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Pension expenditure in Spain: a European comparison

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Rationale

There is significant disparity in the pension expenditure-to-GDP ratio across European countries. This article examines the size of the Spanish pension system relative to those of other EU countries and analyses the drivers behind the differences observed.

Takeaways

- In 2019, pension expenditure in Spain, relative to the size of its economy, was above the EU's simple average and similar to the GDP-weighted average.
- In comparison with the EU in 2019, the ageing process was less advanced in Spain and pension scheme coverage was lower. In contrast, Spain had a lower employment rate and a higher level of benefits relative to the average wage.
- Demographic projections suggest that pension expenditure in Spain will increase significantly. Slightly more than 40% of this increase could be offset if Spain's employment rate were to rise to equal that of Germany.

Keywords

Pension expenditure, social protection, demographic factor, coverage ratio, employment rate, benefit ratio.

JEL classification

H55, J11.

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Introduction

Pension systems in the European Union (EU) are a fundamental part of the various social protection systems that safeguard European society. There is, however, significant heterogeneity across countries in terms of the resources allocated to public pensions. These differences are rooted in various economic and demographic factors and social choices, which are reflected in the design, generosity and coverage of the different pension schemes.

This article analyses the size of the Spanish pension system relative to other EU national pension systems, based on two key pillars. First, a dataset that captures the amount of benefits paid in the form of pensions and enables comparison at the European level. Second, a simple conceptual framework that allows pension expenditure to be broken down into the various economic, demographic and institutional factors that determine its scale.[1] Importantly, given the data source used (see the next section), the pension expenditure covered by this analysis includes both public spending and some spending by private agents.[2] For this reason, although there is little provision for private pension schemes in many countries, including Spain, the pension system size specified in this article should not be understood as corresponding solely to public pensions.

It should also be stressed that the data used and, therefore, the results of the article correspond to 2019, the year prior to the outbreak of the pandemic, which has led to substantial distortion of the economy and especially GDP. The calculations do not take past or future economic and institutional changes into account. Specifically, the 2021 pension reform and the additional provisions set out in the Spanish Government's Recovery, Transformation and Resilience Plan, as well as the demographic and economic developments that will determine the size of the pension system in the coming decades. All of these factors could have a significant impact on international comparisons of pension expenditure drivers. The fact that these results are limited to 2019 requires the reader to be extremely cautious when extrapolating the data to the present day or beyond.

The main findings of the analysis are as follows. First, in 2019, Spanish pension system expenditure was higher than the EU's simple average and similar to its GDP-weighted average, although there

1 The question of the size of the Spanish pension system in comparison with those of other European countries was addressed recently in the context of the Toledo Pact. Specifically, there is evidence to show that Spanish pension system expenditure may be below that of comparable countries. Some authors have, however, questioned that evidence, emphasising the fact that the ageing process in Spain is still behind those of comparable countries and noting that, when the sample of countries is expanded, Spain drops out of the group of countries with lower expenditure and a younger population. In particular, see the presentation given by the Minister for Inclusion, Social Security and Migration to the committee responsible for monitoring and evaluating the Toledo Pact agreements on 9 September 2020 and De la Fuente, García Díaz and Sánchez Martín (2020). This article aims to provide a systematic approach to the comparison of the Spanish pension system with regard to both the sample of peer countries used and the economic, demographic and institutional factors that determine pension expenditure. Doménech (2022) also compares the drivers of Spanish pension expenditure in the European context.

2 The next section contains a definition of pension expenditure as analysed in this article. In general terms, the first and second pillars of pension systems have been included, that is, public pension schemes and occupational pensions. The third pillar – private pension schemes – have been excluded.

is a great deal of heterogeneity across countries. In 2019, for example, the size of the Spanish pension system, relative to the level of economic activity, was smaller than those of six EU countries – Greece, Italy, Portugal, France, Austria and Finland – but similar to or slightly larger than those of the other European countries. Second, in 2019, the ageing process was less advanced in Spain than in the rest of the EU and both pension system coverage and the share of wages in GDP were lower – all elements that tend to entail lower pension expenditure.[3] In contrast, the relatively low Spanish employment rate and comparatively high benefits paid relative to the average wage are both factors that make for higher pension expenditure in Spain in comparison with other EU countries. Third, the driving factors behind pension expenditure vary widely across European countries. For example, the countries with the highest spending – Greece and Italy – are both notable for the level of their benefits relative to the average wage, while France, which has the third-highest level of expenditure, is unusual for the high coverage rate of its pension system. Fourth, Eurostat's demographic scenarios factor in a significant increase – both in absolute terms and relative to other EU economies – in the ageing of the Spanish population over the next three decades, which would exert significant upward pressure on pension spending. Slightly more than 40% of this increase could be offset if, in coming years, Spain's employment rate were to approach those of the European countries with the highest employment rates.

The rest of the article is organised as follows. The next section describes the dataset used. This is followed by a comparison of the size of the Spanish pension system with those of other EU countries, and lastly by an analysis of each country's pension system with respect to the European aggregate.

The data

The main data source used is the European system of integrated social protection statistics (ESSPROS) developed by Eurostat. ESSPROS provides a common framework that enables comparison between national social protection statistics. Social protection is understood as comprising all interventions from public or private bodies intended to relieve households and individuals of the burden of a defined set of risks or needs, provided that there is no simultaneous reciprocal or individual arrangement involved.[4] As part of the list of risks or needs (also known as "functions") that give rise to social protection, information is provided on social welfare benefits in the form of pensions, which are the focus of this article. These benefits are defined as regular cash payments intended to provide supplementary income to people who are disabled, elderly or economically dependent on a deceased person.[5]

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3 However, Eurostat's demographic scenarios forecast substantial ageing of the Spanish population over the course of the next three decades (see the section on pension expenditure below.

4 The requirement for an absence of any simultaneous reciprocal arrangement excludes benefits provided by an employer (which can be considered as remuneration for work) from the definition of social protection unless these benefits are not simultaneous (an employer's pension contributions, for example), in which case they are included as social protection. Initiatives by private individuals or households undertaken for personal benefit (individual pension schemes, for example) are likewise excluded.

5 The list of risks, or needs, includes sickness/health care, disability, old age, survivorship, family/children, unemployment, housing and social exclusion not elsewhere classified. There are seven categories of benefits under each of these functions: total and partial disability, total and partial retirement, early voluntary retirement, early retirement for labour-market reasons and survivorship. For more details on the methodologies, see https://ec.europa.eu/eurostat/web/social-protection/methodology.

Furthermore, some additional variables are used in the analysis. First, ESSPROS provides information on the number of pension beneficiaries in each country. Second, various economic and demographic variables are drawn from Eurostat, including GDP, population, number of employees and total gross wages.[6]

Third, the microdata of the EU Statistics on Income and Living Conditions (EU-SILC) are used to calculate and decompose the pension system coverage ratio in order to understand why it is so low in Spain, as will be explained in more detail below.

Pension expenditure in Spain: a European comparison

According to ESSPROS data, pension expenditure in Spain in 2019 amounted to 12.7% of GDP, above the EU's simple average (10.4%).[7] However, this masks significant heterogeneity. For example, pension spending in the other large southern European countries is significantly higher than in Spain. Specifically, average pension expenditure in Greece, Italy and Portugal exceeded 15% of GDP in 2019, while three further countries – France, Austria and Finland – all spent more than Spain (14.7%, 14.1% and 13.3% of GDP, respectively). The remaining countries had a lower pension expenditure-to-GDP ratio in 2019. For example, the average benefit amount in Belgium, Denmark, the Netherlands, Germany and Sweden stood at 12% of GDP, while in the eastern European countries this figure was generally below 10%.[8] Regarding the EU aggregate, i.e. the GDP-weighted average of each country's pension expenditure-to-GDP ratio, pension system size stood at 12.7% of GDP in 2019, similar to that of Spain (see Chart 1).[9]

In order to analyse the factors behind the difference in the pension expenditure-to-GDP ratio between Spain and other European countries, the spending has been broken down into five

6 The total number of pension beneficiaries in ESSPROS is calculated avoiding double counting. This means that any pensioner receiving more than one pension is only counted once. Duplicates are removed successively for the different pension types until a figure is reached for the total number of persons receiving at least one pension. On the date on which the data were downloaded, there was no information on the number of pensioners in France in 2019. This number was imputed by applying the rate of growth observed between 2017 and 2018. Also, the number of employees is taken as the number of persons employed, regardless of the duration of their working day. Employment is defined as national employment, that is, the figure corresponding to people resident in the country.

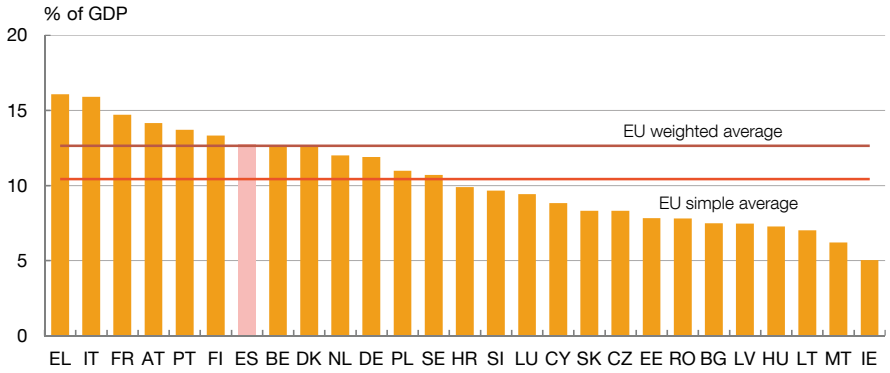
7 In terms of change over time, since 2000 the arithmetic mean of pension expenditure in EU countries (excluding Bulgaria and Croatia, for which Eurostat data begin later) has risen from 9.6% to 10.6% of GDP.

8 If France, Austria and Finland are considered alongside Belgium, Denmark, the Netherlands, Germany and Sweden, average pension expenditure would reach 12.7% of GDP, a level similar to that seen in Spain. Pension spending stood at 9.4% of GDP in Luxembourg and at 5% in Ireland. Two other small southern European countries had relatively low spending: Cyprus, at 8.8% of GDP, and Malta, at 6.2%. In Poland, pension expenditure stood at 11% of GDP in 2019.

9 Levels of pension expenditure reported by ESSPROS for each country are broadly similar to those compiled in *The 2021 Ageing Report* (European Commission, 2021). To be precise, the correlation coefficient between pension expenditure in the two sources is 0.90. The main differences stem from the fact that The 2021 Ageing Report only includes public pension benefits. For example, in Sweden, Denmark and the Netherlands, where the share of company pension plans is high, pension expenditure in ESSPROS is three percentage points (pp) of GDP higher than that recorded in The 2021 Ageing Report.

Chart 1
Pension expenditure in EU countries in 2019

1.a Pension expenditure



SOURCE: Eurostat (ESSPROS).

factors, covering demographic, economic and institutional drivers.[10] This gives the following formula:

$$g = d * c * \frac{1}{e} * b * \alpha$$

where *g* is the pension expenditure-to-GDP ratio, *d* is the demographic factor (defined as the ratio of the population over the age of 64 to the population aged 16 to 64), *c* is the coverage ratio (defined as the number of pensioners divided by the population over 64), *e* is the employment rate (calculated as the number of employees divided by the population aged 16 to 64), *b* is the benefit ratio (defined as the average benefit (calculated as pension expenditure divided by the number of pensioners) divided by the average wage (calculated as total gross wages according to National Accounts divided by the number of employees)), and α is the share of wages in GDP (defined as the ratio of total gross wages to GDP).

This breakdown illustrates the factors that explain pension expenditure. Given that retirement and widow(er)s' pensions make up a large proportion of this expenditure, it will generally rise as the following factors increase: the share of the population aged 65 and over (*d*), the proportion of elderly people receiving pension benefits (*c*), and pension benefits relative to the average wage (*b*). Conversely, pension expenditure as a percentage of GDP, ceteris paribus, will fall as the proportion of working-age people in employment (*e*) rises, since this employment drives up GDP, and as the

10 This equation is obtained by disaggregating pension expenditure as the product of the number of pensioners and average benefit and by multiplying and dividing, by the population aged 65 and over, the population aged 15 to 64 and total gross wages (the latter, broken down into the product of the number of employees and the average wage). That is: pension expenditure / GDP = population 65 and over / population between 16 and 64 * number of pensioners / population 65 and over * population between 16 and 64 / number of employees * average benefit / average salary * total gross wages / GDP. The first ratio after the equals sign is the dependency ratio (*d*); the second is the coverage ratio (*c*); the third is the inverse employment rate (*e*); the fourth is the benefit ratio (*b*); and the fifth is the share of wages in GDP(α).

wage share of GDP (α) decreases, since a lower wage share entails lower income for wage-earners (relative to other income comprising gross operating surplus and net taxes on production and imports), and thus lower pensions.[11]

Charts 2.a to 2.e show the bilateral relationships observed between each factor and pension expenditure in EU countries. A positive relationship can be seen between pension expenditure and the demographic factor, and between pension expenditure and the benefit ratio. Furthermore, both of these correlations are statistically significant (with a confidence level of 1%). The relationships between pension expenditure and the coverage ratio, the employment rate and total gross wages are not statistically significant, although the sign of the correlation between pension expenditure and the employment rate is as expected.[12]

Taking the logarithms of the above formula, the percentage differences between the pension expenditure ratios in Spain and each other EU country can be decomposed as the sum of the percentage differences of each of the abovementioned factors.[13] The results of this analysis are presented in Chart 2.f and in Table 1. The first column of Table 1 shows the percentage difference between the pension expenditure-to-GDP ratio in Spain and each other EU country. The other columns in the table show the percentage difference for each factor.[14] For example, the first number in the third column shows that the demographic factor in Spain is 16.1% lower than in Greece. This appears to indicate that, all other factors remaining constant, the pension expenditure ratio in Spain would be 16.1% higher if the Spanish demographic factor was equal to that of Greece (in this example, pension expenditure would increase from 12.7% to 15% of GDP, all other factors being unchanged).[15]

The demographic factor, which measures a population's degree of ageing, leads to lower pension expenditure in Spain than in other European countries (see the light grey bars in Chart 2.f and the third column of Table 1). For example, this factor reduces pension expenditure in Spain by around 9.3%, 12%, 13.9% and 19.5% in comparison with France, Germany, Portugal and Italy, respectively.[16] At the other end of the scale, some eastern European countries have populations that are considerably younger than that of Spain. For example, the demographic factor is 11.1% lower in Poland and 22.6% lower in Slovakia.

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11 Hernández de Cos, Jimeno and Ramos (2017).

12 The bilateral relationship between pension expenditure and these variables may not be significant as a result of their own correlation with various factors. For example, in the sample of EU countries, there is a negative and statistically significant relationship between the coverage ratio and the demographic factor, and between the coverage ratio and the benefit ratio.

13 Note that the interpretation of the differences in logarithms as percentage differences uses the approximation $log(a) - log(b) \cong a/b$, which is true when $a/b - 1$ is low.

14 Therefore, in Table 1, the sum of the third to seventh columns (from the demographic factor to share of wages in GDP) is equal to the second column (the percentage difference in the pension expenditure ratio).

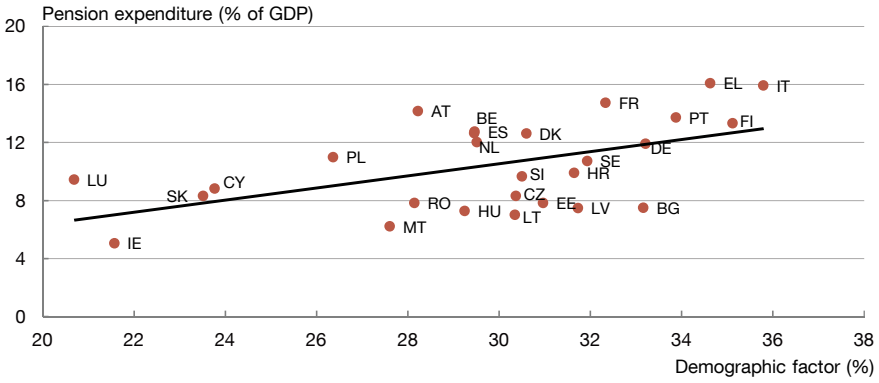
15 As noted earlier, the pension expenditure-to-GDP ratio can be decomposed as the product of five factors. Thus, pension expenditure in Spain in 2019, equal to 12.7% of GDP, can be calculated as the product of the demographic factor (29.5%), the coverage ratio (1.086), the inverse employment rate (1/(65.8%), the benefit ratio (73.2%) and the share of wages in GDP (35.7%). If the demographic factor of Greece (34.6%) was used, this expenditure would amount to 15% of GDP. Note that the logarithmic difference between the two expenditures equals 0.161, which, using the approximation, is interpreted as 16.1%.

16 It should be noted that the birth rate declined later in Spain than in these four countries, although it dropped sharply from the 1970s onwards. In particular, according to Eurostat data, the number of births in Spain in 1975 was 1.6% higher than in 1960, while in France, Germany, Portugal and Italy, it was 8.7%, 38%, 16% and 9% lower, respectively. In 1990, the number of births in Spain had dropped by 39.2% from 1960 levels, while the decline in France, Germany, Portugal and Italy was 6.6%, 28.2%, 45.6% and 37.5%, respectively.

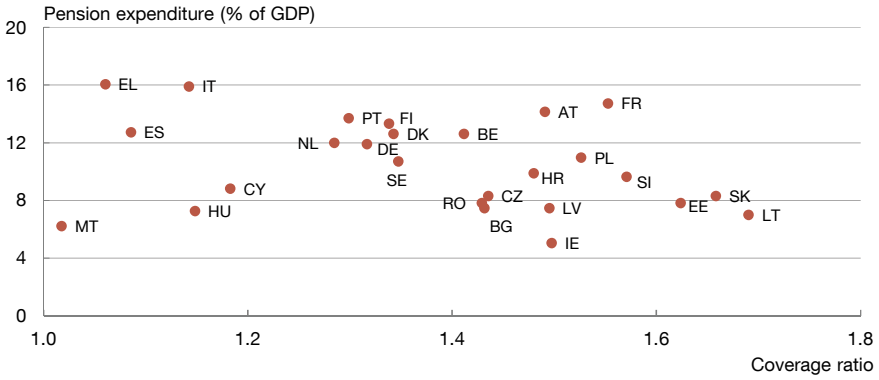
Chart 2

Determinants of pension expenditure

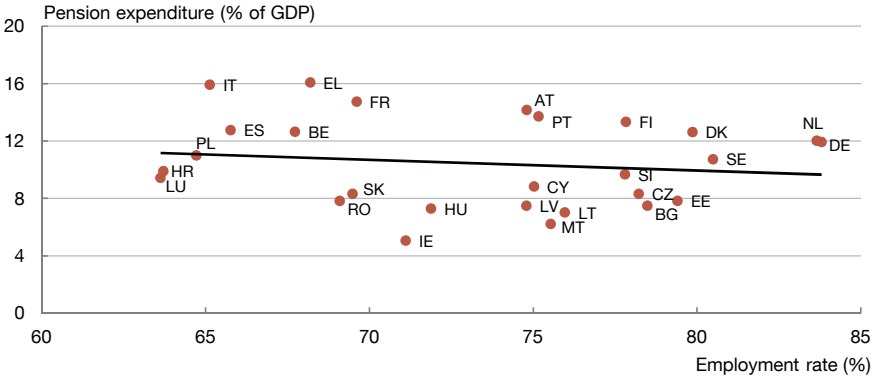
2.a Demographic factor



2.b Coverage ratio



2.c Employment rate



SOURCE: Banco de España, drawing on Eurostat.

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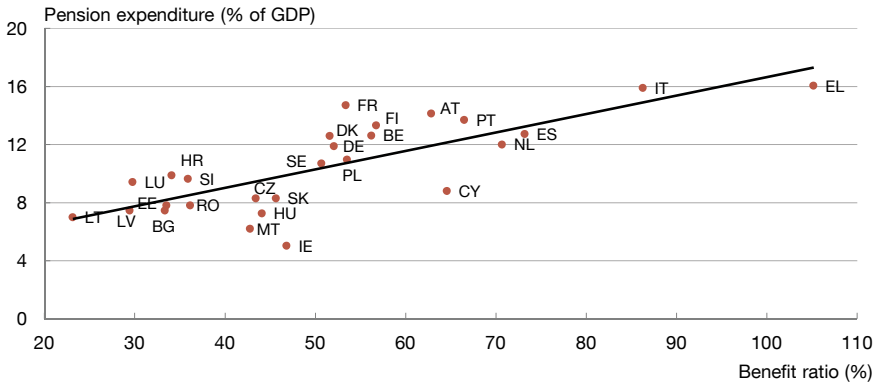
According to Eurostat's projections (EUROPOP2019), Spain is the EU country with the highest growth in the demographic factor between 2019 and 2050 (from 29.5% to 59.5%).[17] Under these

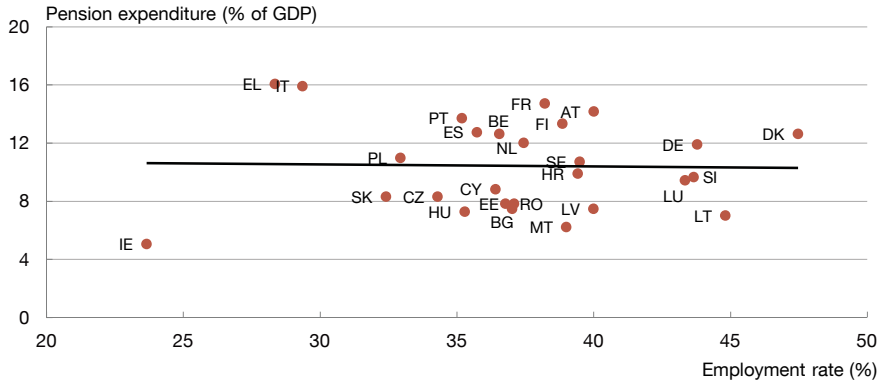
17 The latest projections of the National Statistics Institute (INE) in 2022 point to a smaller rise – of 23.6 pp – in the dependency ratio between 2019 and 2050 when compared with Eurostat's forecasts, from 30.2% to 53.8%.

Chart 2
Determinants of pension expenditure (cont'd)

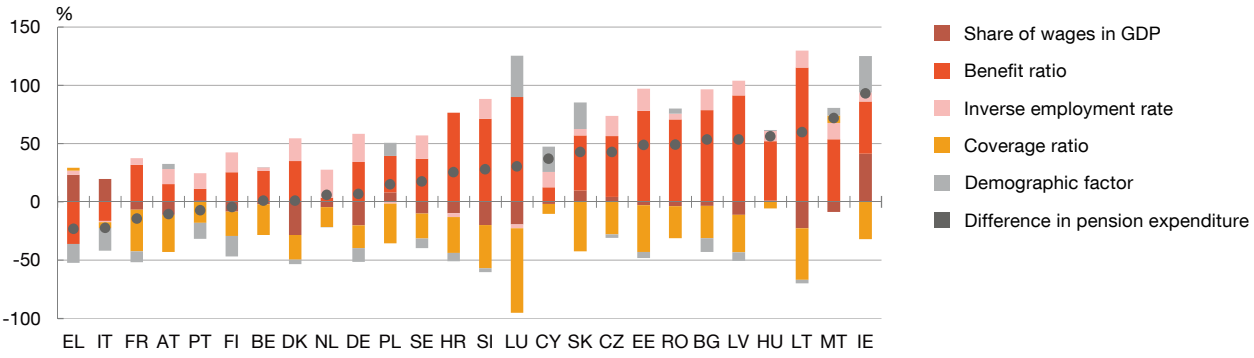
2.d Benefit ratio



2.e Share of wages in GDP



2.f Drivers of difference in pension expenditure between Spain and the other EU countries



SOURCE: Banco de España, drawing on Eurostat.

projections, the factor will overtake those of France in 2037 and Germany in 2039 and, in 2050, will reduce the difference with 2019 levels in Portugal and Italy by 25% and 67.7%, respectively. Thus, according to the demographic factor projected for 2050 and *all other factors remaining constant,*

Table 1
Drivers of difference in pension expenditure between Spain and the other EU countries

%

	Differences between Spain and other EU countries in:					
	Pension expenditure	Demographic factor	Coverage ratio	Inverse employment rate	Benefit ratio	Share of wages in GDP
Greece	-23.3	-16.1	2.3	3.6	-36.2	23.2
Italy	-22.3	-19.5	-5.1	-1.0	-16.4	19.7
France	-14.5	-9.3	-35.8	5.7	31.6	-6.7
Austria	-10.6	4.3	-31.7	12.9	15.2	-11.3
Portugal	-7.4	-13.9	-17.9	13.4	9.6	1.6
Finland	-4.5	-17.5	-20.9	16.8	25.5	-8.4
Belgium	0.9	0.0	-26.3	2.9	26.4	-2.2
Denmark	0.9	-3.8	-21.3	19.4	34.9	-28.4
Netherlands	5.9	-0.2	-16.8	24.1	3.5	-4.7
Germany	6.7	-12.0	-19.3	24.2	34.1	-20.3
Poland	14.9	11.1	-34.1	-1.6	31.3	8.1
Sweden	17.3	-8.0	-21.6	20.2	36.8	-10.0
Croatia	25.3	-7.1	-31.0	-3.2	76.4	-9.8
Slovenia	27.7	-3.5	-36.9	16.8	71.3	-20.0
Luxembourg	30.1	35.4	-72.6	-3.3	89.9	-19.3
Cyprus	36.7	21.5	-8.6	13.2	12.6	-1.9
Slovakia	42.7	22.6	-42.4	5.5	47.2	9.8
Czech Republic	42.7	-3.0	-27.9	17.3	52.2	4.1
Estonia	48.8	-5.0	-40.3	18.8	78.0	-2.9
Romania	48.9	4.6	-27.5	4.9	70.6	-3.7
Bulgaria	53.3	-11.8	-27.7	17.7	78.6	-3.5
Latvia	53.3	-7.4	-32.0	12.9	91.1	-11.2
Hungary	56.0	0.7	-5.6	8.9	50.7	1.3
Lithuania	59.7	-3.0	-44.3	14.4	115.2	-22.6
Malta	71.8	6.5	6.4	13.8	53.7	-8.7
Ireland	92.8	31.2	-32.2	7.8	44.7	41.3

SOURCE: Banco de España, drawing on Eurostat.

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Spain would become the European country with the third highest pension expenditure (behind Greece and Italy), up from seventh highest in 2019.[18]

With regard to the number of pension system beneficiaries, Spain has levels well below those of other EU countries, with the exceptions of Greece and Malta. This exerts considerable downward pressure on pension expenditure (see the yellow bars in Chart 2.f and the fourth column of Table 1). For example, the coverage ratio in Spain would be 35.8%, 9.3%, 17.9% and 5.1% lower

18 If the change in the coverage ratio expected in *The 2021 Ageing Report* is added to the 2050 projected demographic factor, Spain would have the second-highest pension expenditure in the EU, only behind Greece.

than in France, Germany, Portugal and Italy, respectively. The average coverage ratio would stand at 1.41 in the EU, while in Spain it would reach 1.09, 21.3% lower.[19]

Using the EU-SILC microdata, it is possible to look more deeply into the reasons underlying the low coverage ratio in the Spanish pension system. Specifically, it is possible to estimate the ratio of the number of pensioners (persons receiving retirement, widow(er)s' and disability pensions) to the population aged 65 and over in the EU-SILC survey, and to decompose this ratio into three addends: the ratio of men receiving a retirement or widower's pension to the population over the age of 65; the ratio of women receiving a retirement or widow's pension to the population over the age of 65; and the number of recipients of a disability pension to the population aged 16 to 64 multiplied by the ratio of this demographic to the population over the age of 65.

Under this analysis, the average coverage ratio of pension systems in Europe, on EU-SILC data, is 1.30, compared with 1.06 in Spain, 18.3% lower.[20] This is mainly because the number of retirement and widows' pensions received by women (relative to the population aged 65 and over) is significantly below the European average (26.8% lower) and because the number of disability pensions relative to the population aged 16 to 64 is also lower (26% below the EU average). In contrast, the number of retirement and widowers' pensions received by men is closer to the European average (just 4.6% lower). In this respect, inasmuch as the lower number of retirement and widows' pensions received by women in Spain is a result of their lower labour-market participation in a historical comparison with the rest of Europe, the trend observed and forecasts available point to this difference falling in the years to come.[21]

However, there are also factors that will exert downward pressure on the coverage ratio in coming years. In particular, the rise in the retirement age and the lower share of workers relative to the population over the age of 65 will tend to reduce the coverage ratio. In this respect, *The 2021 Ageing Report* (European Commission, 2021) forecasts a fall in the Spanish pension system's coverage ratio from 1.08 in 2019 to 1.02 in 2050. This decrease would offset around 11.4% of the growth in pension expenditure caused by the expected increase in the demographic factor between 2019 and 2050.[22]

As opposed to the demographic factor and the coverage ratio which, in general, lead to lower pension expenditure in Spain relative to some European countries, there are another two factors in the Spanish economic and institutional fabric that could account for higher spending relative to GDP. First, the Spanish employment rate is one of the lowest in the EU, which exerts

19 Luxembourg is excluded from these calculations, as in those that use EU-SILC data, because it is an outlier and there is a significant disparity between the coverage ratio estimated using ESSPROS and that estimated using EU-SILC (see the paragraph below). The correlation of the coverage ratio recorded in ESSPROS and that estimated using EU-SILC, excluding Luxembourg, is 0.70.

20 Note that the coverage ratios estimated using EU-SILC microdata differ from those provided by ESSPROS, although both sources agree that the Spanish ratio is substantially lower than the European average.

21 According to Eurostat data, the participation rate of women (of 15 to 64 years of age) in Spain was 8 pp below the EU-27's simple average in 2000, but only 0.4 pp lower in 2019. Conversely, *The 2021 Ageing Report* projects that the participation rate of women (of 20 to 64 years of age) in Spain will exceed the European average by 2 pp in 2050.

22 This offset is calculated as the difference between the change in pension expenditure using the demographic factor in 2050 and both the demographic factor and the coverage ratio in 2050, in comparison with the change using the demographic factor in 2050 but keeping all other factors in the breakdown constant.

upward pressure on the expenditure ratio (see the pink bars in Chart 2.f and the fifth column of Table 1). For example, all other things being equal, this explains why pension expenditure in Spain is 24.2%, 24.1% and 5.7% higher than in Germany, the Netherlands and France, respectively. If, in the years to come, the Spanish employment rate were to rise to match the level seen in Germany (an increase of 18 percentage points), it would allow 42.6% of the increase in pension expenditure expected as a consequence of the predicted growth in the demographic factor to be offset.[23, 24]

Second, the benefit ratio (the average benefit to average wage) in Spain is the third highest in the EU, which entails pension expenditure that is 34.1% higher than in Germany and 31.6% higher than in France (see the dark orange bars in Chart 2.f and the sixth column of Table 1). Only two European countries – Greece and Italy – have a benefit ratio above that of Spain, at 36.2% and 16.4%, respectively. Those are, indeed, the countries with the highest pension expenditure-to-GDP ratio in the EU.

Lastly, the share of wages in Spain's GDP is at the lower end of the distribution of EU countries, which leads to lower pension expenditure (see the brown bars in Chart 2.f and the last column of Table 1). By way of example, the share of wages in GDP in Spain is 20.3% lower than in Germany and 6.7% lower than in France. There are, however, European countries where this share is even smaller than in Spain, for example, in Greece and Italy where it is 23.2% and 19.7% lower, respectively.

Drivers of differences in pension expenditure between each country and the EU aggregate

When analysing the size of pension systems in different Member States, it is useful to compare them to the EU aggregate, i.e. the GDP-weighted average of the spending ratios in each country.[25]

Table 2 shows the results of this comparison. It can be seen that pension expenditure in Spain is similar to that of the EU as a whole. However, some of the driving factors behind this spending, when compared against the European aggregate, have opposing impacts. On the one hand, the demographic factor, the coverage ratio and the share of wages in GDP would seem to explain the substantially lower expenditure in Spain – 31.9% less, to be precise – with respect to the weighted EU average. This lower expenditure is completely offset by the lower employment rate and higher benefit rate, which together would explain expenditure 32.5% higher than the EU average.

The two countries with the largest pension systems – Greece and Italy – are notable for the generous benefits they pay, measured as average pension to average salary, 59% and 39.2%,

23 This figure is calculated as the difference between the change in pension expenditure in Spain using the demographic factor in 2050 and the expenditure using the demographic factor in 2050 and the employment rate in Germany in 2019, in comparison with the change using the demographic factor in Spain in 2050 but keeping all other factors in the breakdown constant.

24 If the increase in the demographic factor forecast by INE is used, the improvement in the employment rate to that of Germany would compensate for 47.6% of the increase in pension expenditure, while the drop in the coverage ratio would offset 12.8%.

25 Note that using this weighted average as a reference allows the logarithmic difference between the ratio of each country and that of the EU as a whole to be decomposed into the sum of the logarithmic differences of each factor and the corresponding EU aggregate factor.

Table 2
Drivers of differences in pension expenditure between the EU Member States and the EU aggregate

%	Differences between each country and the EU aggregate in:					
	Pension expenditure	Demographic factor	Coverage ratio	Inverse employment rate	Benefit ratio	Share of wages in GDP
Greece	23.8	9.9	-22.9	6.1	59.0	-28.3
Italy	22.9	13.3	-15.5	10.7	39.2	-24.8
France	15.1	3.1	15.2	4.0	-8.8	1.6
Austria	11.2	-10.5	11.2	-3.2	7.5	6.1
Portugal	7.9	7.7	-2.6	-3.7	13.2	-6.7
Finland	5.1	11.3	0.4	-7.1	-2.7	3.2
Spain	0.6	-6.2	-20.6	9.7	22.8	-5.1
Belgium	-0.3	-6.2	5.7	6.8	-3.6	-2.9
Denmark	-0.4	-2.4	0.7	-9.7	-12.2	23.3
Netherlands	-5.3	-6.0	-3.7	-14.4	19.3	-0.5
Germany	-6.1	5.8	-1.3	-14.5	-11.3	15.2
Poland	-14.3	-17.3	13.5	11.3	-8.5	-13.3
Sweden	-16.8	1.8	1.0	-10.5	-14.0	4.9
Croatia	-24.7	0.9	10.4	12.9	-53.6	4.7
Slovenia	-27.1	-2.7	16.4	-7.1	-48.5	14.9
Luxembourg	-29.6	-41.6	52.0	13.0	-67.2	14.2
Cyprus	-36.2	-27.7	-12.0	-3.5	10.2	-3.3
Slovakia	-42.1	-28.8	21.8	4.2	-24.5	-14.9
Czech Republic	-42.1	-3.2	7.4	-7.7	-29.4	-9.2
Estonia	-48.2	-1.2	19.7	-9.1	-55.3	-2.3
Romania	-48.3	-10.8	6.9	4.8	-47.8	-1.4
Bulgaria	-52.7	5.6	7.1	-8.0	-55.8	-1.6
Latvia	-52.7	1.2	11.5	-3.2	-68.3	6.1
Hungary	-55.4	-6.9	-15.0	0.8	-28.0	-6.4
Lithuania	-59.1	-3.2	23.7	-4.7	-92.4	17.5
Malta	-71.2	-12.7	-27.0	-4.1	-30.9	3.6
Ireland	-92.2	-37.4	11.6	1.9	-21.9	-46.4

SOURCE: Banco de España, drawing on Eurostat.

respectively, higher than the EU weighted average. In France – the third EU country with the highest pension expenditure – the coverage ratio is unusually significant, 15.2% above the EU weighted average.

Some central and northern European countries have particularly high employment rates, which is one of the reasons behind their low pension expenditure. For example, on account of their employment rates, pension expenditure is 14.4% lower in the Netherlands, 14.5% lower in Germany and 7.1% lower in Finland. There are, however, other variables in these countries that have opposing impacts. For example, Finland is unusual for its high demographic factor, 11.3% above the EU average, while in the Netherlands the benefit ratio is 19.3% above the European

average. In Germany the share of wages in GDP explains 15.2% of the higher spending compared with the other EU countries.

For countries with lower pension expenditure, many of which are in eastern Europe, their low benefit ratios – between 24% and 92% below the European average – stand out. Similarly, some countries are exceptional for having population ageing significantly below that of the EU as a whole. For example, the demographic factor is 41.6% and 37.4% below the European average in Luxembourg and Ireland, respectively.

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