			
7	1	Extraordinary credit for the Ministry of Health to deal with the National Health System's extraordinary expenditure	YES	1,400	1,400
7	2 to 6	Updating Regions' payments to boost the availability of resources they have to meet the immediate needs of their health systems (1)	YES	2,867	770
8	36	Exceptional labour measures in the field of public entities that are part of the Spanish System of Science, Technology and Innovation	YES	0.77	0.77
8	37	Extraordinary credit in the Ministry of Science and Innovation's budget in relation to scientific research on COVID-19. Directed towards Instituto de Salud Carlos III and *Consejo Superior de Investigaciones Científicas* (Spanish National Research Council - CSIC)	YES	29.65	29.65
11	DA1	Extension of employment contracts signed with the financing of public calls for human resources in the field of research and the integration of contracted staff in the National Health System	YES	15.65	15.65
7	ACM 12 March	Extraordinary credit and credit supplements in the Ministry of Health's budget to finance the needs derived from the COVID-19-related public health emergency in Spain	YES	19	19
		Support measures for workers, families and vulnerable groups			
7	8 and 9	Credit supplement in the Ministry of Social Rights and 2030 Agenda's budget to finance Regions' social services programmes	YES	25	25
8	1	Credit supplement to finance an Extraordinary Social Fund aimed exclusively at dealing with the social consequences of COVID-19	YES	300	300
8	3	LGs' surplus in 2019 may be used for investment expenses	YES	300	300
8	4	Extension of the validity of the Electric Social Bond for those beneficiaries for whom it expires before 15 September 2020	NO		
8	34	Compensation for the suspension of public contracts as a consequence of COVID-19	YES	8	8
11	10	Rent aid for tenants of habitual residences that have temporary problems in paying all or part of their rent due to COVID and are vulnerable. Up to €900 a month	YES	300.7	
11	13	Authorisation to transfer funds to the Regions and Ceuta and Melilla in advance for 2020 and 2021 to execute the 2018-21 State Housing Plan	YES	346.6	
11		Additional state financial contribution to the 2018-2021 State Housing Plan	YES	100	100
11		Aid programme for victims of gender violence, people evicted from their habitual residence, homeless people and other especially vulnerable people	YES	50	50
11	28	Right of self-employed people whose activity has ceased or has decreased due to COVID-19 to receive the Social Bond	NO		
11	40	Refund on behalf of *Instituto Español de Comercio Exterior* (Spanish Institute for External Trade - ICEX) of expenditure and granting of aid for cancellation of activities to promote international trade and other international events	YES	12.4	12.4
11	44	Suspension of electricity, natural gas and petroleum products bills during the state of emergency. For the self-employed. Energy suppliers will not pay tolls nor will they pay certain taxes for the corresponding party.	YES	58	58
11	46	Aid to compensate part of DTT costs	YES	15	15
11	DA1	Extension of university contracts	YES	3.4	3.4
11	DA19	Plans to accelerate justice in the commercial, contentious and social sphere once the state of emergency has ceased	YES	40	40
15	DA1	Extension of predoctoral contracts for research staff	YES	0.4	0.4
15	DF 4ª	Provisions applicable to certain university loans	YES	1.5	1.5
		TOTAL EXPENDITURE MEASURES		**5,893**	**3,149**

(1) The SPU's calculation corresponds to the difference between the amount of the update of payments according to collection forecasts at 1 January 2020, as provided in the RDL, and the amount that would be charged in the year in a budget extension scenario. The amount estimated by AIReF as a COVID measure is the difference between the updated amount indicated by the RDL and the amount AIReF had estimated in the scenario of estimated earnings before COVID.

Impact of approved liquidity measures to respond to the economic impact of COVID-19					
RD Law	Art	DESCRIPTION OF MEASURE	Does it result in an increase or decrease in NA expenditure?	GOVERNMENT ESTIMATE	AIReF's ESTIMATE
7	12 and DA 1ª	200M expansion of the Thomas Cook ICO financing service to serve all companies established in Spain included in certain economic sectors and of the Ministry of Industry, Commerce and Tourism's guarantee regarding 50% of the available credit. Additional 100M ministerial guarantee	NO	200	200
8	29	Line of guarantees from the Ministry of Economic Affairs and Digital Transformation for companies and the self-employed to mitigate the economic effects of COVID-19	NO	100,000	100,000
8	31	Extraordinary insurance coverage line for exporting SMEs from the Reserve Fund for the Internationalisation Risks	NO	2000	2000
8	35	MAPA will finance the additional cost of the guarantees granted by *Sociedad Anónima Estatal de Caución Agraria* (State Limited Company for Agrarian Guarantees - SAECA) derived from the extension of the financial credits granted to holders of agricultural holdings affected by the drought of 2017 by up to one year, which will be agreed with entities	NO	2.5	2.5
8	RDL Annex 8	ICO financing for the purchase and leasing of equipment and services for the digitisation of SMEs and teleworking solutions (PLAN ACELERA)	NO	200	200
11	9	1,200M ICO guarantees line for State coverage of financing to vulnerable tenants	NO	1,200	1,200
11	DA1	CERSA COVID-19 guarantee line	NO	1,000	1,000
TOTAL LIQUIDITY MEASURES				**104,603**	**104,603**

Impact of approved measures to respond to the economic impact of COVID-19					
RD Law	Art	DESCRIPTION OF MEASURE	Does it result in an increase or decrease in NA revenue?	GOVERNMENT ESTIMATE	AIReF's ESTIMATE
7	13	50% allowance of the business fee to the workers' SS with discontinued fixed contracts in the tourism, commerce and hospitality sectors linked to tourist activity.	YES	45	13
7	11	Provision of temporary incapacity for work assimilated to work accidents for all employed and self-employed workers.	YES	1,355	343 / 412
8	17	Extraordinary benefit for the cessation of activity for self-employed people affected by the state of emergency	YES	3,767	3,623 / 4,270
8	17	Exemption from paying contributions for self-employed people affected by the state of emergency	YES	981	1,316 / 1,552
8	22-25	Contributory unemployment benefit in the ERTEs linked to COVID-19. Also for discontinuous permanent workers	YES	17,894	15,211 / 17,938
8	24, DA 6ª	Exemption of the company from paying business contributions to SS in the ERTEs linked to COVID-19, 100% for companies with under 50 workers and 75% for the rest	YES	2,216	6,203 / 6,875
11	30-32	Extraordinary subsidy for lack of activity for people integrated into the Special System for Domestic Workers of the RGSS of 70% of the regulatory base	YES	3.15	8 / 12
11	33	Exceptional unemployment benefit for the end of temporary contract for a month of 80% IPREM	YES	17.6	27 / 27
11	34	6-month moratorium on social contributions for companies and the self-employed	YES	351	
11	35	Deferral of payment of debts to the SS for companies and the self-employed	NO	340	
13	DF2	Extraordinary benefit for cessation of activity for those affected by the state of emergency, also for self-employed agricultural workers included in the Special System for Self-Employed Agrarian Workers and in the RE of Sea Workers, whose activities are suspended or if their turnover in the previous month has fallen by at least 75%	YES		
15	22	Legal situation of unemployment due to the termination of the employment relationship in the trial period produced during the validity of the state of emergency	YES	42	
15	25	Quotation in situation of inactivity in the Special System for Self-Employed Agricultural Workers established in the RGSS with a reduction of 19.11%	YES	43	
TOTAL SOCIAL SECURITY MEASURES				**27,055**	**26,745 / 31,099**