SUSTAINABILITY OF ANDORRA'S PENSION SYSTEM[1]

Reforming the Andorran pension system is a key priority to ensure its sustainability and reduce contingent liabilities. In the absence of reform, the Andorran social security system will accumulate deficits starting in 2024, rising to about 9 percent of GDP per year by 2040. The Andorran Parliament has appointed a special commission to elaborate a reform plan before end-2022. This paper draws on scenario analyzes to identify options available for an optimal reform. The results show that measures will need to be comprehensive and adjust all three key parameters—the contribution rate, the conversion factor, and the retirement age. Reforms will need to also be guided by public policy choices on affordability, adequacy, and equity that go beyond the scope of a sustainability analysis.

A. Introduction

1. The Andorran pension system is unsustainable and needs an ambitious reform given projected spending pressures and demographic trends. The social security fund is projected to have annual deficits starting in 2024 and to deplete its reserve fund by 2039 in the absence of government's financial support. This trend is partly driven by the combination of an aging population and a structural imbalance between low contribution rates and a relatively high replacement rate. Recognizing the urgency of the reform, the Andorran Parliament has appointed a special commission to elaborate a reform plan before end-2022.

2. This paper analyzes the key features of the pension system to understand their relevance to its sustainability challenge. First, it presents the main structural characteristics of the current system, the evolution of the main demographic and financial variables, and benchmarks against other European countries. Second, scenario analysis is used to identify options available for an optimal reform that ensures the long-term sustainability of the pension system.

3. The results presented in this paper show that measures will need to be comprehensive to achieve sustainability. The reform package will need to include increases in the contribution and conversion factor and in the retirement age. Beyond sustainability, the reform package should also take into consideration other important key principles and trade-offs that are outside of the scope of this analysis, such as pension adequacy, affordability, intergenerational equity, among others.

4. The paper is organized as follows. Section B gives an overview of Andorra's pension system and past reforms. Section C provides benchmarking and cross-country comparison of key pensions-related variables. Section D describes the methodology used to analyze the drivers of pension expenditures and deficits. Section E presents the projections of the pension system over the long run under different policy scenarios. Section F discusses reform options and policy implications.

[1] Prepared by Michelle Tejada (EUR).

B. Overview of the Andorran Pension System

5. Previous reforms of the Andorran pension system were insufficient to ensure its long-term sustainability. Since its inception in 1968, the retirement branch of the Andorran Social Security System (CASS) has been responsible for the administration of pension contributions and benefits. The first major reform of the system took place in 2009 and modified the contribution and the conversion coefficient, the minimum contribution period, introduced early retirement, and mandated that the non-contributory pension benefits should be funded by the government (see Table 1). In 2015, the *Fons de Reserva de Jubilació (FRJ)* was established in 2015 to independently manage the assets of the pension system, a task previously done by the CASS. The government increased the contribution rate further and introduced a progressive ceiling on high retirement annuities, among other measures. Although these reforms temporarily improved the financial situation of the pension system, they were insufficient to ensure its long-term sustainability.

6. The general pension scheme, under Pillar I, is a mandatory pay-as-you-go by points defined contribution system. It is compulsory for all workers including self-employed persons. The contribution rate is set at 12 percent of gross salary (8.5 percent paid by the employee, and 3.5 percent by the employer). The statutory retirement age is 65 years old after at least 15 years of contribution with the option of early retirement at 61 years old with a minimum contribution period of 40 years. The conversion coefficient increased from 6.4 percent to 8 percent in 2009, and then, in 2015, to 9.6. This coefficient implicitly assumes that pensions will be paid for 9.6 years after retirement at 65 years old, much lower than actual payouts given the high life expectancies. The replacement rate is set at 50 percent. In 2020, the system had a dependency ratio of about 3 with an average of 47,439 members (90 percent of the working-age population), of which 97 percent resided in Andorra. In the same year it had 15,840 pensioners including widows, of which 59 percent resided in the country and represented 83 percent of the Andorran elderly population. The average annual contribution amounted to €2,979, while the average annual pension was €7,009. The system also has a Pillar 2, which is mandatory for government employees and voluntary for those in the private sector. Its contribution rate is at the discretion of workers, and the employer matches up to a total of 3 percent of the salary.

7. The investment strategy of the pensions' fund follows a traditionally moderate profile management. The investment portfolio is comprised around 60 percent investment in high credit quality fixed income (minimum 50 percent), 30 percent in equity (maximum 35 percent) and 10 percent in other assets (maximum 15 percent). About 90 percent is denominated in euro, and the rest is in currencies from other advanced economies. The authorities are conducting a deeper review of the current investment strategy and its implementation plan with the aim of upgrading the risk management policy and increase geographic and asset classes diversification of the portfolio.

Table 1. Andorra: Pension System Overview and Reforms to Date			
PARAMETERS	**1968–2009**	**2009–2015**	**2015–PRESENT**
Affiliates	Mandatory for employees. Voluntary for self-employed.	Mandatory for employees and self-employed (from 07/2013).	
Contribution rate	Employer 6,0% Employee 2,0% (no ceiling)	Employer 7.5% Employee 2.5% (no ceiling)	Employer 8.5% Employee 3.5% (no ceiling)
Points conversion factor (purchase price / sale price of the retirement point)	6.4	8.0	9.6
Replacement rate (for a 40-years contribution period in Andorra)	50% average salary		
Retirement pension calculation	Entire contribution period		
Benefits	Retirement, widow, and orphan pensions	Retirement and widow pensions (orphan pension out)	
Retirement age	65 years old		
Early retirement age	-	58 years old	61 years old
Minimum contribution period for a pension	No minimum	5 years (12 months required for international agreements enforceability)	15 years (12 months required for international agreements enforceability)
Minimum contribution period for a lump-sum	-	1 year	5 years
Annual update of pension benefits and point value	- Until 1998: Andorran average wage increase - From 1998: inflation (CPI)	- Inflation (CPI) - From 2012: 0% on pensions over 2x minimum wage	
Retirement's pension Ceiling	No ceiling		Reduction coefficients applied on pensions over 2x minimum wage
Widow pensions (life annuity)	50% of the retirement pension		
Widow pensions (temporary annuity)	-	50% of the salary or pension (between 60% and 120% of the minimum wage)	
Non-contributory pension benefits	Funded by CASS	Funded by the Government	Funded by the Government

Source: CASS.
Note: amendments highlighted in blue.

C. Benchmarking and Cross-Country Comparison

8. Expected demographic changes in Andorra are broadly in line with peer countries but will create substantial pension spending pressures. With one of the highest life expectancies in the world (84.5 years) and a retirement age (65 years) in line with its peers, Andorra enjoys a long life expectancy at retirement (about 19.5 years). Ageing pressures will accelerate as the baby-boom generation retires and the population is expected to live longer. The country currently has the lowest old-age dependency in the region—20.7 percent compared to average of 32.3 percent in the EU—but it is set to almost double by 2070 due to rising life expectancies and a shrinking working-age population. The coverage rate is expected to decline from its already low level of three members per pensioner, exacerbate pension spending pressures and lead to rising deficits. As a result, although Andorra currently has the lowest pension expenditure in the region, it is expected to have the largest increase in the next two decades.

9. The structural imbalances of the pension system are contributing to sustainability issues. The generosity rate—measured as the ratio of average pension to average contribution—was estimated at 2.35 in 2020. The Andorran pension system has one of the lowest contribution rates in the region, at 12 percent of gross salaries compared to an EU average of 21 percent, but an average replacement rate (50 percent) above the EU average. Going forward, unchanged low contribution rate, relatively high replacement rate, and high dependency ratio will be a source of financial stress for the system.

D. Methodology

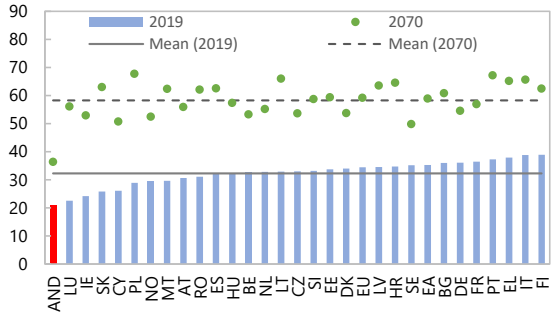
10. To assess the sustainability of the Andorran pension system, this paper uses a simplified diagnostic to estimate pension expenditure and deficits. The key elements of the pension system are analyzed including pension expenditure over time (i.e., share of the elderly in the population, retirement age, and benefit indexation) and the structure of the pension system. We compare different measures of long-term sustainability and potential contingent liabilities under the no policy change scenario and under alternative scenarios assuming changes to key pension parameters.

11. The analysis relies on the following inputs and data sources: background material describing the pension system and past reforms; actuarial reports and underlying data, and other relevant reports; multiple international databases, including ageing reports, OECD, Eurostat, UN population projections, and IMF.

Figure 1. Andorra: Benchmarking the Pension System

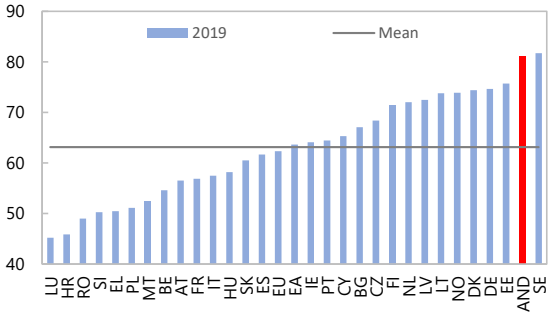
Andorra has the lowest old-age dependency ratio in the region but set to almost double by 2070 due to rising life expectancies and shrinking working age population.

EU and AND: Old-Age Dependency Ratio, 2019-70 (Percent)



Sources: EC's 2021 Ageing Report, Andorran authorities, and IMF staff calculations.

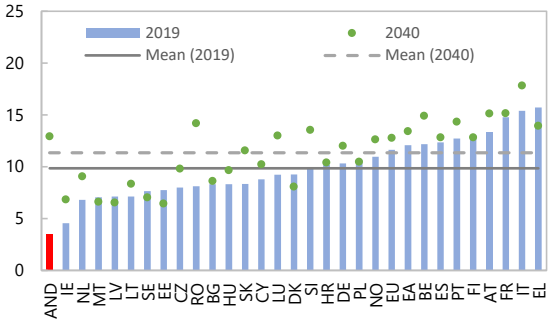
EU and AND: Labor Market Participation, Pop 55-64, 2019 (Percent of Total Population)



Sources: EC's 2021 Ageing Report, Andorran authorities, and IMF staff calculations.

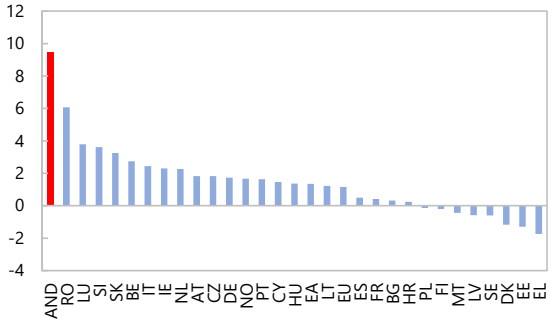
It has the lowest pension expenditure in the region but expected to have the largest increase in the next two decades driven by increases in the number of pensioners and pension benefits.

EU and AND: Gross Public Pensions Expenditure, 2019-40 (In Percent of GDP)



Sources: EC's 2021 Ageing Report, Andorran authorities, and IMF staff calculations.

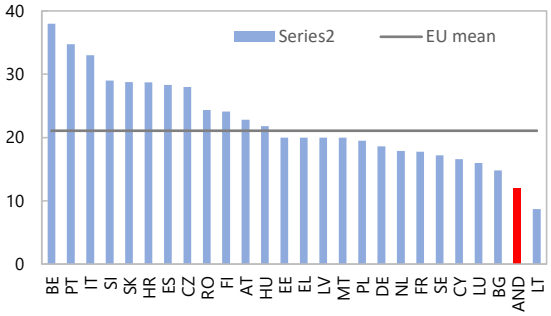
EU and AND: Change in Gross Public Pensions Expenditure 2019-40 (In PP of GDP)



Sources: EC's 2021 Ageing Report, Andorran authorities, and IMF staff calculations.

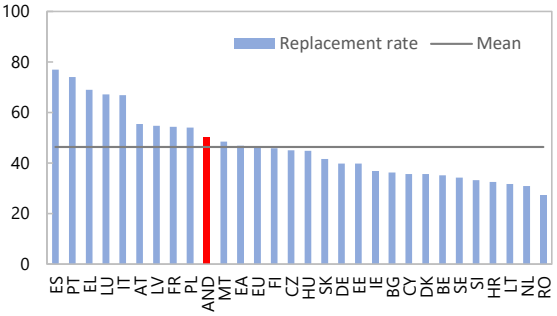
Despite having one of the lowest contribution rates in the region, it has above average replacement rate, contributing to the unsustainability of the system.

EU and AND: Contribution Rates (Pension as Percent of Wage)



Sources: EC's 2021 Ageing Report, Andorran authorities, and IMF staff calculations.

EU and AND: Replacement Rate at Retirement, 2019 (Pension as Percent of Average Wage)



Sources: EC's 2021 Ageing Report, Andorran authorities, and IMF staff calculations.

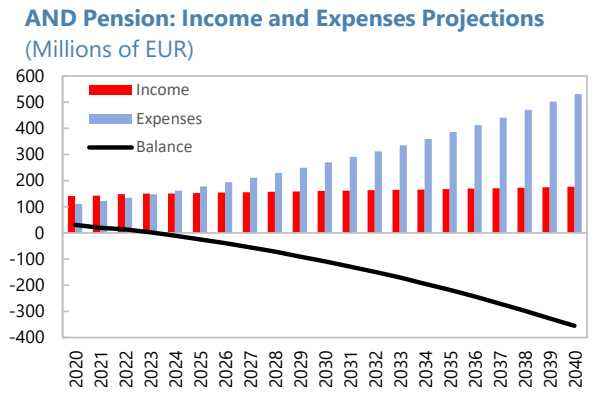
E. Scenario Analysis

No Policy Change Scenario

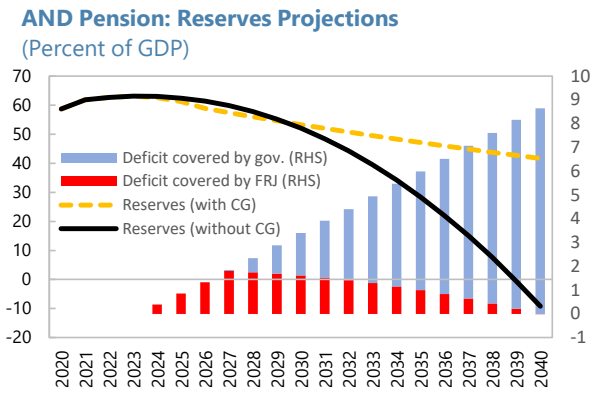
12. Under the no policy change scenario, the system is projected to have annual deficits starting in 2024 and to deplete its reserve fund by 2039. In this scenario, long-term GDP and inflation trends are in line with IMF's baseline projections (at 1.5 and 1.7 percent, respectively), the real return on the fund's investment is one percent, and long-term population projections are in line with those for France and Spain. The projections yield similar results to the latest actuarial report. The pension system has had surpluses every year since its inception, but their size has been shrinking over time. The Andorran social security system is expected to start accumulating deficits soon, rising above about 9 percent of GDP per year by 2040.[2]

Figure 2. Andorra: Pension Sustainability Under the No Policy Scenario

The Andorran social security system is expected to start accumulating deficits soon, rising above about 9 percent of GDP per year by 2040.

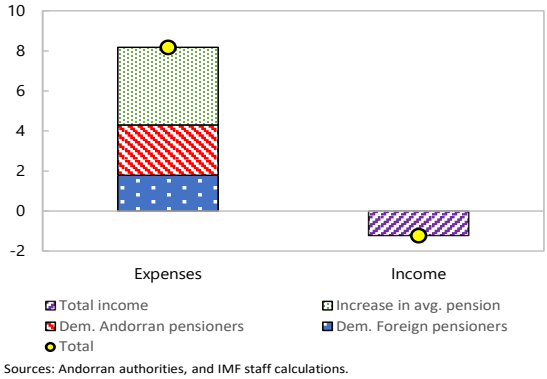


Sources: Andorran authorities, and IMF staff calculations.



Sources: Andorran authorities, and IMF staff calculations.

Demographic changes are the main drivers of the projected rise in expenditure.



Sources: Andorran authorities, and IMF staff calculations.

[2] Under the law, deficits are covered by the *Fons de Reserva de Jubilació* up to the amount of its previous year gains on investments and by the central government for the rest. The government's contribution significantly slows reserves' depletion, but rapidly crowd out much needed expenditure and jeopardizes fiscal sustainability.

13. A decomposition of the changes in pension income and expenses show the key drivers of the projected worsening of the financial position of the pension system. Pension income is set to decline as the negative impact from the shrinking working age population participating in the pension system would be larger than the positive impact from the increase in average contributions. Pension expenses are set to increase driven by population aging.

Alternative Scenarios

14. Scenario analysis is used to model the impact of different potential reforms on the long-term sustainability of the pension system. These include increases in the contribution rates, the conversion factor, and the retirement age, and implementing different combinations of these reforms. More specifically, we study the following three reform scenarios:

i) a one-time increase in the contribution rate from 12 to 16 percent of gross salary in 2023;

ii) a gradual increase in the conversion factor from 9.6 to 17 in 25 years; and

iii) a gradual increase in the retirement age from 65 to 67 years in 8 years.

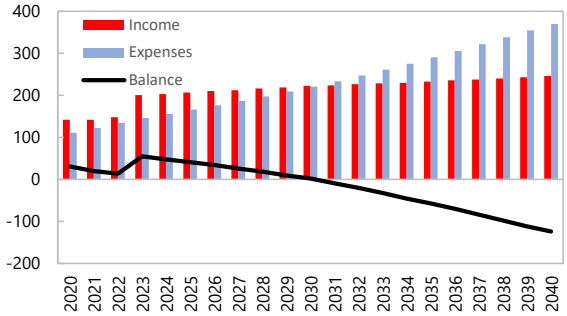
15. The results show that all three scenarios improve the financial health of the Andorran pension system. Under the no policy change scenario, the pension system is expected to have deficits starting in 2024 and reach about 9 percent of GDP by 2040 which, in the absence of government support, will lead to reserves depletion by 2039. An increase in the contribution rate from 12 to 16 percent of gross salary is estimated to delay deficits to 2027 and the level of reserves are estimated to decline from 62.7 percent of GDP in 2022 to 17 percent of GDP in 2040. The proposed increase in the conversion factor implies that the pension system starts accumulating deficits in 2024 as in the no policy change scenario because the rise in the conversion factor is only implemented gradually. However, the estimated deficit by 2040 is 4.2 percent of GDP, significantly lower than under the no policy change scenario, and the reserves level are estimated to decline only to 27.9 percent of GDP by the end of the projection period. The gradual increase in the retirement age is also expected to have a positive impact but, in itself, is not enough to significantly improve the financial health pensions partly because of the high old-dependency ratio and life expectancy.

16. A combination of the above reforms yields the biggest improvement in the sustainability of pensions. Pension expenditure is set to increase by 7.8 percent of GDP under the no policy change scenario (present discounted value of 63 percent of GDP). When all three reforms are implemented simultaneously, the projected increase in expenditure is only 3.3 percent of GDP (present discounted value of 28.3 percent of GDP). In this case, the system accumulates small deficits starting in 2031 which reach up to 3 percent of GDP by 2040, with government support starting in 2037. Reserves decline from 62.3 percent of GDP currently to 59.9 percent of GDP at the end of the projection period. Although all three proposed reforms yield some improvements, only their joint implementation substantially improves the sustainability of the system.

Figure 3. Andorra: Pension Sustainability Under Alternative Scenarios

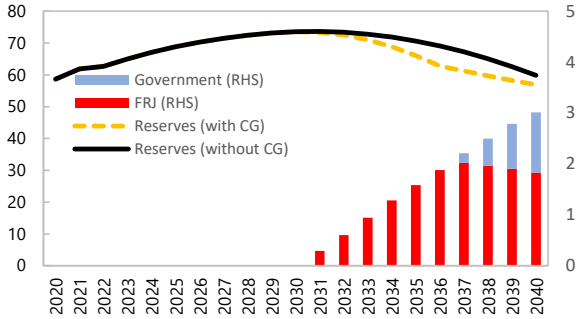
Changes to the contribution rate, the conversion factor, and to the retirement rate improve the financial health of the system, but only a comprehensive reform that modifies the three parameters would bring a significant improvement to its sustainability.

AND Pension: Income and Expenses Projections - Combined Scenario (Millions of EUR)



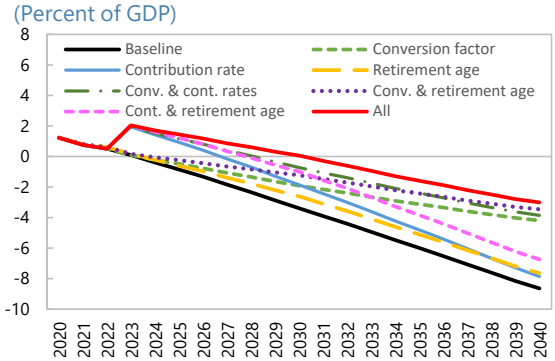
Sources: Andorran authorities, and IMF staff calculations.

AND Pension: Reserves Projections - Combined Scenario (Percent of GDP)



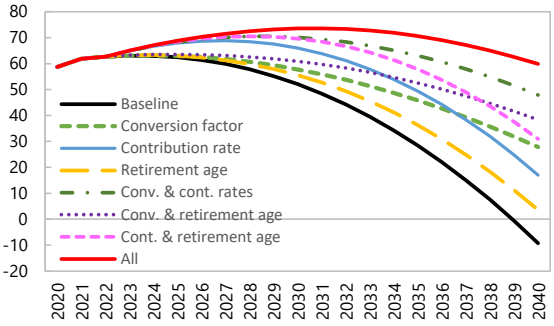
Sources: Andorran authorities, and IMF staff calculations.

AND Pension: Balance Projections, 2020-40 (Percent of GDP)



Sources: Andorran authorities, and IMF staff calculations.

AND Pension: Reserves Projections, 2020-40 (Percent of GDP)



Sources: Andorran authorities, and IMF staff calculations.

AND Pension: Pension Expenditure Increase

	2022-2030		2022-2040	
	Percentage Points of GDP	Present Discounted Value (% of GDP)	Percentage Points of GDP	Present Discounted Value (% of GDP)
Projected spending increase	3.3	13.5	7.8	63.0
Impact of reforms	-1.9	-6.5	-4.5	-34.7
Conversion factor	-1.5	-5.3	-4.5	-31.5
Contribution rate	0.1	0.4	0.7	3.8
Retirement age	-0.5	-1.6	-0.7	-7.0
Net change	1.4	7.0	3.3	28.3

Source: Andorran authorities, and IMF staff calculations.

F. Policy Implications

17. A comprehensive reform package is essential to reduce contingent liabilities and ensure soundness of the Andorra pension system in the medium-to long-term. The system has been adequately managed, but the country's aging population combined with substantial structural imbalances in the pension system is exacerbating spending pressures and Andorran pensions will become unsustainable in coming years. Recognizing the urgency, the Parliament's special commission is working on a reform plan to be approved by end-2022.

18. The results of this analysis show that the reform plan should adjust all three key parameters to ensure the sustainability of the system. All three scenarios improve the financial health of pensions compared to the no-policy change scenario. However, only a combination of the three alternative scenarios—increasing the contribution rate from 12 to 16 percent of gross salary, increasing the conversion factor from 9.6 to 17, and increasing the retirement age from 65 to 67—would significantly ensure the financial soundness of the Andorran pension system. In this case, our estimates show that the system accumulates small deficits starting in 2031 which reach up to 3 percent of GDP by 2040, with government support starting in 2037. Expanding the "second pillar" pension scheme could help achieve pension adequacy but should not supplant the measures needed to achieve financial sustainability of the "first pillar" scheme.

19. Financial sustainability considerations need to keep in mind equity issues and other important principles and trade-offs that are public policy choices beyond the scope of this analysis. A public pension system has two basic objectives: to protect participants against income poverty and to limit the decline in consumption after retirement. Public policy choices must be made to achieve the right balance between actuarial fairness, intra and intergenerational equity, incentive compatibility, affordability, and adequacy of pensions.

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