How have other pension systems ensured their sustainability?

Reforming the pension system in order to make it more sustainable is a major challenge throughout Europe, particularly in a context marked by the retirement of the baby boom generation. Although we have tools as economists to assess whether a particular reform can help improve the system's sustainability, the path ahead is shrouded in uncertainty.[1] In this article, we explore some of the pension reforms implemented in other countries which, according to the economic literature and various international organisations, have best managed to navigate this uncertainty.

Let's start by reflecting on how a pension system's sustainability can be evaluated. A public pension system is sustainable, according to the IMF's definition,[2] if under current policies, demographic projections and a conservative macroeconomic scenario it allows pension spending in the coming decades to be funded without exerting stress on the public finances or, therefore, deteriorating macroeconomic stability. In other words, it is about balancing the revenues that fund the benefits and expenditure in the medium term. These two channels – revenues and expenditure – must go hand in hand.

Focusing first on the expenditure channel, there are four major levers which can be used to keep pension spending contained. According to the variables they affect, we can classify them as: a demographic lever (linked to the ratio of the population above retirement age to the population aged over 16); another relating to the coverage rate (the ratio between the number of pensioners and the population above retirement age); a third related to the health of the labour market as reflected in the employment rate (the number of people in employment over the population over 16 years of age), and a final lever related to the relative amount of pensions (usually measured using the replacement rate: the ratio between the average pension and the average salary).[3] All of these levers interact and create synergies, so it is key to gauge the impact of influencing each of them separately versus together.

The first two levers related to demographics and the system's coverage are complementary. Although there are multiple ways of influencing them, in view of the ambitions and constraints of a modern welfare state (among the former, the aspiration to assist all dependent persons; and among the latter, the difficulty involved in encouraging a higher birth rate and the delayed effect of achieving it), the way to do it more quickly and with greater certainty is by altering the retirement age. Raising it helps to even out the balance between workers and pensioners. Moreover, this measure improves intergenerational equity in societies like those in the West, where life expectancy has increased and the birth rate has fallen considerably.

Some of the countries in our vicinity have established mechanisms to link the retirement age to life expectancy automatically. Specifically, 7 of the 38 OECD countries have done so, all of them European (see first table).[4] In four of them (Denmark, Estonia, Greece and Italy) the increase is transmitted in full – i.e. for each year life expectancy increases, the retirement age is increased by the same amount – while in the other three (Finland, the Netherlands and Portugal) it is diminished – for every year life expectancy increases, the retirement age is increase by eight months. The way in which the rule works is similar in all seven countries: every

Retirement age is linked to life expectancy in seven OECD countries

	Increase in the retirement age in proportion to the increase in life expectancy	Need for parliamentary approval to raise the retirement age	Rule based on life expectancy at the age of:	Years between revisions of the retirement age	Period between the establishment of the new retirement age and its entry into force	Minimum increase in each revision of the retirement age	Maximum increase in each revision of the retirement age	The retirement age decreases if life expectancy falls
Denmark	1	•	60	5	15 years	6 months	1 year	
Estonia	1		65	1	2 years	1 month	3 months	•
Finland	2/3		65	1	3 years	1 month	2 months	•
Greece	1		65	3	Max. 1 year	No	No	•
Italy	1		65	2	2 years	1 month	3 months	
Netherlands	2/3		65	1	5 years	3 months	3 months	
Portugal	2/3 *		65	1	2 years	1 month	No	•

Note: ** For a person with over 40 years of social security contributions, the ordinary retirement age only increases by half as much as life expectancy does.*
Source: *CaixaBank Research, based on the* Pensions at a Glance 2021 *report by the OECD.*

1. See the article «Reforming the pension system: in search of sustainability» in this same *Monthly Report*.
2. See «Technical Notes and Manuals», IMF Engagement on Pension Issues in Surveillance and Program Work, Fiscal Affairs Department and Strategy, Policy, and Review Department, TNM/2022/004.
3. See, among others, the *2021 Ageing Report* by the European Commission, or the *Pensions at a Glance 2021* report by the OECD. In this article, we follow the breakdown according to the following article: M.A. Martín and R. Ramos (2023), *El Gasto en pensiones en España en comparativa europea*, Bank of Spain Economic Bulletin, 2023/T1, 09 (content available in Spanish).
4. See *Pensions at a Glance 2021*, by the OECD.

Revaluation of pensions in Europe based on automatic rules linked to changes in the labour market or demographics

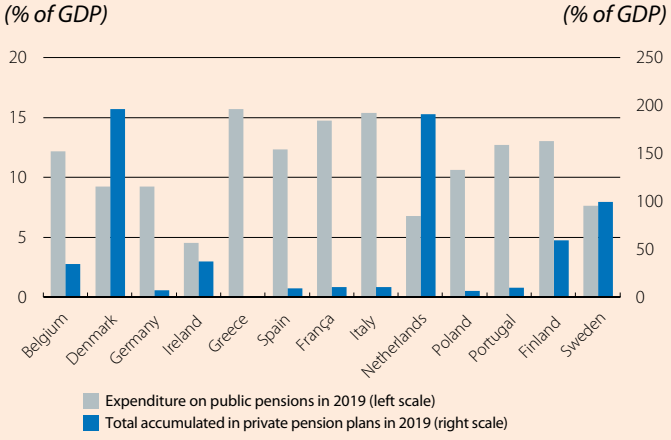
Country	The underlying variable of the rule	Relative weight of the underlying variable for the revaluation of pensions (%)
Estonia	Social security contribution revenues	80% (+20% inflation)
Greece	Nominal GDP	The lower of two options: inflation, or 50% inflation + 50% nominal GDP growth
Lithuania	Volume of total wages	100%
Portugal	Real GDP	It has to be between inflation −0.75% and inflation +20% of real GDP growth
Germany	Ratio between contributors and pensioners	Partial (it also depends on wage growth and changes in social security contribution rates)
Sweden	(1+average growth of nominal wages)/1.016	100% in the absence of financial imbalances in the notional accounts of the pension system *

Note: ** Notional accounts are a redistribution system whereby pensions are calculated based on accumulated social security contributions, the returns generated and life expectancy.*
Source: *CaixaBank Research, based on the* Pensions at a Glance 2021 *report by the OECD.*

certain period of time, the retirement age is reviewed based on changes in life expectancy at 65 years of age. On the other hand, since the increase in life expectancy in a given country is not the same for all socio-economic groups, the homogeneous increase in the retirement age has, by default, a redistributive impact. Attempts have been made in the Danish pension system to try and mitigate this problem, such as by offering an economic supplement to the public pension for pensioners who are less well off (whether as a result of having worked fewer years or having received lower wages); given that the Danish public pension system seeks to guarantee a minimum level of income for all pensioners, this supplement serves to compensate those who, as is statistically proven, also tend to have a lower life expectancy.[5]

Continuing with spending policies, the levers relating to the amount of pensions and the labour market are also complementary. The sustainability of the pension system depends largely on the relationship between public pensions and the level of wages in the economy, although it also depends on certain labour policies, such as those aimed at boosting employment and productivity. Thus, sustainability is reinforced when pensions do not grow above wages, and it improves as the economy creates more jobs (in turn, the more productive those jobs are, the better). To achieve this, as many as six EU countries automatically link the revaluation of pensions to macroeconomic variables related to the evolution of the labour market or demographic variables (see second table). Specifically, in Estonia, pension increases partly depend on revenues from social security contributions increasing; in Greece, they are partly dependent on nominal GDP growth; in Lithuania, they are entirely dependent on the growth of the volume of total wages; and in Portugal, partly on real GDP growth. Germany, meanwhile, fixes the initial pension and the revaluations according to a points system which takes into account wage growth, changes in the social security contribution rate and the evolution of the ratio between pensioners and contributors. Sweden, for its part, adjusts pensions each year on the basis of average nominal wage growth, provided that this exceeds 1.6% (if it is lower, pensions are decreased), although it will make an adjustment if there are imbalances in the system's actuarial balance sheet. In addition, in Finland and Portugal, the amount of the initial pension is automatically linked to the evolution of the mortality and life expectancy data, respectively.

Europe: expenditure on public pensions and total accumulated in private pension funds



Note: *Pension fund data for Denmark corresponds to 2018 (latest available).*
Source: *CaixaBank research, based on data from the* 2021 Ageing Report *for public pensions and from the World Bank for private pension plans.*

Another lever used in many countries to mitigate pressures on public pension systems is to supplement them with private systems, whether company or personal pension plans.[6] Specifically, as we see in the chart, economies such as Denmark and the Netherlands have a lower level of expenditure on public pensions as a percentage of GDP compared to the countries of southern Europe, but on the other hand much higher contributions are made to private pension schemes as a percentage of GDP. In these countries, given that it is practically mandatory to have a private pension fund by law, between 93% and 100% of working-age individuals have this form of savings. Also, public pensions in the Netherlands and in Scandinavian economies are generally lower

5. See D. Weber, E. Loichinger «Live longer, retire later? Developments of healthy life expectancies and working life expectancies between age 50-59 and age 60-69 in Europe», Eur J Ageing 19, 75-93 (2022); J.-A. Álvarez, M. Kallestrup-Lamb and S. Kjærgaard (2021) «Linking retirement age to life expectancy does not lessen the demographic implications of unequal lifespans», Insurance: Mathematics and Economics, 99, pages 363-375.
6. For further details on the private savings component, see the article «How to manage our cognitive biases to boost private pension savings» in this same *Monthly Report*.

relative to wages than in southern European countries. However, with the savings achieved in public spending in this regard, these countries are also able to offer extensive safety nets in old age, as well as greater pension supplements for those with fewer resources. Overall, these systems have proven effective in reducing public spending, as well as inequality and poverty in old age.[7]

As for the public revenues funding pension systems, it is essential to keep in mind that similar increases in revenues can be achieved in different ways, which in turn will have differing impacts on the economy. Funding pensions through social security contributions is quite common in European countries, and it is the main feature of contributory pension systems. There is, however, a debate regarding to what extent pensions could be funded through taxes. In particular, the European Commission has recommended to some countries, such as Germany, that if they offer new non-contributory pension benefits, these should not be funded through higher social security contributions.[8] In this regard, a group of economists at the central bank (Bundesbank) have documented that a policy replacing part of the pension system funding that comes from social security contributions with taxes on consumption would have largely positive macroeconomic effects.[9] Although there are various models in the EU for funding pension systems, the Commission's suggestion is usually applied: all European countries have safety nets for old age, usually funded with taxes, and many also have basic and minimum pension components that are often funded with taxes. There are also one or two examples, such as Denmark, where the public pension system is funded entirely by taxes and not by social security contributions.[10]

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7. S.R. Martínez and M. Soto (2021). «Pension Reforms in Europe: how far have we come and gone», IMF Departmental Papers, 2021(016), A001. Torben M. Andersen *et al.* «Pension reform and wealth inequality: evidence from Denmark». Centre for Economic Policy Research, 2022.
8. Council recommendation on the 2014 National Reform Programme of Germany and delivering a Council opinion on the country's 2014 Stability Programme. COM(2014) 406 final.
9. Exchanging taxes on work for taxes on consumption partially shifts the tax burden from domestic producers to foreign producers, which would reduce the costs of domestic production, generating positive domestic macroeconomic effects. This policy would also increase the costs of domestic consumption and partially defer the tax burden on households until retirement, and it would lead to greater savings. That said, during the transition period from one system to the other, the situation of retirees and households nearing retirement deteriorates. See K. Ruppert, M. Schön and N. Stähler (2021), «Consumption Taxation to Finance Pension Payments», Deutsche Bundesbank Discussion Paper nº 47/2021.
10. See European Commission, «The 2021 ageing report – Economic & budgetary projections for the EU Member States (2019-2070)», Publications Office, 2021. S.R. Martínez and M. Soto (2021) and «Pension Reforms in Europe: how far have we come and gone», IMF Departmental Papers, 2021(016), A001.