

# OPINION ON THE LONG-TERM SUSTAINABILITY OF THE GENERAL GOVERNMENT: THE IMPACT OF DEMOGRAPHICS

## EXECUTIVE SUMMARY

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Independent Authority  
*for* Fiscal Responsibility



Autoridad Independiente  
de Responsabilidad Fiscal

La Autoridad Independiente de Responsabilidad Fiscal, AAI (AIReF) nace con la misión de velar por el estricto cumplimiento de los principios de estabilidad presupuestaria y sostenibilidad financiera recogidos en el artículo 135 de la Constitución Española.

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## EXECUTIVE SUMMARY

The mission of the Independent Authority for Fiscal Responsibility, AAI (AIReF) is to ensure effective compliance with the principle of financial sustainability by the General Government (GG) since this is a fundamental determinant of economic growth and the well-being of the population in the medium and long term. This requires analysing the challenges that public finances face in the medium and long term.

This first Opinion on Sustainability focuses on analysing the impact of demographics on the public accounts on the basis of a macroeconomic and fiscal scenario that is prepared with a time horizon up to 2050 and 2070. There are many challenges that can affect debt sustainability over such a long period of time. Climate and technological change, the possibility that the current geopolitical tensions will eventually lead to a new, more fragmented global order, structural reforms and other shocks that are certain to occur in the future will have an impact on the economy's capacity for growth and the path of public debt. However, there is undoubtedly one element that, slowly but surely, is already influencing the economic performance and public finances of the Spanish economy: the ageing population. Gaining an initial understanding of the implications of this challenge for the position of public finances is useful for designing economic policies that facilitate adaptation to said challenge.

The Opinion completes and updates AIReF's previous statements on the sustainability of the Social Security system with a comprehensive overview of the GG as a whole. Specifically, the Opinion is based on a baseline scenario that incorporates an update of AIReF's demographic projections and a set of assumptions in relation to the long-term growth scenario that are detailed in this document. On the basis of these estimates, the Opinion analyses their implications for public expenditure, extending previous analyses that focused

on pension expenditure to other expenditure items. Estimates of public revenue are also presented. These are conditional on economic growth and the long-term elasticities of the various taxes to GDP. These projections take into consideration the policies approved and legislated up to the preparation date of this Opinion. An analysis is also offered of the reforms to the Social Security system that have been approved recently. The analysis period extends until 2070, in line with the practice of other institutions. This makes it possible to illustrate the path of public finances once the impact of the retirement of the largest baby-boom generation fades.

This comprehensive and long-term outlook is particularly important at this time. Firstly, the public accounts are beginning to reflect the consequences of the retirement of the so-called baby boomers (born between 1957 and 1977), together with the growing longevity of the population and the fall in fertility over the last four decades.

Secondly, the legacy of the succession of shocks suffered over recent decades (financial and sovereign crisis, health crisis and the war in Ukraine) puts Spain in a vulnerable situation due to the persistence of the structural deficit and the high level of public debt reached.

Thirdly, if the European Commission's recent proposal is implemented, the future reform of the European fiscal framework will put the sustainability of public debt at the heart of the framework. According to this proposal, high-debt countries, including Spain, will have to establish four- or seven-year adjustment paths that will guarantee that debt remains on a downward path in the ten years following the adjustment period, incorporating the effects of ageing. Assessing compliance with these commitments will require target revenue and expenditure paths to be set with a horizon of at least 14-17 years that include the impact of demographics and the adjustment measures implemented. By means of this Opinion, AIReF aims to anticipate the information requirements that will be necessary for analysing medium- and long-term sustainability in this new framework.

The estimates presented in this Opinion should in no case be interpreted as forecasts. It is clear that the uncertainty inherent to any projection exercise rises significantly when such lengthy time horizons are considered. However, the usefulness of these estimates is to illustrate the pressures and challenges facing the public sector over the long term as a result of demographics in a hypothetical baseline scenario in which there are no fiscal rules and no economic policy response. The estimates do not take into account phenomena other than demographics that will certainly affect growth and the public accounts over that time horizon, such as climate change, technological advances and the application of fiscal rules.

In addition, the baseline scenario is dependent on certain assumptions about the medium- and long-term growth of the economy that are subject to a high degree of uncertainty. On the one hand, demographic change itself is a complex phenomenon that can affect multiple dimensions of agents' behaviour (consumption and investment patterns, labour supply, productivity, determination of wages), with implications on the potential growth of the economy that are difficult to estimate as a whole. In addition, the Spanish economy has begun a process of capitalisation and structural transformation under the framework of the Recovery, Transformation and Resilience Plan that, if effectively translated into rises in productivity and permanent improvements in the functioning of the job market, could increase the potential growth of the economy. Conversely, the energy crisis could have a negative impact on productive capacity.

For all these reasons, in addition to the baseline scenario, the Opinion contains alternative scenarios and various sensitivity exercises. In the alternative scenarios, the aim is to illustrate, firstly, the potential impact on the sustainability of public finances of structural reforms that permanently raise the economy's potential growth. Secondly, an estimate is offered of the potential consolidation effort that the Spanish economy would have to make in the coming years in the event of application of a framework of fiscal rules consistent with the reform proposal recently published by the EC, the details of which are yet to be specified. Finally, given that the Spanish economy has undertaken to carry out a fiscal reform within the framework of the RTRP while assuming certain expenditure commitments, a scenario is presented that considers an alternative path of revenue and expenditure to that of the baseline scenario. In the case of the sensitivity exercises, the aim is to illustrate the sensitivity of the results of the baseline scenario to changes in some fundamental ingredients of the model (migratory flows, potential growth, etc.).

### Baseline scenario

The baseline scenario is based on the demographic forecasts prepared by AIReF that have been updated to incorporate the most recent information on demographic phenomena published by the National Statistics Institute (INE) for Spain and by the United Nations (UN) for the rest of the countries. Based on this new information, the models used to project birth, mortality and demographic flows have been re-estimated, while some methodological improvements have been made.

The main results show that, the long term, the population in Spain will reach 50.3 million inhabitants by 2015 and 52.1 million by 2070. This increase in the population is mainly due to the dynamism of migratory flows (for which annual

net inflows are estimated at around 235,000 people between 2020 and 2050, which rises to 339,000 people in the period between 2051 and 2070). Migration thus plays a crucial role in mitigating the effects of the negative natural population change over the horizon analysed. However, the ageing of the population cohorts born in the 1960s and mid-1970s in Spain, the reduced fertility rates of recent decades and greater longevity are already causing a profound transformation of the population structure by age. In addition, the relative weight of the working-age population is estimated to fall from the end of the decade, with some delay compared with other European economies. The dependency ratio, which measures the percentage of the population over the age of 66 over the working-age population, would stand at 51.4% and 45.9% in 2050 and 2070, respectively, compared with 26.6% today.

As for the macroeconomic scenario, AIReF uses its latest medium-term scenario estimated up to 2026<sup>1</sup>. In the longer term, AIReF assumes average annual GDP growth of 1.3% in real terms and 3.3% in nominal terms between 2027 and 2070. In a context of a lower working-age population, sustaining this potential growth of the economy implies apparent labour productivity growth of 1.1% in the projection horizon, which is much higher than that recorded since the financial crisis. This increase may be driven by the boost in capitalisation and structural transformation triggered by the RTRP, if it is appropriately implemented. Moreover, the baseline scenario assumes that lower labour abundance would lead to a gradual decline in the unemployment rate to 7% by 2050. The participation rates of women, the elderly and young people are also expected to increase to converge at European levels, based on the lower unemployment rates that would reduce the effect of discouraging labour market participation. In the case of older workers, the increase in their participation rates is further driven by the estimated impact of the reforms approved in 2011 and 2021 aimed at delaying the legal and effective retirement age.

On the basis of the demographic and macroeconomic scenario, AIReF builds a baseline fiscal scenario from 2026 (AIReF's aforementioned medium-term scenario is used up to that year) in which fiscal rules would not operate. This scenario shows a growing deficit from 2026 to reach a peak of 8.1% in 2055, to then fall to 7% in 2070. This path is mainly explained by the spending pressures of ageing coupled with rising interest expenditure as debt levels increase. The debt would follow an upward path throughout the period to reach a peak of 186% of GDP in 2070.

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<sup>1</sup> [AIReF | Report General State Budget 2023](#)

The weight of revenue over GDP would rise in the absence of economic cycles in the projection to 44.7% in 2050 and 45.6% in 2070, from 43.5% in 2021. This increase is due to the long-term elasticity of revenue over GDP being slightly above unity in line with historically observed patterns in Spain and other countries. As a whole, taxes on production, VAT and Special Taxes remain constant as a percentage of GDP over the projection horizon. Social contributions also evolve at the pace of GDP, including the impact of the complete roll-out of the reform of the system for self-employed workers and the impact of the solidarity quota, which means that its weight increases by a few tenths of a point during the projection period. It also includes the impact of the growth of the maximum contribution bases with the CPI as from 2050, given that this implies that contributions will grow at a rate somewhat lower than GDP for that period. On the other hand, Personal Income Tax (PIT) would change in line with the demographic structure, although above nominal GDP due to the fiscal drag of this tax. Furthermore, a higher elasticity than unity is also assumed for Corporate Income Tax, while other revenue would evolve with nominal GDP.

Expenditure would rise to a peak of 53% of GDP in 2058 and then stabilise, falling slightly to 52.6% in 2070. Firstly, this evolution would reflect the pressure from the ageing process, which is not only reflected in pension expenditure, but also in healthcare, education and long-term care. Secondly, the dynamics of debt accumulation coupled with rising interest rates would also increase the weight of interest expenditure to reach 6.9% in 2070.

Pension expenditure would start to accelerate, particularly from 2035 onwards, reaching a peak in 2049 of 14.8% of GDP for social security pensions and 16.3% including non-contributory and civil servant pensions. Subsequently, once the pressures of ageing ease, expenditure would fall to 13.4% and 13.9%, respectively, in 2070. These projections, which update the latest ones published by AIReF in 2020, incorporate the latest data available and changes in the starting assumptions. They also include the impact of the reforms already approved.

The pension reforms approved between 2021 and 2023 mean an increase in the deficit of 1.1 points of GDP by 2050. This figure includes the increase in line with the CPI, which means an increase in expenditure of 2.7 points with respect to the application of the Pension Revaluation Index (PRI).

The repeal of the sustainability factor will result in an increase in expenditure of 0.8 points in 2050. The modification of the conditions for early retirement has a neutral long-term effect. In contrast, the new incentives to delay retirement will result in lower expenditure in the baseline scenario of 0.8 points of GDP in 2050 if around 30% of workers delay their retirement. It should be noted,

however, that the final outcome of this reform fundamentally depends on workers and companies changing their current behaviour. The impact may therefore vary between 0.2 points if only 10% opt for the delay and 1.5% if more than 55% opt for delayed retirement.

As for the latest measures approved, the modification of the calculation period for determining pensions from the 25 years prior to retirement to the best 27 years of the last 29 years leaves expenditure unchanged in 2050, and means a reduction in expenditure of 0.1 points in 2070. In addition, the growth in the maximum pension below the increase in the maximum contribution bases would result in a decrease in expenditure of 0.4 points in 2050 that would be maintained between 2050 and 2070, when maximum pensions are expected to grow above the maximum bases.

As for the reforms approved on the revenue side, the Intergenerational Equity Mechanism (IEM) results in an annual increase of 0.4 points in revenue in national accounting terms. Apart from the schedule of financial contributions and disbursements to the Reserve Fund, it would result in lower debt for the GG as a whole of 11 points of GDP in 2050. The reform of the system of contributions of self-employed workers is neutral in this initial application. However, once the transitory period ends, it would result in an increase in revenue estimated at 0.5 points of GDP, including its potential effect of uncovering the black economy. In addition, the growth in the maximum contribution bases at the CPI plus 1.2 points in 2050 will lead to an increase in revenue of 0.4 points of GDP compared with evolution in line with the CPI. Finally, the solidarity quota would increase revenue by an additional 0.1 points of GDP.

With regard to other expenditure, it is worth noting a similar evolution due to ageing in healthcare and long-term care. In healthcare, spending would stabilise at around 8.4% of GDP from 2049, while in long-term care it would stabilise at by close to 2% by around 2060. In contrast, following the evolution of the younger population, expenditure on education falls to 3.6% in 2041 and then recovers to 4.2% of GDP in 2070.

### Scenario of higher potential growth

One of the main determining factors of the results of the baseline scenario is potential growth, which is expected to reach 1.3% on average between 2027 and 2070. The uncertainty relating to this assumption is high. On the one hand, the succession of shocks suffered in recent years and, in particular, the energy crisis, may have had an impact on the economy's productive capacity. On the other hand, one of the main aims of the RTRP is to boost the potential



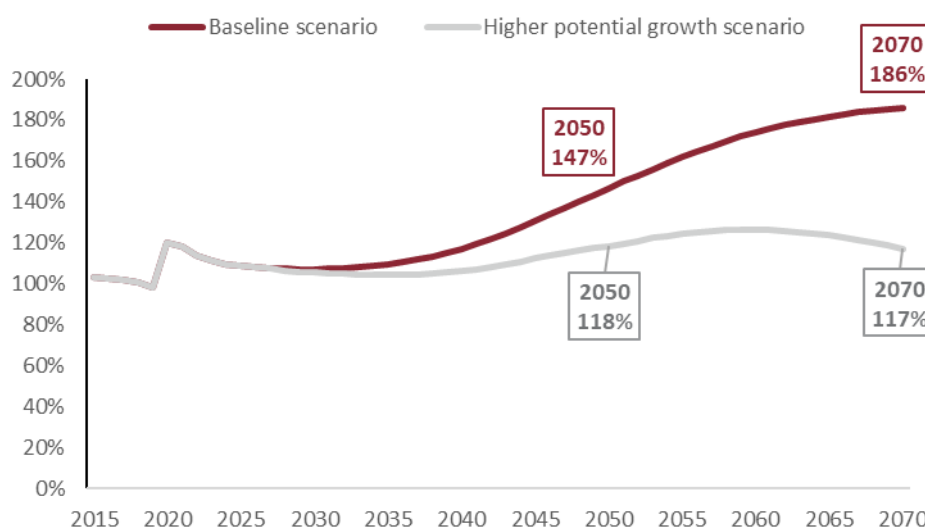
growth of the Spanish economy in the medium and long term through reforms and investments. However, quantification of its impact is still uncertain.

In this regard, it is useful to analyse the impact of an increase in the potential growth of the economy that might be associated both with the implementation of migration policies that mitigate the fall in the working-age population in the baseline scenario and with the implementation of structural reforms.

An alternative scenario is therefore incorporated in which average annual economic growth is assumed to be 0.3 points higher than the baseline scenario. This higher medium-term growth is driven by labour market, productivity and migration.

This analysis demonstrates the importance of economic growth for ensuring the financial sustainability of the General Government. In the alternative scenario, the weight of pension expenditure over GDP would fall to 13.5% of GDP in 2050, 1.3 points below the baseline scenario. More generally, the public deficit would moderate to a peak of 5.4% in 2053 and fall to 2.7% in 2070. In turn, this would imply lower interest expenditure and a lower level of public debt that, after reaching a peak of 126% in 2060, would progressively fall to 117% in 2070.

**FIGURE 1. EVOLUTION OF DEBT IN THE BASELINE SCENARIO AND HIGHER POTENTIAL GROWTH SCENARIO**



Source: IGAE and AIReF

### Scenario of application of fiscal rules

The baseline scenario presented excludes the effects of the activation of fiscal rules aimed at remedying public finance imbalances.

The European framework of rules is currently being revised. The European Commission published guidelines for the reform last November, which is still pending completion and approval. The main principles guiding the reform place debt sustainability at the heart of the framework. In particular, countries will establish medium-term spending commitments (four or seven years, depending on whether reforms are carried out or not) which ensure that debt remains on a downward path in the ten years following the adjustment period, incorporating the effects of ageing.

These expenditure commitments could be derived, among other possible alternatives, from medium- and long-term revenue and expenditure projections such as those presented in this Opinion. Therefore, in AIReF's opinion, these projections provide highly useful information for establishing the path of public finances in the absence of corrective measures and the feasibility of the commitments that may be established, as well as for analysing the reasons for any non-compliance.

A quantification of the commitments that would need to be made if the EC proposal were to materialise – according to AIReF's interpretation – suggests that the adjustment required to meet the debt reduction commitment would lie in a range between 0.32 and 0.43 GDP points per year depending on the parameters used.

### Discretionary changes in revenue and expenditure

Beyond the trends described in the baseline scenario, the evolution of revenue and expenditure is subject to the set of discretionary decisions adopted by governments to develop public policies. On the one hand, the RTRP contains, without any explicit quantification, commitments to increase revenue mainly through tax reform, as well as objectives for the modernisation of the GG and reinforces processes to improve efficiency such as the Spending Review. Along the same lines, maintaining the actions initially financed by the RTRP may involve a structural increase in expenditure. On the other hand, the Government must meet various commitments to raise spending on policies such as defence, education and R&D&I as a result of laws or international treaties, whose financing is not specified.

Illustratively, a structural reduction in the deficit, via revenue or expenditure, of one additional point from 2027 would result in a reduction of 25 points of GDP in debt in 2050 and 47 points in 2070. In the opposite direction, a structural increase in the deficit, via revenue or expenditure, of one additional point from 2027 would result in an increase of 25 GDP points of debt in 2050 and 47 points in 2070.

### Risk analysis

AIReF also presents a sensitivity analysis showing the impact of changes in the key variables. In this regard, a 15% reduction in migratory flows would increase debt by 28 points, while an increase in flows by a similar amount would reduce it by 25 points in 2070. The impact associated with lower revenue elasticity relative to nominal GDP has also been explored. This will keep the weight of revenue over GDP constant, which would raise debt by 85 points. Another element with a major impact on debt projections, given the high levels of this variable both in the starting situation and throughout the horizon studied, is the level of interest rates: in particular, an increase of 50 basis points throughout the horizon of the exercise would raise the debt ratio by 30 points in 2070, while a parallel reduction would reduce debt by 25 points.

### Conclusions

The public sector in Spain is vulnerable due to the persistence of the structural deficit and the high level of debt inherited from successive crises. In addition, the ageing process imposes a great deal of pressure on public finances, which could place the debt ratio in a hypothetical baseline scenario without measures at 186% of GDP in 2070. As higher debt levels are reached, the associated financial burden - even in a scenario in which markets do not react by demanding higher risk premiums - also puts significant pressure on debt levels themselves.

The spending pressures associated with the ageing of the population mean that reaching debt levels that make it possible to sustain a composition of public spending that is favourable to economic growth requires a medium-term fiscal consolidation process. Such a process should include spending review exercises as an essential ingredient for making economic growth compatible with the reduction of the structural deficit. The design of a rule-based framework in line with the European Commission proposal can also contribute to this aim. In addition, the effective deployment of the reforms and investments associated with the RTRP are also a pillar of the financial sustainability of the General Government.

### Proposals

In this context, it becomes necessary to open a process of reflection, both across society as a whole and internally in each public authority on how to meet the challenges of the sustainability of the GG. The holding of different elections over the course of this year should not be an obstacle to this process, quite the opposite. As this constitutes one of the main challenges facing the Spanish economy in the coming years, it may be appropriate for the different parties to present their approaches to the public to start building the social

consensus necessary to address it. After the electoral cycle at all tiers of government, a new legislature will be opened and with it a window of opportunity to begin to implement less short-term approaches. This will lead to a healthier public accounts position, which will reduce vulnerability to possible changes in the perception of debt markets. Therefore, AIReF proposes structuring a national medium- and long-term fiscal strategy with the participation of all tiers of government that includes a comprehensive reform of the national fiscal framework to ensure the sustainability of the GG.

The pressure that ageing will exert on the public accounts and, in particular, on pension and healthcare expenditure should lead to a more in-depth analysis and evaluation of its determining factors, as well as the effect of any reforms that may be implemented. In the case of pensions, the reforms and developments of the system must be studied both from the perspective of their impact on future spending and sustainability, and from the perspective of sufficiency and contributory and intergenerational equity. In addition, AIReF also makes a proposal on the need to continue with the evaluations of healthcare expenditure.

In addition, the new pension expenditure rule shows design weaknesses, such as the lack of justification of the chosen quantitative limits, the lack of coherence with the fiscal framework and the restrictions imposed on independent supervision by AIReF. AIReF therefore announces its intention to accompany the report provided for in the Royal Decree-Law with an update of this Opinion to provide institutions and society in general with an independent and detailed analysis of pension expenditure and the position of public finances as an objective element for decision-making. Along the same lines, it makes several proposals to the Government aimed at addressing these weaknesses and at increasing the transparency of the process: ensuring coherence and consistency between all the fiscal rules, the attendance of AIReF representatives at the sessions of the Working Group on Ageing as observers, establishing an agreement between AIReF and the Government for the implementation of the pension expenditure rule and for the Government to publish the forecasts, assumptions and methodology used to determine the expenditure levels and impact of measures.

The appropriateness of this fiscal strategy being accompanied by economic growth highlights the importance of achieving appropriate implementation of the RTRP, both in terms of investment and in terms of driving a structural transformation of the economy. AIReF therefore proposes that the Government design a governance model for evaluating the RTRP over the coming years. In this regard, and following the scheme proposed in the study on the institutionalisation of evaluation drawn up by AIReF with the assistance of the OECD, governance is proposed based on three levels: an internal

coordination and planning institution, the evaluation of the management centres themselves and evaluation by external independent agents.

Finally, AIReF, as stated in the Opinion on Fiscal Transparency<sup>2</sup>, proposes preparing a report on specific fiscal risks, beyond those listed in this Opinion, which sets out the possible risks that may affect fiscal projections. Once the fiscal risks have been identified and analysed, it is important to assign probabilities to their materialisation and to quantify their impact. Furthermore, the risk mitigation strategy should be made explicit, either for the risks as a whole or for individual risks.

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<sup>2</sup> [Opinion on Fiscal Transparency in the GG in Spain](#)