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AN OUTLOOK ON THE SPANISH PENSIONS AND THEIR RECENT REFORMS

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UNA PERSPECTIVA SOBRE LAS PENSIONES ESPAÑOLAS Y SUS RECIENTES REFORMAS

RESUMEN

En este trabajo se pretende establecer una visión global de la evolución del sistema de pensiones español en vista a las medidas de ajuste recientemente aplicadas y la expectativa de que nuevas reformas se aprueben en los próximos años en respuesta a las diferentes causas que amenazan la sostenibilidad del sistema. Se estudiará la efectividad de dichas medidas y se compararán con las seguidas en otros países desarrollados, con tal de poder ofrecer ajustes adicionales o alternativas a los ya aplicados. Por último, se hablará de otros desafíos a los que se enfrenta el sistema de pensiones. Las conclusiones son que el problema de la insostenibilidad es real y exigirá futuros cambios de diseño del sistema en línea con los ya impuestos, que siguen la mayoría de países europeos. No obstante, es difícil determinar un equilibrio entre eficiencia y equidad, por lo que las reformas deberán dirigirse también al sector privado, que es marginal en España, para garantizar unas tasas de reposición que permitan –hasta cierto punto- mantener los niveles de vida de los pensionistas.

PALABRAS CLAVE: Pensiones, Fondos de Pensiones, Sistema de reparto, Reformas, Demografía, Edad de jubilación, Índice de Revalorización, Índice de Sostenibilidad.

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ABSTRACT

This research project aims at establishing a global vision of the evolution of the Spanish Pension System in light of the measures of adjust recently applied and under the expectation of new reforms being approved in the forthcoming years in response to the different causes that threaten the sustainability of the system. The effectivity of these last measures will be studied; additionally, they will be compared and contrasted with those imposed in most of the developed countries in order to offer potential additional adjustments or alternatives to those already applied. Finally, I present an overview of further challenges to the pension system. The conclusions are that the unsustainability problem is real and will require future changes in the system's design in line with the already made so far, which most of the European countries follow. Nonetheless, it is hard to determine an equilibrium between efficiency and equity, and therefore the measures should involve the private sector, which is marginal in Spain, in order to guarantee that the replacement rates allow –to some extent- the preservation of the standard of living of the pensioners.

KEY WORDS: Pension, Pension Fund, Pay-as-you-go System, Reforms, Demography, Retirement age, Index of Revaluation, Index of Sustainability.

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I. INTRODUCTION:

The Spanish pension system has been up for discussion during the last few decades, and it has suffered up to five main reforms since 1990, following the directives of the so-called *Pacto de Toledo* and the ones sent from the European Union's Institutions. These reforms try to solve the different threats that the system has to face in the forthcoming years, which include both long-term phenomena, such as the demographic trend of an ageing population characterised by low fertility rates and long life expectancy, and more cyclical ones, namely the aftermath of the Great Recession. Furthermore, the Spanish pension system is what is known as a Pay-as-you-go system, and these threats have meant sustainability problems in structural terms. Most of the developed countries both face a similar context and traditionally held the same type of pension systems, but the reforms among the different economies both include conversions and divergences.

The pension system is, along with the health care and the education, one of the pillars of the Welfare State. Hence the heated debate that their reforms have stirred up in politics but also in the private sector and among the average citizen. These tensions towards one direction or another have delayed a long overdue reform, as no government is willing to apply unpopular measures. As a result, the majority of the workers and retirees have experienced confusion and discomfort with these reforms, which were received with fear and nonconformity.

Is the Spanish public pension system really unsustainable? Is it a structural problem or is it just cyclical? Are the reforms on the right track? And if so, will they be enough? These are some of the questions that can be heard everywhere around the country. Thus, the aim of this work is to provide an objective outlook on this process of adjustment, trying to shed light to the reasons behind these reforms and the future of the Spanish public pension system.

The paper is built upon an in-depth research from bibliographic references both found on the public and private sector, and written by both academics and institutions, with the result of a theoretical and conceptual development as follows:

The first section, *The Role of Pension Systems*, offers a summary of the main pension systems and some of their quantitative features on the different EU15 countries that are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom.

Then, the second section gives a closer insight of the Spanish pension system overall, with a specific section on the retirement public pensions, their functioning and unique characteristics, as they are the main object of this work.

The third section, *The Context of the Reform*, is divided into both the demographic and economic challenges, and tries to objectivise causes of the unsustainability problem and determine its gravity both in quantitative terms and over the time.

The fourth section, *The Precedents of the Reform* concerns both the main European economies and Spain, and it is a quick revision on the paths that led to the last reforms.

The fifth section exposes and summarises the last two Spanish reforms, in 2011 and 2013. These two are the main changes to the Spanish public old-age public pension system, and thus are the base upon which this project has been built.

In the following section, *Effectivity and Implications of the Reforms*, the different outcomes and perspectives found in the most recent publications have been explained, trying to offer an objective view and a well defended argument.

The next section, *Alternative or Additional Reforms*, bases on these analysis of the outcome of the reforms some recommendations and further measures to be applied in order to guarantee the system's sustainability.

Last but not least, this paper exposes some of the parallel or foreseeable challenges that our public pension system will have to tackle in further reforms in order to ensure its sustainability in the section *Further Challenges to the Spanish Pensions System*.

The importance of this topic has inspired many research papers and studies, being the reports *Pensions at a Glance* by the OECD one of the best compilations of information on pensions reform since its launch 10 years ago. Other institutions in a national scope have also long studied the Spanish pension system, namely the Bank of Spain and the Spanish Government and its Ministries. In the private sector, there are some remarkable articles as well, and not surprisingly there is a general consensus in some issues. They all agree that success of a pension system is not only found in its financial sustainability, but also on the social sustainability. Therefore, any pension system's reforms should pursuit the objective of being able to guarantee the adequacy of the pensions both in quantity and in duration.

1. The Role of Pension Systems

All the old-age pension systems have a common goal: to try to maintain -to some extent- the standard of living achieved by each worker during their career after their retirement. Most of the countries have a mandatory pension plan, and in order to guarantee the consumption during the retirement, some of the income obtained during the working life is committed to that purpose. All the OECD economies except for New Zealand and Ireland establish a minimum amount to be saved from their salary that are not at disposal until the moment of retirement. At the same time, the individuals have voluntary long-term savings that can be of many different natures, from passive investments such as real estate investment to the long-term financial products of the savings accounts.

However, long term savings are risky due to the uncertainties on the demography, the economy and the individual's own life. The main objectives of the pension system should be to achieve the maximum profitability under the minimum risk. The factors that determine the profitability are, among others, the tax treatment and the management costs, which despite decreasing the profitability to begin with, can make it increase or reduce the risk overall if well managed.

Generally speaking, there are three main ways in which pensions are managed:

- **The basic or minimum pension.** Its purpose is to cover the individuals who cannot afford a minimum standard of living by themselves in order to avoid poverty among the elderly. Most of the developed countries have it as part of the Welfare State, and some of them finance it via State transfers. It does not usually depend on any sort of contributions and they can be basic if they do not depend on anything; means-tested when they depend on the income or the wealth, or contributory if it is a complement to the contributory pension when this one is not sufficient.

In TABLE 1, the relationship between income-poverty among the elderly and the recipients and the value of the basic or minimum pension is shown. Two countries, Denmark and The Netherlands, stand out for having the highest coverage of these pensions and among the lowest income-poverty rates. However, their value as a % of the average earnings is around the average of all EU15 countries. The differences in the weight of the perception of the different types of pension depends in a big measure on the design of the pension system as a whole: some countries have more universal systems than others, and some of them give more importance to one type than to another. This is the case of Denmark and The Netherlands, whose public pensions have been merged into the basic pension as explained below.

Country	Basic and minimum pensions		Income poverty as % of population +65
	Value as a % of the average earnings	Recipients as a % of population +65	
Austria	-	11	11,36
Belgium	29,01	16	10,73
Denmark	17,84	88	4,56
Finland	17,73	47	7,76
France	22,04	41	3,81
Germany	-	2	9,40
Greece	28,97	19	6,89
Ireland	34,75	17	6,92
Italy	21,38	37	9,36
Luxembourg	49,11	30	3,02
Netherlands	27,11	-	2,00
Portugal	30,44	76	8,07
Spain	33,87	34	6,74
Sweden	23,18	42	9,26
United Kingdom	16,51	27	13,40

TABLE 1: Basic and Minimum pensions and income poverty among the elderly for the EU15 countries.

Source: Own elaboration from OECD (2015), Pensions at a Glance 2015: Retirement-Income Systems in OECD and G20 Countries. Income poverty defined as the % with incomes less than 50% of median household disposable income.

- **The public social provision.** They are based on mandatory contributions to the State that are typically taxes on the salary which generate rights to future pension transfers upon retirement. They can be defined-benefit or defined-contribution systems. The first scheme establishes the amount of the pension and then adjust the contributions in order to finance it -the risk is therefore held by the current workers, and it is very volatile on the demographic and economic crises. The defined-contribution systems, on the other hand, fix the amount of the contribution and then adjust the pensions depending on that budget – the risk, then, is held by the pensionaries, and even though it is not so vulnerable on the demography and the economy, it cannot ensure coverage in case of longevity, making the workers insure by other means due to the uncertainty they provide.

There are three different types of public pension systems. Traditionally, most of them are a Pay-as-you-go system, meaning that the current workers' contributions are used to pay the retirement pensions of the moment and therefore they are not invested in any sort of assets, which is the case of Spain, France and Portugal. They usually have the highest replacement rates, but they are inflexible to demographic and economic pressures, they offer very little transparency due to the difficulty in order to calculate the pension amount and they are usually not universal.

In some other countries, such as Italy or Sweden, it has been reformed into a notional system, meaning that the regulatory base upon which the pensions will be calculated is the current

value of all the career's contributions. This type offers more transparency due to the clear link between contributions and pensions, having fewer effects on retirement behaviours and savings. In addition, it has mechanisms of automatic adjustment that depend on the economic and demographic circumstances and therefore can avoid the risks in case of adverse conditions.

Last, it can be a system by points like in the German case. This transforms the contributions into points that will be exchanged by the pensions in the moment of retirement. They are a middle ground between the pay-as-you-go and the notional systems, as the prices of the points can be adjusted depending on the economic and demographic changes but they are not as flexible nor transparent.

The main advantages of the system are that they are guaranteed by the State, which has the ability to collect taxes and obtain debt, and that they benefit from large-scale economies. Moreover, because of their universal character, they are a good insurance against longevity risks. However, they are particularly affected by demographic pressures and economic contractions since they are absolutely linked to the territory of the State.

Some countries like The Netherlands and the United Kingdom have abandoned the public retirement pension systems and instead just have basic pensions, a bit higher than the average minimum pensions for most of the countries but with a replacement rate of under 30%, and the private funds, which are mandatory and substitute the public pensions.

Country	Public pensions			Reserve funds % of GDP
	Type	% of the GDP period 2010-2015	Replacement rate % of individual earnings	
Austria	Defined-benefit	13,89	78,10	non-applicable
Belgium	Defined-benefit	11,79	46,62	5,05
Denmark	Basic	10,30	21,45	non-applicable
Finland	Defined-benefit	12,87	55,79	27,00
France	Defined-benefit + points	14,89	55,40	2,45
Germany	Points	10,00	37,49	non-applicable
Greece	Defined-benefit	16,19	66,70	non-applicable
Ireland	Basic	7,35	34,75	non-applicable
Italy	Notional Defined-contribution	15,72	69,49	non-applicable
Luxembourg	Defined-benefit	9,38	76,77	non-applicable
Netherlands	Basic	6,89	27,11	non-applicable
Portugal	Defined-benefit	13,82	73,76	6,91
Spain	Defined-benefit	11,80	82,11	5,12
Sweden	Notional Defined-contribution	8,93	37,00	28,02
United Kingdom	Basic	7,66	21,65	non-applicable

TABLE 2: Public pensions type, expenditure, replacement rates and their reserve funds for the EU15 countries.
Source: Own elaboration from OECD (2015), Pensions at a Glance 2015: Chapters 5, 6 and 9.

- **The private pension funds.** They are based on savings into life insurances, long-term investment products or pension plans that can be both an initiative of the individual or an occupational plan organised by the employer. Its yields and characteristics depend on the market, so they are therefore known as Capitalised systems. Their main advantage is that they can be geographically diversified, what makes them less vulnerable to structural crises caused by the demography or the economy. Also, that they are very flexible as they can combine both the advantages of being regulated by the State, which can establish their design and their guarantees, and the possibility of making individual choices on the diversification of the investments. They can be mandatory, like in the United Kingdom; quasi-mandatory, like in New Zealand (where all workers sign in by default but they can drop out if desired) and in Sweden and Denmark (where they are part of the collective negotiations of the workers and therefore affect most of them); or fully voluntary.

Looking at TABLE 2 and TABLE 3, it is straightforward to see that in the countries in which there is only a basic pension provided by the state, that is, there are no public contributory pensions, the private funds have the highest share of the GDP. This is the case of The Netherlands, with just under 150%; the United Kingdom, with almost 100%; and Denmark and Ireland, with almost around the half of the GDP. Conversely, all the countries with a defined-benefit public pension provision have a share of the pension funds less than 10% of the GDP.

Nonetheless, this does not match with the coverage of the pension funds as a percentage of the working population. The reasons for that apply to each individual country and the way in which the access to those pension funds is managed, as explained above. However, it is also true that some people can be covered by one than one plan, what would explain the huge shares in the GDP in relation to their coverage of the working population.

However, they have a few big inconveniences. The first one is that they are linked to the life of the firm and therefore they can be affected by the economic turbulences such as cessation of payments or bankruptcy. In addition, they lack universality as they only affect a small collectives of workers or some individuals, and therefore they are less able to ensure a lifelong pension in case of longevity. At the same time, they might suffer from higher costs due to the economies of scale of the pension system.

These two systems of public and private pension plans are complementary and by no means exclusive, and most of the countries are moving towards a more efficient combination of the two types, which ensures a lifelong rent after retirement at a reasonable cost.

Country	Pension Funds		Coverage (as a % of working age population)		
	% of the GDP	investment returns in 2013	Occupational	Personal	Total
Austria	5,66	2,90	15,10	18,00	not available
Belgium	4,99	5,80	57,35	not available	not available
Denmark	42,09	-	4,60	not applicable	22,41
Finland	48,70	6,00	9,20	20,90	29,10
France	0,41	-	20,16	5,35	not available
Germany	6,12	2,80	56,40	35,20	71,30
Greece	0,05	7,37	0,20	not available	not available
Ireland	52,35	-	31,00	12,00	41,30
Italy	5,95	4,92	7,40	8,85	15,70
Luxembourg	2,12	3,85	5,25	not available	not available
Netherlands	148,74	2,94	not applicable	28,32	28,32
Portugal	8,95	2,47	3,15	4,04	not available
Spain	8,81	7,90	3,30	15,70	18,60
Sweden	9,15	6,65	not applicable	36,00	36,00
United Kingdom	99,62	-	29,96	11,11	43,28

TABLE 3: Private pension funds' weight, returns and their coverage for the EU15 countries.

Source: Own elaboration from OECD (2015), Pensions at a Glance 2015 - Private pensions and public pension reserves.

2. The Spanish Pension System

The Spanish Pension System is fundamentally a pay-as-you-go system, which means that the old-age pensions of each generation are funded with the contributions of the younger generations that are workers in that moment. It was a defined-benefit scheme, but the last reform has virtually started a conversion process into a defined-contribution plan. These contributory public pensions are complemented with a non-contributory social pension and a relatively weak system of capitalised plans.

2.1. The Non-contributory Social Pensions

The non-contributory social pensions are economic benefits for all the citizens who lack sufficient resources for their subsistence in the legally established terms, no matter whether they have contributed during the 15 compulsory years to obtain the contributory pensions or not. There are three different types of pensions: invalidity, unemployment, and retirement.

According to the *Ministerio de Empleo y Seguridad Social*¹, the non-contributory retirement pensions are granted to those residents of the Spanish territory –national or foreign citizens

¹ *Ministerio de Empleo y Seguridad Social* is the Spanish Ministry of Employment and Social Security (hereinafter, MEYSS).

during at least 10 years between the date they turned their 16 years of age to the date of accrual, 2 of them consecutive and immediately prior to the date of request of the pension-who are 65 years' old or over and have an annual contributory pension or salary of less than the annual amount of the social pension, if they live alone, or no right to any pension at all. In 2016 the maximum amount of the social pension is 5.150,60 € per year (subject on living alone, among others), paid in 14 transfers.

According to the OECD (2015), the average quantity of the minimum (or social) Spanish pensions was a 33,9% of the average worker's earnings, over 10 points higher than the average of the EU15, which is a 23,5%, and it covers a 34% of the people older than 64, slightly under the 35% average of the EU15.

These non-contributory retirement pensions are delegated to the competent institutions of each Autonomous Community and to the provincial Directives of the *Instituto de Mayores y Servicios Sociales*². Additionally, there is some protection offered by the Spanish Government to all the national retired and dependent people unconditionally: healthcare delivery³, family benefits and social services aimed at attending the elderly in situations of poverty or dependency⁴.

2.2. The Private Funds

The Spanish pensions are highly concentrated in the Pay-as-you-go system, and the role of the capitalised system is quite marginal, since they are voluntary. To illustrate this, by the end of 2015, the amount of the total capitalised funds was 104.518 million euros, approximately 9,67% of the Spanish GDP for that year⁵ whilst, according to the OECD (2015), the Eurozone average was 22% of GDP. The personal pension plans were 6,29% of GDP (68.011 million euros) and the occupational or associate pension funds were the remaining 3,38% (36.506 million euros). This accounted for a total number of personal plans of 7,88 million and a total number of occupational plans of 2,02 million⁶. The coverage of these plans of the working age populations (15-64 years old) is 15,7% for the personal ones and 3,3% for the occupational ones, which makes a total of 18,6% in Spain. The reason for the total not being the net sum is that many people are covered by more than one plan, and many of them by the two different

² *Instituto de Mayores y Servicios Sociales* is the Spanish Institute of the Elderly and Social Services (hereinafter, IMSERSO).

³ Healthcare Provision including primary health, speciality care, free pharmaceutical provision, and additional provisions such as rehabilitation and health transport, etc.

⁴ Free services of older than 65 in situations of dependency including home care, nursing homes and day care centres among others.

⁵ According to INE, the provisional Spanish GDP for 2015 was 1.081.190 million euros on the 1st of May 2016.

⁶ All the data on private pension funds was taken on the 1st of May 2016 from *INVERCO*, the Association of Collective Investment Institutions and Pension Funds, which virtually includes the totality of the Spanish Collective Investment Institutions (Funds and Investment Societies), the Spanish Pension Funds and the foreigner Collective Investment Institutions that are registered in the National Commission of Securities' Market (CNMV for its acronym in Spanish) in order to commercialise, as well as other divers Associate Members.

types. The average of the Eurozone is much higher, the personal plans being 21,7% of the GDP and the occupational ones 14,9%.

This shows that the personal and occupational pension funds are still not that extended, despite being incentivised by the Government. In 2015, according to the *Agencia Tributaria*⁷ the Spanish Personal Income Tax benefitted the investment in personal plans allowing a deduction on the taxable basis of the lesser between 8.000 euros or 30% of the taxable basis for the people under 50 and 50% for those older than 50. The employers also had tax benefits if they contributed to occupational pension plans. However, the pension plans are still taxed both whilst investing and once the pension is rescued.

In order to achieve profitability in the pension funds, considering the management or administration costs is also important. According to the OECD (2015), the Spanish total fees or commissions charged by pension funds to members was 1% of the total investment, and the pension funds' operating expenses as a share of total investments was 1,2%. This sets Spain as one of the highest of the OECD countries with the lowest being The Netherlands, Denmark and Finland with 1%, and the highest the Czech Republic with 1,4%. Last, the pension funds' real net investment return in 2012 was 3,7%, and in 2013 it was 7,9%.

2.3. The Public Pensions

The Spanish public pension system is a conventional Pay-as-you-go system and had a defined-benefit system. The last reforms, however, might have started a transition to a defined-contribution system. The system is organised in two main different regimes:

- **The General Regime.** It involves all the employed people and the associate workers of commercial and labour societies that do not work in any of the sectors defined as special. Two cases that have recently been included in this General Regime are the agrarian workers and the so-called passive classes, which refers to the house workers.

Within the General Regime, there are 8 different special systems that cover particular cases of employees: the fixed discontinued workers of firms of market studies and public opinion; the fixed discontinued workers of cinemas, ballrooms and party rooms, and discos; workers performing the tasks of handling and packing fresh tomato, done by exporter harvesters; workers who provide extraordinary catering services; workers of the industry of resin; workers of the industry of fruit, vegetables and their canned versions; workers of the agrarian sector; house workers.

⁷ *Agencia Tributaria* is the Spanish Tax Agency.

- **The Special Regime.** It includes the Special Regime of the Sea Workers, the Special Regime of the Mining and Coal Sectors and the Special Regime of the Self-Employed.

Additionally, the system has special agreements with some collectives of workers (lawyers, functionaries, etc.). The justification for such division of workers is the State's guarantee of an adequate protection against contingency and different situations established by the law that are characteristic of each field. However, these regimes and exceptions make the system lack universal and equal treatment of all workers that have contributed the same amount in the same moment in time (Díaz-Giménez, 2011).

For all the workers, including both the self-employed and the employees, it is mandatory to contribute to the Social Security, which grants the rights of the old-age pension, the disability coverage, the survival or widowhood pensions and other provisions for contingencies such as maternity or temporary incapacity. These contributions are made by both the worker and the employer as a percentage of the contribution base (part of the salary) which has minimum and maximum amounts. The Self-employed Regime has the singularity that the workers can choose the amount of their contributions to the Social Security between a maximum and a minimum fee.

2.3.1. The Retirement Public Pensions

The old-age pension is subject to some requirements, and can be divided into different types: normal retirement; early retirement for being affiliated to a mutualist insurance; early retirement without being affiliated to a mutual insurance; early retirement for working in dangerous conditions; early retirement for disabled workers; partial retirement; flexible retirement and special retirement at 64 years old.

The average pension replacement rate⁸ in 2015 in Spain was 82,1%, well above the EU15 average of 69,5%. However, there is a ceiling to the pensions established by the *Ley de Presupuestos Generales del Estado* (Law of State's General Budget): in 2016 the monthly⁹ maximum retirement pension is 2.567,28€ and the minimum is 636,10€ for those aged 65 or over -for the people under 65 it is 595,00€. The amount of the pension depends on:

- **The retirement age.** The normal retirement age is 65 years old in 2016 for those workers who have contributed for over than 36 years and 65 years and 4 months for those who have contributed for fewer years. However, this is in transition to reach the 67 years old of normal retirement age, because of the reform of 2011 (see TABLE 8).

⁸ According to the OECD: "The net replacement rate is defined as the individual net pension entitlement divided by net pre-retirement earnings, taking into account personal income taxes and social security contributions paid by workers and pensioners. It measures how effectively a pension system provides a retirement income to replace earnings, the main source of income before retirement."

⁹ Monthly but distributed in 14 payments rather than 12.

The minimum retirement age in order to obtain a pension is now 63 years old, with a reduction in the pension of 7,5% per year of early retirement.

- **The salary.** The amount of the pension is a percentage of the regulatory base, which is defined as the average of the bases of contribution (i.e. salary) of the last 18 years previous to the retirement –in 2016. This progressively increases each year -as result of the 2011 reform- and will reach 25 years in 2022. In 2016, the percentage applied to the workers of the General Regime is 28,30% of the salary up to the maximum of 43.704€ per year. Therefore, the monthly contributions of these workers are between 216,33€ and 1.067,40€. The self-employed workers have to pay a contribution rate of 29,80% for full coverage, but as mentioned before, they can choose the amount of contribution between a minimum and a maximum of 266,14€ and 1.085,32€ per month respectively.
- **The number of years of contribution.** In order to obtain 100% of the pension payment in 2016 the workers must have contributed during 36 years. Due to the reforms, this number of years will keep increasing up to 37 in 2027. Additionally, in order to be eligible for the minimum pension for those workers whose pension does not reach the amount of this minimum pension, the minimum number of years of contributions is 15, two of them having to belong to the 17 immediately previous the retirement date.
- **The Sustainability Factor and the Revaluation Index.** Before the reform of 2013, the pensions were adjusted to the Consumer Price Index. Since then, they depend both on the life expectancy at the year of retirement (applied once in the moment of retirement to establish the initial pension) and the financial sustainability of the pension system (applied every year in order to adjust the pension's growth, depends on several factors that are described in the section 3.2. *The Reform of 2013*).

The main expenses of the Spanish Public Pension System are the total retirement pensions' transfers. The factors that compound this expenditure are the number of pensioners, the number of years of reception of the pension and the amount of the average pension. These three factors are currently increasing, due to the effect of several determinants. The first one is the baby boom of the second half of the 20th Century, which increases and will further increase the number of pensioners. There is also an increase in the life expectancy and a fall in the fertility rate, which mean we are facing an ageing population in structural terms, increasing length of the pensions and the number of pensioners in relation to the contributors. In addition, there is a tendency towards the early retirement, which means the Social Security has to pay the pensions for longer and receives contributions during a shorter period from

these workers. Last, there is an increase in the average wage and the minimum pensions that makes the amount of the average pension rise (Palacios, 2011).

In 2014, according to the official accountancy of the MEYSS, the contributory retirement pensions were 77.767,05 million euros, which is 69,33% of the total contributory pensions' expenditure¹⁰, and the non-contributory pensions were 1.200,50 million euros, which accounts for 29,5% of the total non-contributory pensions expenditure¹¹. In total, the retirement public pensions were 61,31% of the total transfers by the Social Security System and 7,59% of the GDP of that year.

Conversely, the revenues of the Spanish Public Pension System are falling. The factors that compound the revenues are the active population, the period of activity and the amount of the contributions. The amount of contributors is falling as a result of the falling fertility rates, but at the same time, it has been increasing during the 2000s due to the positive immigrant inflow –what has now reversed- and the entering of women to the labour market. The period of activity has decreased because of the delay into the access to the labour market of the young people -that makes the contribution period shorter-, the early retirement and the increase in the unemployment (Palacios, 2011). Last, the amount of the contributions is largely determined by the Government, but despite meaning a direct increase in the revenues to the public pension system, it is certainly constrained because it has a very big impact in the labour costs and therefore in the competitiveness of the firms.

3. The Context of the Reform

3.1. The Spanish Demographic Structure

The structure of the Spanish population pyramid is suffering a substantial transformation because of a double challenge: the abrupt fall in the fertility rate (see GRAPH 4 and TABLE 5) under the replacement rate¹² and the progressive increase in life expectancy (see GRAPH 3 and TABLE 4), which makes the dependency ratio rise -in line with the other OECD countries.

Additionally, Spain has some unique factors that potentially make its situation more delicate since the 2008 economic crisis, Spain has changed the migratory balance from a destination for immigrants into an emigrating country, particularly among the young people at the beginning of their working lives.

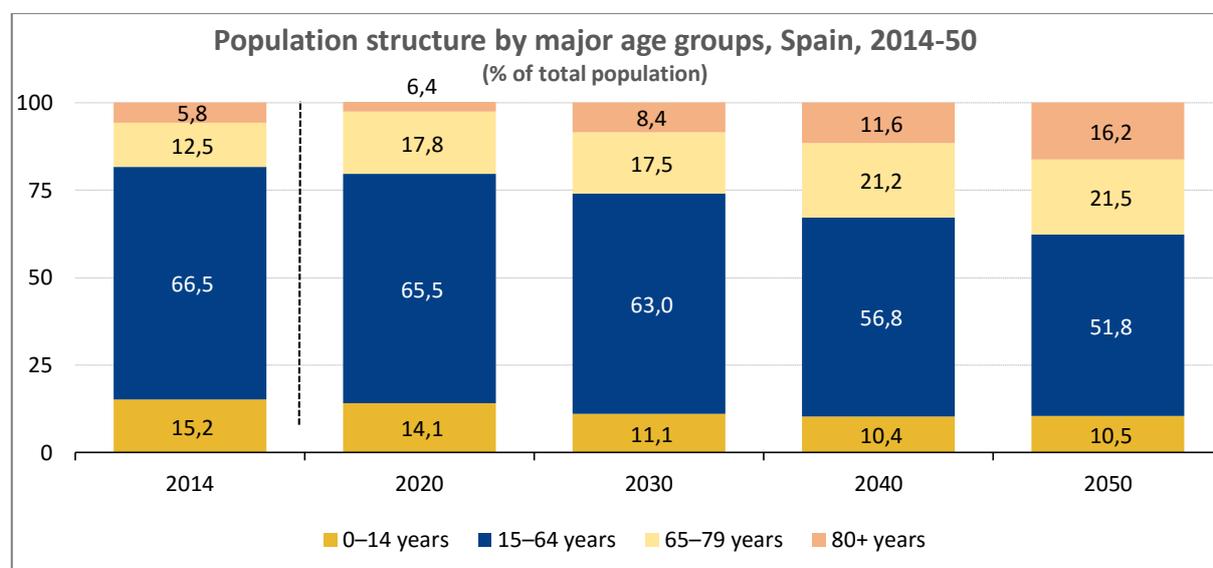
¹⁰ Please note that the contributory pensions also include protection against disability, widowhood, orphan and help to the families.

¹¹ Please note that the non-contributory pensions include temporary incapacity, maternity, social provision and pharmacy, amongst others.

¹² The replacement fertility rate is the total fertility rate at which women give birth to enough babies to sustain population levels in an economy in the absence of inward or outward migration.

The ageing population problem, albeit shared with its European counterparts, is moving with a lag in Spain due to the delay of almost a decade in the baby boom from the last century and the above-mentioned mass immigration during the 2000s. This means that the current dependency ratio¹³ of 50,87%, placed within the EU28 average of 50%, will multiply to just above 90% by 2050¹⁴.

Without any alteration in the existing demographic scenario, such as a new wave of inward migration, the ageing population in Spain will keep shifting its population pyramid in the forthcoming decades, which will irredeemably make the current Spanish Pension System unsustainable. According to the publication *Pensions at a Glance* (OECD, 2015), Spain had in 2014 a pension burden of 10,5 % of the GDP, above the OECD average of 7,9%. This percentage could rise to 15% by 2050, whilst the OECD average is projected to be of 10,1%.



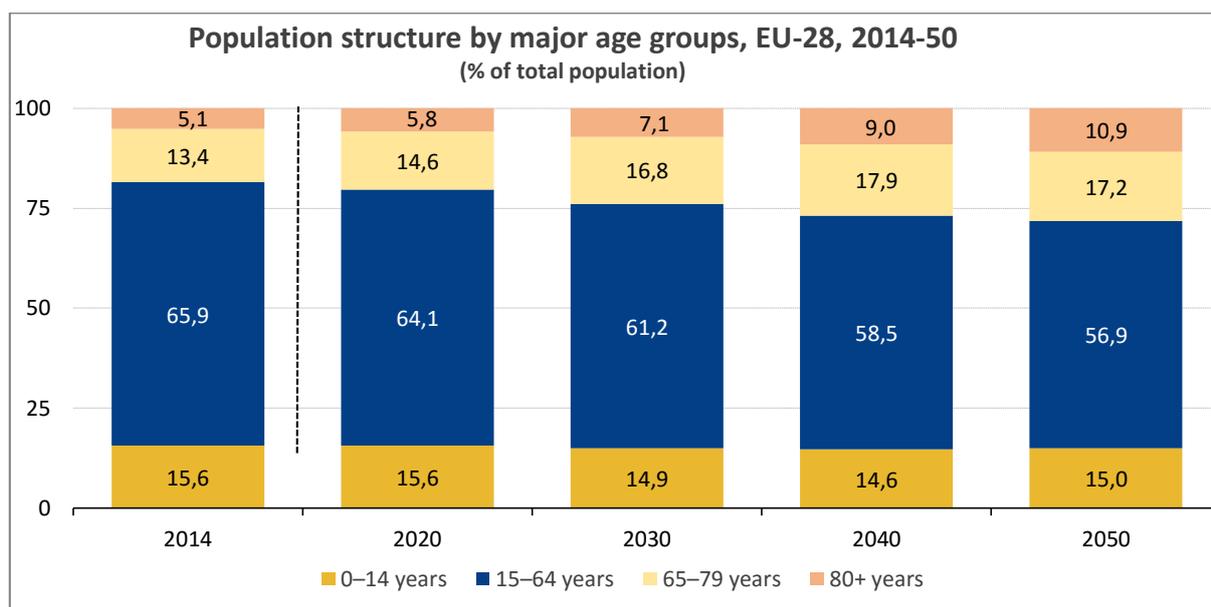
GRAPH 1: Population structure by major age groups in Spain, projections for 2014-2050.

Source: Eurostat, Dataset: Historical population data and projections (1950-2050).

Date of extraction: 26th May 2016.

¹³ The dependency ratio is the proportion of the population above and under the working age (i.e. under 15 and above 64) over the population in it (between 15 and 64 years old).

¹⁴ OECD, Dataset: Historical population data and projections (1950-2050).



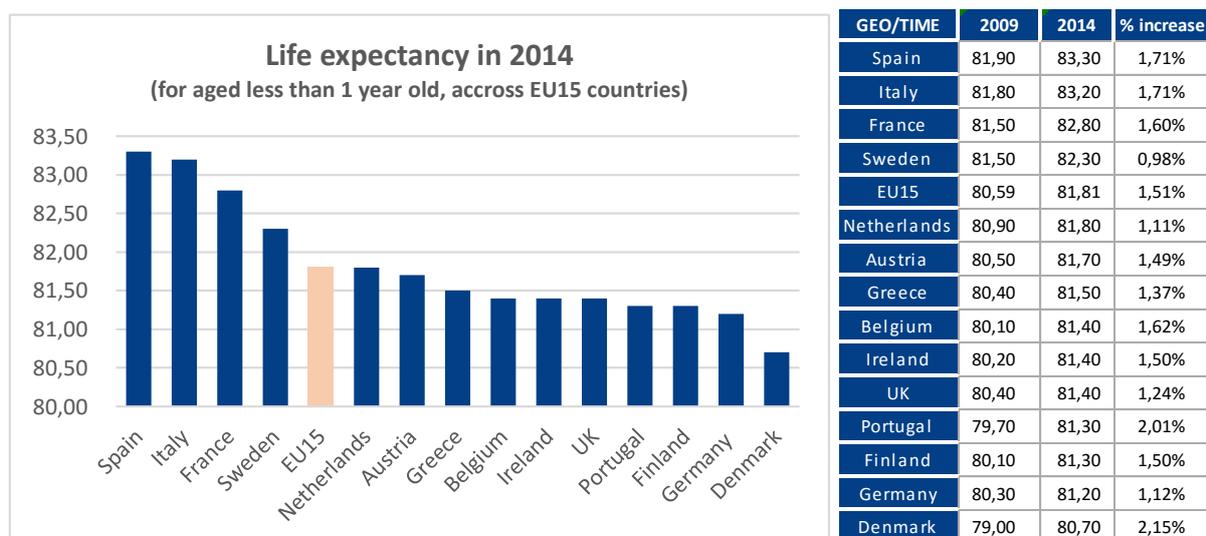
GRAPH 2: Population structure by major age groups in the EU28, projections for 2014-2050.

Source: Eurostat, Dataset: Historical population data and projections (1950-2050).

Date of extraction: 26th May 2016.

3.1.1. Long Life Expectancy

Spain has the second highest life expectancy in the world and the highest in EU-15 at 83 years old, closely followed by Italy. This will potentially continue to increase as mortality rates among those older than 65 have been and still are steadily falling. Furthermore, according to the forecasts of the OECD¹⁵, between the periods 2010-15 and 2060-65, the life expectancy at the age of 65 will increase 5 years for females and 4,3 for males.



GRAPH 3 and TABLE 4: Life expectancy at birth for the EU15 countries in 2014.

Source: Eurostat, Dataset: Life expectancy rates for aged less than 1-year-old, for total sex, detailed series since 2008.

Date of extraction: 18th of May 2016.

¹⁵ Source: United Nations, World Population Prospects – The 2012 Revision. Dataset: <http://dx.doi.org/10.1787/888932907965>.

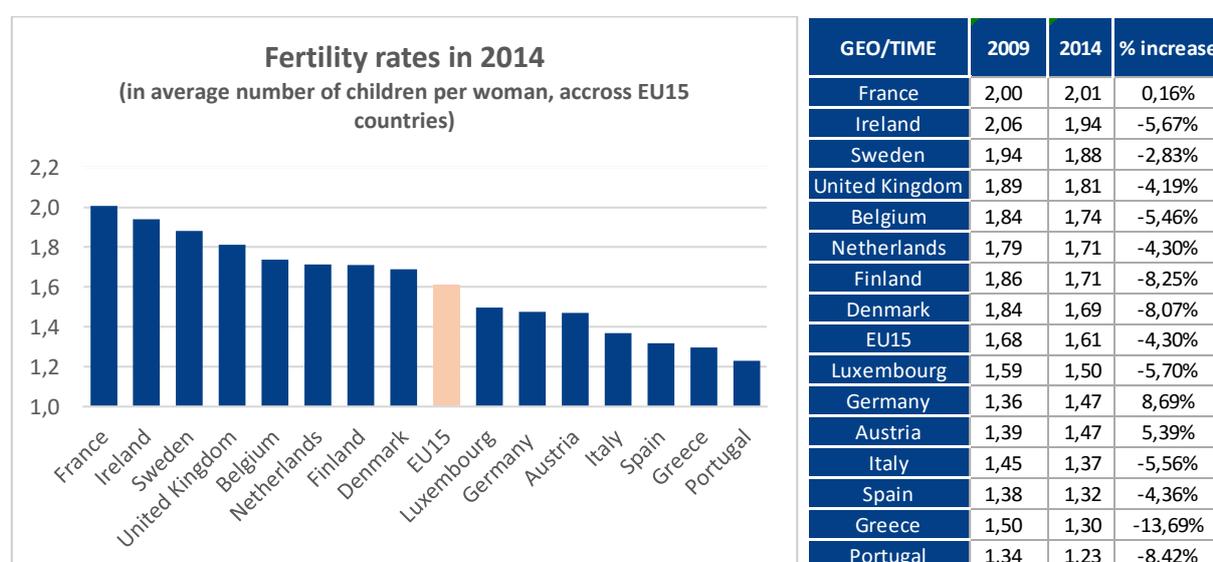
This demographic dynamic has a negative impact on the pension system, no matter what their nature is. Since the costs of them are directly related to the length of the expected pension, the increase in the number of months of payment due to a higher life expectancy makes them much more expensive.

3.1.2. Low Fertility Rates

Spain is facing a severe change in the fertility rates: it has gradually decreased from 18 new-borns per 1.000 inhabitants in 1975 to barely nine in 2014. The *Instituto Nacional de Estadística's* forecasts that this rate will continue to fall to a stable level of 8 births per 1.000 inhabitants in the long-run¹⁶.

Furthermore, Spain has 1,3 children per woman, well below the 2,10 replacement level of the country. This can be explained by the big delay in the age at which people become emancipated and leave the parental home compared to most developed countries -caused by both the high unemployment and the social behaviour particular of the country-, which translates into less potentially fertile woman in a position to have children (Talavera, 2016).

This trend has a negative impact on the demographic pyramid, as the ageing population becomes a long-term structural problem. It means that the work force will keep reducing in comparison to an increasing relative elderly population, making the old-age dependency ratio worsen.



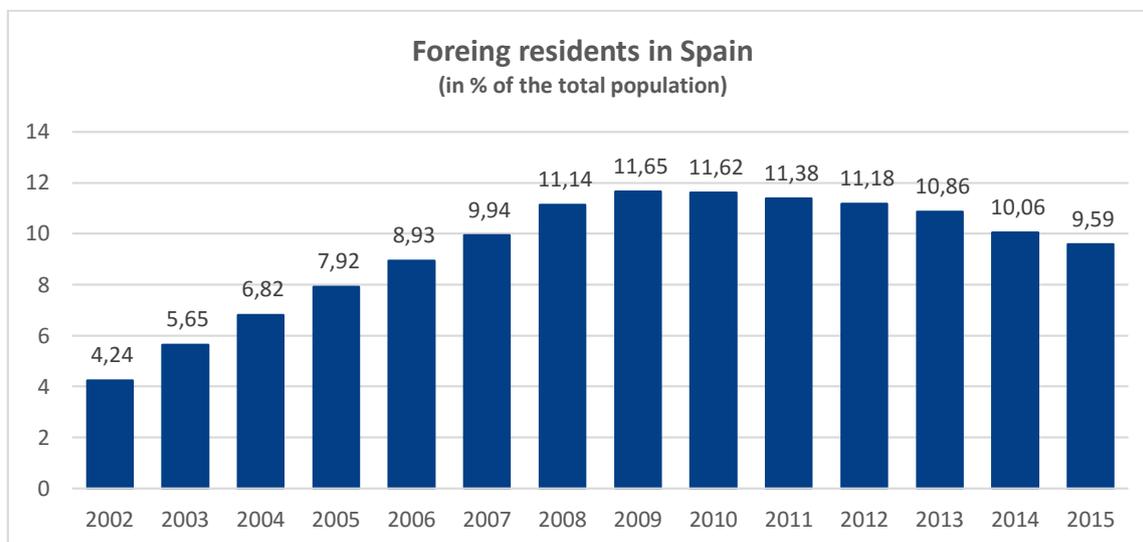
GRAPH 4 and TABLE 5: Fertility rates for the EU15 countries in 2014.

Source: Eurostat, Dataset: Fertility rates for all ages, detailed series since 2008. Date of extraction: 18th of May 2016.

¹⁶ *Instituto Nacional de Estadística* is the Spanish National Statistical Institute (hereinafter, INE). Population Prospects - years 2014, 2029, 2064. Data extraction date: 4 May 2016.

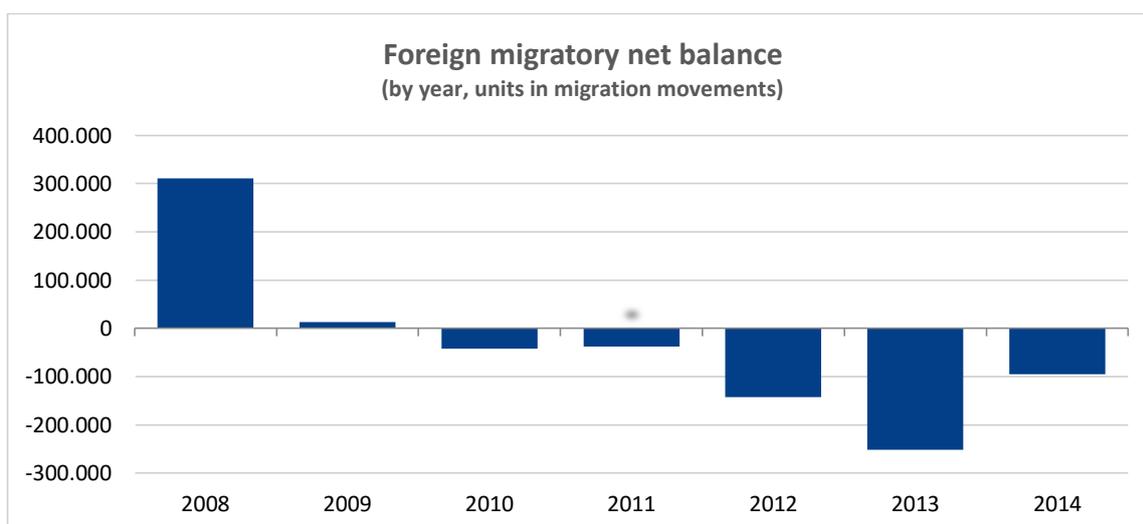
3.1.3. The Migratory Balance

The migratory balance in Spain shifted from a highly positive outcome since 1998 and during the 2000s to a negative balance after the start of the Great Recession. According to data taken from INE¹⁷, the percentage of foreign residents in Spain went from 4,2% in 2002 to 11,7% in 2009 –when the peak was reached-, to decrease into 9,6% in 2015.



GRAPH 5: Foreign residents in Spain during the period 2002-2015.

Source: INE, Dataset: Population data, national results, detailed series since 2002. Date of extraction: 4th May 2016.

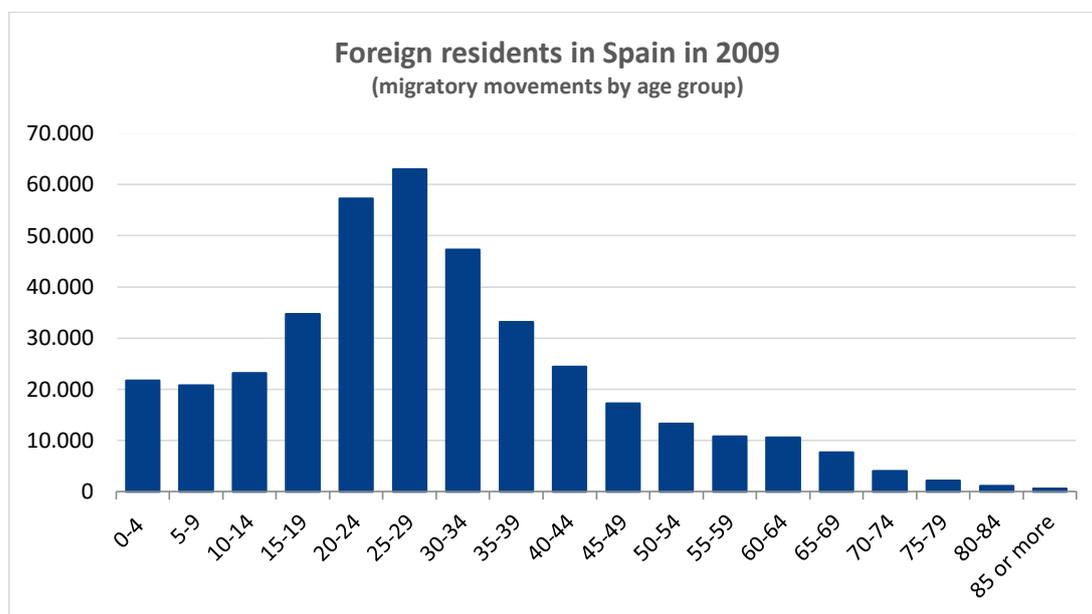


GRAPH 6: Foreign migratory net balance in Spain during the period 2008-2014.

Source: INE, Dataset: Demographic data, national results, foreign migratory movements since 2008. Date of extraction: 4th May 2016.

¹⁷ Intercensal population estimates from INE. Data extraction date: 4 May 2016.

The composition by age of the immigrants that arrived since the beginning of the century shows that they are particularly concentrated in the central age groups, between 25 and 39 years old¹⁸. Furthermore, the immigrants contributed to increase the number of births. This has therefore meant that in the short term the effect of immigration on the population pyramid was a helpful rejuvenation. However, according to Palacios (2011, p. 75), the positive weight of the immigrants on the work force and the age structure only applies to the short and medium terms, because in the long run the impact becomes blurred with the general tendency of the ageing population.



GRAPH 7: Foreign residents in Spain during the period 2008-2014 by age group.

Source: INE, Dataset: Demographic data, national results, foreign migratory movements since 2008. Date of extraction: 4th May 2016

Therefore, the immigration in Spain has just delayed the effects of an ageing population. In addition to that, the new trend of return to the country of origin due to the economic crisis will translate into an increasingly worsening situation in the next few decades, as the population pyramid will weaken at a much faster rate.

3.1.4. Dependency Ratio

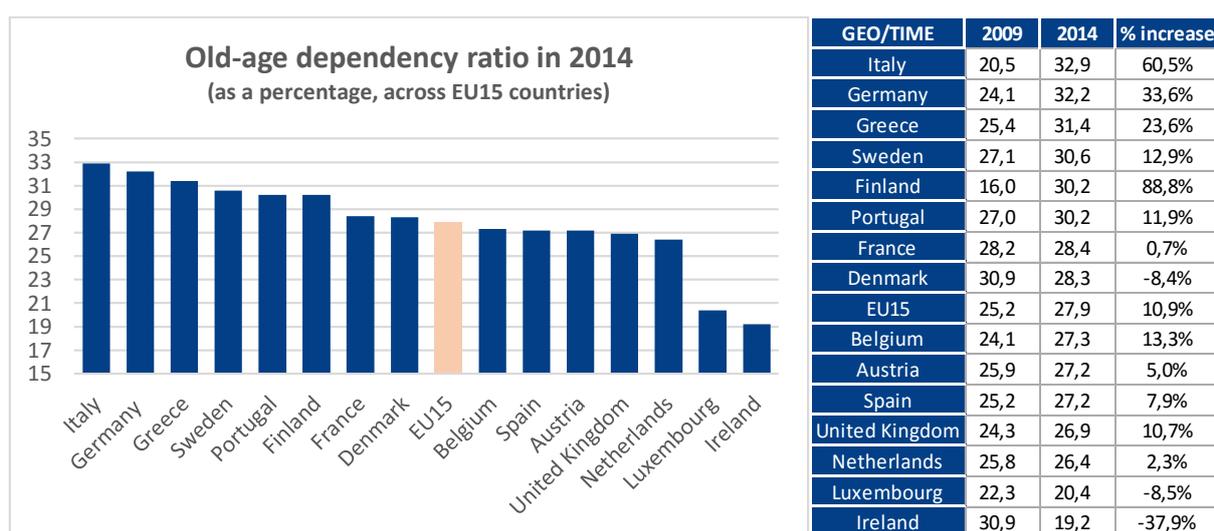
The above-described demographic projections will affect the dependency ratio in a negative way. According to OECD calculations, in 2000 the dependency ratio for Spain was roughly 46%, and steadily increased up to 51% in 2015 – in line with the EU28 average and slightly below countries such as Germany and Italy. The projections show how this increase will keep going on, reaching 59% in 2030 and 87% in 2045¹⁹. However, it should be taken into account that

¹⁸ Foreign migratory movements by year, gender and age. Data from INE. Data extraction date: 4 May 2016.

¹⁹ Historical population data and projections (1950-2050) for Spain, all persons. OECD *Stat*. Data extraction date: 4 May 2016. [Dataset: Historical population data and projections \(1950-2050\)](#).

these projections in the long-run are subject to a high uncertainty, and might therefore change in future revisions.

Looking at the old dependency ratio -which gives a more accurate vision of the proportionality between potential pensioners and potential active workers- the evolution has followed a similar path: in 2000 there were 2,4 people aged 65 or over for each 10 people of working age, which in 2015 was 2,8. However, due to the retirement of the generation of the baby boom (who was born between the end of the 50s and the mid-60s), the projections for 2030 expect a ratio of 4,1 that will start increasing more intensely around 2035 to reach a ratio of 6,7 in 30 years' time.



GRAPH 8 and TABLE 6: Old-age dependency ratio for the EU15 countries in 2014.

Source: Eurostat, Dataset: Population: Structure indicators, Old dependency ratio 1st variant (population 65 and over to population 15 to 64 years). Date of extraction: 18th of May 2016.

3.2. The Economic Scenario

Along with the demographic challenges, the Spanish pension system now has to face the changing context of the globalization, the loss of sovereignty derived from belonging to the European Union and the aftermath of the 2008 recession.

First, the globalization has caused an increase in the competition in most sectors due to the offshoring in the industry from the traditional European economies to emerging countries with lower production cost, which puts pressure to the governments to reduce the labour costs in order to maintain their competitiveness and therefore the external balance. This is an extremely delicate issue, as part of the contributions to the pension system are paid by the firm, so the labour costs reductions can be done by cutting either on the wages or on the

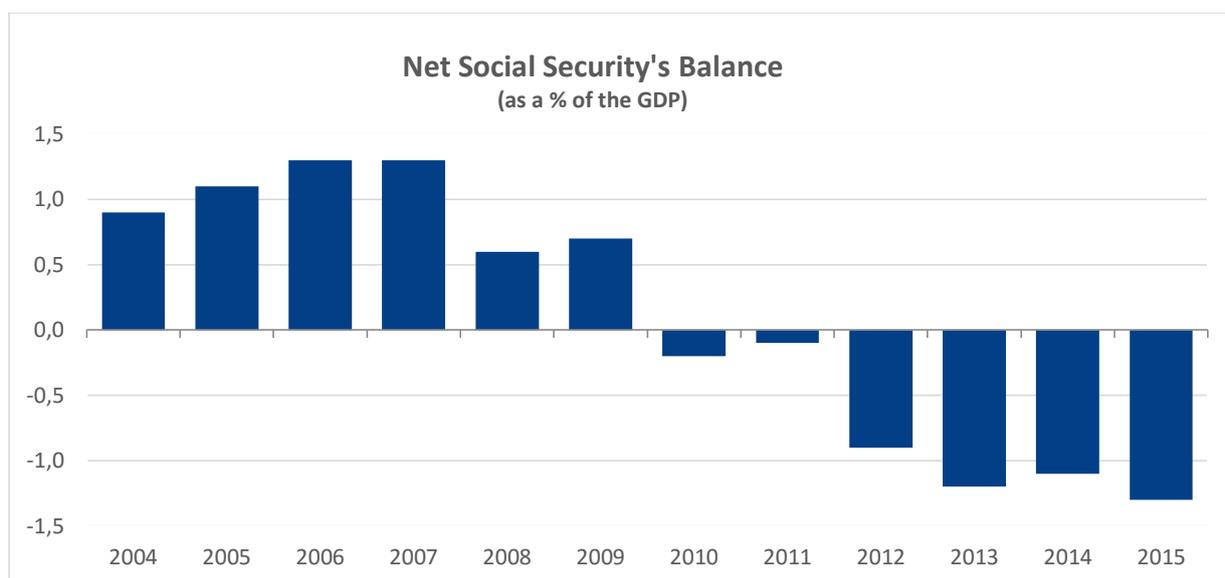
contributions. Both, of course, mean lower income for the Social Security, making the potential effects that the globalization might have in the labour market affect the pension system. Additionally, the Globalisation is an extra challenge to any pay-as-you-go pension system, since it cannot diversify geographically because the pensions are strictly linked to the evolution of the local economy.

The institutional framework of the Eurozone has increased tensions over the public pension systems, particularly after 2008, as the European Stability and Growth Pact has been reinforced and guaranteed with major surveillance by the European Commission and the Euro group over the governments' expenditure. Spain has had to balance its Public Administration budget (and therefore social protection and pensions) with a new constitutional precept that provides new limits to the deficits – as well as the debts (Díaz-Giménez, 2014).

However, the predicted increase in the dependency ratio means that the burden of the pensions on the Public Expenditure, and therefore in the GDP, will increase. Due to the nature of the Spanish public pay-as-you-go pension scheme, the system's financial stability is highly dependent on the ratio between beneficiaries and contributors. This ratio has deteriorated enormously owing to both the demographic trend and the economic crisis, which lead to extremely high unemployment (Banco de España, 2014).

This high unemployment is particularly concentrated in some activities and in some age groups. The labour force participation rates are falling for youths, what means not only a reduction to the number of contributors, and therefore in the income of the system, but also a cut in their contribution period, which reduces the rights to a pension for many workers. At the same time, the unemployment among the elderly is also high, which increases the pressures on substituting the unemployment benefits by pensions (Bordin et al, 1999).

As a result, the balance of the pay-as-you-go pension system, which had a surplus over the whole period of the 2000s, incurred in losses in 2010, and started in 2011 to have an increasing deficit, reaching in 2015 -1,3% at its peak until the moment.



GRAPH 9: Net Social Security Balance in Spain for the period 2004-2015.

Source: Banco de España, Dataset: 12.12 - Net lending (+) or net borrowing (-), liabilities outstanding and debt according to the excessive deficit procedure (EDP). As a percentage of GDP mp. GDP mp: INE. Date of extraction: 22nd May 2016.

4. Precedents of the Reform

4.1. In Other Countries

The countries from the EU-15 and most of the countries of the OECD have approved several reforms on their pension systems since the early 90s and predominantly since the beginning of the 21st Century. The reforms have been parametric, structural or both. The OECD does a biannual report called Pensions at a Glance that includes analysis on different issues regarding pensions. Looking at the publications of the last decade, the main changes can be summarised as follows:

- **Incentives to enlarge the working lifetime.** This is the most extended policy, and it consisted of different measures, some countries introducing more than one of them. The most popular one is to increase the legal retirement age (done by a majority of the OECD countries, some over the age of 65 -which was the norm the last decade- and expected to increase even more if it links to the life expectancy). Another two are to increase the penalisation of early retirement (Austria, France, Germany, Italy and Portugal) or increase the benefits for late retirement (Belgium and the United Kingdom). Similarly, some countries increased the number of years of contributions required in order to receive the 100% of the pension (Denmark and Finland). Upon

these reforms, the OECD average in the retirement age in 2050s will be 65,5 years, 1,5 years more than the current average²⁰.

- **Changes in the calculation of the pensions.** Some countries have increased the years of contributions taken into account to calculate the pension, most of them gradually (France, Italy, the UK and Austria). Some other countries will take into account the complete working lifetime (Portugal and Sweden). Finally, some countries have changed the formula used to calculate the quantity of the pensions when they were defined-benefit (France, Sweden).
- **Changes in the indexation systems.** Some countries have changed the formula to update the contribution bases (which are then used to calculate the pension), making them depend on the prices growth rather than on the salaries growth (Finland and France); or on both (Portugal and Poland). There have also been changes in the indexing of the current pensions, which used to depend on the salaries growth. Instead, some countries now use the Consumer Price Index (Italy and Austria), which ensures the purchasing power but does not make the pensions grow with the increase in the standards of living (Banco de España, 2011). Some others use a mixed index (Finland and Sweden). Finally, Germany will take into account the dependency ratio.
- **Introduction of sustainability factors.** A few countries have started to include the life expectancy when calculating the amount of the pension at the moment of retirement (Finland and Poland). Germany instead takes into account the number of pensioners per contributor. Finally, in Denmark both the retirement age and the years of contributions to obtain a full pension will depend on the changes in the life expectancy.

²⁰ For males entering the labour market at 20 and according to the OECD (2015) projection.

AN OUTLOOK ON THE SPANISH PENSIONS AND THEIR RECENT REFORMS

Country	Sustainability Factor	Who does it affect?	Determinant Variables	Adjusted Variables	Revaluation depends on
Germany	X	All pensioners	Salary, contributions and dependency rate	Initial pension and revaluation	Salary, contributions and dependency rate
Denmark	X	New pensioners	Life expectancy	Retirement age	Salary
Spain	X	All pensioners	Life expectancy, system's net balance, number of pensioners and substitution effect	Initial pension and revaluation	System's net balance, number of pensioners and substitution effect
Finland	X	New pensioners	Life expectancy	Initial pension	Prices and salary
France	X	New pensioners	Life expectancy	Initial pension and required years of contributions	Prices
Greece	X	New pensioners	Life expectancy	Retirement age	GDP and prices
The Netherlands	X	New pensioners	Life expectancy	Retirement age	Salary
Hungary	X	All pensioners	GDP, prices and salary	Revaluation	GDP prices and salary
Italy	X	New pensioners (nocial accounts)	nominal GDP and life expectancy	Initial pension and retirement age	Prices
Japan	X	All pensioners	Life expectancy and dependency rate	Initial pension and revaluation	Prices, life expectancy and dependency rate
Latvia	X	New pensioners (nocial accounts)	Life expectancy	Initial pension	Prices
Norway	X	New pensioners (nocial accounts)	Life expectancy	Initial pension	Salary
Poland	X	New pensioners (nocial accounts)	Life expectancy	Initial pension	Prices and salary
Portugal	X	New pensioners	Life expectancy	Initial pension	GDP and prices
Czech Republic	X	New pensioners	Year of birth	Retirement age	Prices and Salary
Sweden	X	New pensioners (nocial accounts)	Salary, GDP, contributions, liabilities and life expectancy	Initial pension and revaluation	Salary, GDP, contributions, liabilities and life expectancy

TABLE 7: Sustainability and Revaluation indexes after the reforms for some countries in 2014.

Source: Own translation and update from the table of the Banco de España (2014). Primary source: Report of the Committee of Experts on the sustainability factor of the public pension system, Memory of the analysis of the normative impact of the draft law of the 2013 reform and *The 2012 Ageing Report*.

- **Introduction of defined-contribution systems.** The sustainability factors above described are automatically adjusted in the defined-contribution systems, as they are individual. For that reason, some countries (Slovakia, Hungary and Poland) have introduced these systems mandatory for the new workers; some have made it compulsory for everyone (Sweden); and some have made it voluntary (Germany – points system- and Ireland).
- **Creation of Reserve Funds.** It is a way of capitalising the pay-as-you-go systems and diversifying their geographic risks. The surplus of the Social Security System or any other transfers by the government are used to buy assets in order to finance future deficits of the pension systems (Belgium, France and Sweden).
- **Mandatory capitalised plans.** Some countries transfer a part of the contributions to the public pension plans to capitalised personal plans (Slovakia, Hungary and Poland and Sweden); in some other countries the personal private plans are complementary yet independent of the public pension system (Denmark, Finland, Norway and

Switzerland); and some others have quasi-mandatory occupational plans to which the workers are automatically affiliated (The Netherlands and Sweden).

4.2. In Spain

To this date, there have been five pension reforms in the last 25 years, the last two in 2011 and 2013 discussed in the next section. The first major reform of the Spanish pension system was the Law 26/1985, of 31st July, of Urgent Measures for the Rationalisation of the Structure and the Protective Action of the Social Security. It increased both the minimum period of contributions from 10 to 15 years and the amount of years taken into account to calculate the regulatory base from two to 8 years prior to retirement.

This meant a big alleviation of the pension burden, nonetheless, the amount of pensioners kept growing and so did the average pension. According to the Banco de España (2011), between 1980 and 1995, the pension expenditure rose from 5,6% of the GDP to 8,4%, and the ratio between affiliated and pensioners fell from 2,7 to 2,1. This situation led to the approval by the Congress, on February 1994, of a proposal to elaborate a report about the problems and the potential reforms to the Social Security System. This report is known as the *Pacto de Toledo*²¹ and provides guidelines and recommendations on the future of pensions in Spain.

This was the baseline for the Law 24/1997, of 16th July, of Consolidation and Rationalisation of the Social Security System. These second reforms went further into increasing the number of years used in order to obtain the regulatory base of the pension, which went from 8 to 15. It also introduced a revaluation factor according to the projection on the evolution of the Consumer Price Index and established the revision of the pensions depending on it. Furthermore, it first created the Reserve Fund, which was a savings account of the surplus from the Social Security, and eliminated some ceilings on the contributions which were under the maximum ceiling.

In 2001, the Spanish Government with some other Committees and Organisations²² signed an Agreement to Improve and Develop the Social Protection System. This agreement led to the Law 52/2003, of 10th December, of specific dispositions on Social Security Issues. The third reform of 2003 provides incentives to late retirement (over 65 years old) by giving a 2-3% increase on the pension; reduces the minimum age to access a retirement pension to 65 and

²¹ The *Comisión de Presupuestos* (Budget Commission) approved a text with regard the structural problems of the Social Security System and the main reforms to be applied. This was later approved by the plenary Diputee's Congress and published in the *Boletín Oficial de las Cortes Generales*, on the 12 of April of 1995.

²² The *Confederación de Comisiones Obreras* (Spanish Workers Union), the *Confederación Española de Organizaciones Empresariales* and the *Confederación Española de la Pequeña y Mediana Empresa* (Spanish organisations of Companies and small and average Firms).

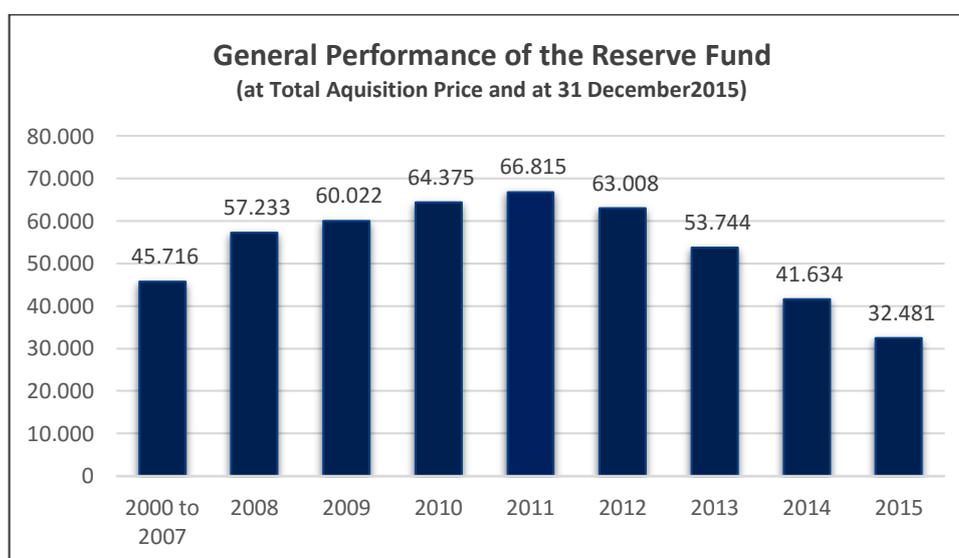
increases the early retirement age from 60 to 61 years old to those workers of the Social Security meeting at least 30 years of contributions.

The *Pacto de Toledo* established its own revision in 5 years' time since its first approval. In general, most of the analyst's reports on the reforms were positive, but a highly extended critic was the lack of practical reach in order to mitigate the future pressures on the pension system.

5. The Last Spanish reforms

The Spanish pension system had been sustainable until 2011, when it first had a negative balance of -0,1% of the GDP. Before that, there was a surplus in the contributions that was saved in the Stability and Reserve Fund of the Social Security, which, as explained above, was first established as compulsory during the 90s in order to be able to match future needs within the contributory pensions in case of imbalances in the Social Security System. This issue started to gradually gain importance in the social discussions, and in 1995 the agreements of the so-called *Pacto de Toledo* were established in order to guarantee the future sustainability of the system. Since then, a series of measures have been trying to reform the system in order to ensure its feasibility until nowadays; the last reform was approved in 2013.

Furthermore, the Reserve Fund has become an essential source of funding in order to guarantee the viability of the pension system due to the situation of budget deficit in the Social Security that has been affecting the Spanish economy in recent years (Ministerio de Empleo y Seguridad Social²³, 2011).



GRAPH 10: General Performance of the Spanish Reserve Fund of the Social Security System for the period 2000-2015. Source: Social Security Reserve Fund, Report to Parliament: Changes, actions in 2015 and situation at 31 December 2015.

²³ *Ministerio de Empleo y Seguridad Social* is the Spanish Ministry of Employment and Social Security (hereinafter, MEYSS).

5.1. The Pension Reform of 2011

According to Law 27/2011, of the 1st August, about actualisation, adequacy and modernisation of the Social Security system, the main reforms on the pension were as follows: the basic requirements to be eligible for a normal pension were unchanged. The mandatory number of years contributing in order to obtain the contributed pension remained at 15, two of them having to belong to the 15 years prior to the date of the event giving rise to payment. The main changes were in the retirement age, but the new law also modified both the period of calculation of the regulatory base and the percentage to be applied to it depending on the years of contributions – two essential concepts, since they define the quantity of the pension:

- **Normal pensionable age.** The Government's reform established a gradual increase in the normal retirement age in Spain from 65 to 67 years old that will occur from 2013 to 2027. This will not affect those workers who have paid the contributions for over 38 years and 6 months, who will be able to retire at 65 without penalisation.
- **The minimum retirement age.** It has also risen from 61 to 63 for those workers who voluntarily want to retire early and can prove a minimum of 33 years of contributions. This will imply a reduction coefficient of 7,5% per year until the worker meets the legal retirement age of 65 in case the contributions occurred during less than 38 years and 6 months -otherwise the reduction coefficient would be a yearly 6,5%. The early retirement can also happen under circumstances of redundancy for cause not attributable to the worker²⁴, at the age of 61, after 6 months enlisted as unemployed and with a minimum contribution of 33 years. The same penalisations apply as in the case of voluntary retirement.
- **The years accounted for pension's regulatory base.** This was previously calculated according to the salary of the last 15 years, which will progressively broaden to the 25 years prior to retirement.
- **The years of contributions to achieve a full pension.** With the new Law, a pension of 100% of the regulatory base will be achieved with 37 years of contributions. This means an increase of 2 years that will happen gradually from 2012 to 2027. For the first 15 years, the base will remain unchanged 50%; but the other percentages for

²⁴ Situation of unemployment under circumstances of redundancy for cause not attributable to the worker, but also not as a consequence of an objective situation in which the working relationship cannot be hold, such as those of crisis or shutdown of the firm.

different number of years do modify. This way, with the previous mandatory 35 years to obtain 100% of the regulatory base, one would now obtain 95,6% of it.

Normal Retirement Age in relation to the years of contributions		
Year	Years of contributions	Normal Retirement age
2013	≥ 35 years and 3 months	65 years
	< 35 years and 3 months	65 years and 1 month
2014	≥ 35 years and 6 months	65 years
	< 35 years and 6 months	65 years and 2 months
2015	≥ 35 years and 9 months	65 years
	< 35 years and 9 months	65 years and 3 months
2016	≥ 36 years	65 years
	< 36 years	65 years and 4 months
2017	≥ 36 years and 3 months	65 years
	< 36 years and 3 months	65 years and 5 months
2018	≥ 36 years and 6 months	65 years
	< 36 years and 6 months	65 years and 6 months
2019	≥ 36 years and 9 months	65 years
	< 36 years and 9 months	65 years and 8 months
2020	≥ 37 years	65 years
	< 37 years	65 years and 10 months
2021	≥ 37 years and 3 months	65 years
	< 37 years and 3 months	66 years
2022	≥ 37 years and 6 months	65 years
	< 37 years and 6 months	66 years and 2 months
2023	≥ 37 years and 9 months	65 years
	< 37 years and 9 months	66 years and 4 months
2024	≥ 38 years	65 years
	< 38 years	66 years and 6 months
2025	≥ 38 years and 3 months	65 years
	< 38 years and 3 months	66 years and 8 months
2026	≥ 38 years and 6 months	65 years
	< 38 years and 6 months	66 years and 10 months
2027 onwards	≥ 38 years and 6 months	65 years
	< 38 years and 6 months	67 years

TABLE 8: Normal retirement age in relation to the contribution years after the pension reform in 2011.
Source: BOE 2/08/2011 sec I page 87495 disposition 13242

5.2. The Pension Reform of 2013

These new laws follow the EU institutions' recommendations within the *Europe 2020 strategy*, a reference for the coordination of the economic policies of the different member States that puts special emphasis on orientating the efforts to face the ageing challenge and its impact on the social protection systems²⁵.

The first reforms, published under the Royal Decree-Law 5/2013, of the 15th May, of measures favouring the enlargement of the working life of the older workers and promoting an active retirement, were a continuance of that of 2011 since they extended or adjusted some of the measures adopted then. It revised the partial and early retirements establishing a proportion relative to the increase in the normal retirement age, and therefore it delayed the early retirement age from 63 to 65 years old for voluntary retirements.

The second package of reforms, the Law 23/2013, of the 23th December, regulatory of the Sustainability Factor and the Revaluation Index of the Pension System of the Social Security, was also anticipated in 2011. Furthermore, the Government already approved a precedent of this reform in 2012, as the pensions' revaluation criteria ceased to depend on the annual rate of consumer price index – a 3,7% that year- to increase just in 1%.

- **The Sustainability Factor.**

The Sustainability Factor is an automatic tool that -starting in 2019- shall link the amount of the retirement pensions of the Social Security System with the evolution of the life expectancy of the pensioners, adjusting the quantity obtained by those retiring under similar conditions but at different moments in time. This Sustainability Factor shall only be applied once, when determining the initial quantity of the new pensions. This way, if the life expectancy increases over the years, the sustainability factor will imply a decrease in the initial pension.

In order to calculate this factor, the mathematical expression will take into account on the one hand, the age of 67 as the reference, and on the other hand the mortality tables of the retired population benefiting from a Social Security pension²⁶. Additionally, within a five-year plan, the year on year change of the life expectancy will be taken into account to recalculate this Sustainability Factor.

²⁵ Some of the European Commission documents that include these policies are the «WHITE PAPER 2012: An Agenda for Adequate, Safe and Sustainable Pensions», «The 2012 Ageing Report» and the «Pension Adequacy in the European Union 2010-2050».

²⁶ These tables are elaborated by the Social Security itself.

- **The Revaluation Index.**

The Revaluation Index consists of an annual adjustment of the growth of the pensions, that shall be calculated at the start of each year and added to the pension's regulatory base, based on the budget restriction of the Social Security System, what substitutes the previous annual adjustment with the Index of Consumer Prices.

In order to calculate this index, the balance of the Social Security is taken into account in the year $t+1^9$ – i.e., the past and future revenues and expenditures of the system-, and is divided into three sections: revaluation, number of pensions and substitution effect. These components don't enter the formula in the current year, but through a moving average of 11 years centered in $t+1$ that softens the effects of the economic cycle.

The total amount of expenditures and revenues accounted for the index are those regarding non-financial operations of the Social Security budget. Those belonging to the *Instituto Nacional de Salud*²⁷ and the IMSERSO will not be included, as well as any other balance sheet headings with a non-periodical character or regarding to the self-employed or non-contributive payments. The system unbalances are added with a multiplier that measures the speed at which the disequilibria are corrected. In the 2013 law this multiplier was given a value of 0,25, meaning that each year a quarter of the unbalance will be corrected.

The substitution effect is the increase in the average pension in a year in the absence of revaluation in that particular year. This depends on the number and the amount of the pensions of the people who leave the system, and usually the new entrances have a higher pension payment. This component, has therefore a negative sign, which decreases the revaluation due to the increase in the expenditure because of the number and quantity of the new pensions.

The Revaluation Index was first designed with the aim of guaranteeing the open-ended sustainability of the Social Security System. However, it has been limited with a minimum increase in the pensions by 0,25% and a maximum increase by the sum of 0,50 to the increase in the Consumer Price Index.

Lastly, in order to validate the previsions of the revenues and the expenditures of the Social Security necessities to apply the formula, which will be published by the *Ministerio de Economía y Competitividad*, the *Autoridad Independiente de Responsabilidad Fiscal*²⁸ will revise such calculations each year.

²⁷ *Instituto Nacional de Salud* is the Spanish National Institute of Health (hereinafter, INS).

²⁸ *Ministerio de Economía y Competitividad* and the *Autoridad Independiente de Responsabilidad Fiscal* are the Spanish Ministry of Economy and Competition and the Independent Authority of Fiscal Responsibility respectively.

6. Effectivity and Implications of the Reforms

The increase in the retirement age to 67 years old has two consequences. The first one is straightforward to see: the number of workers increases with respect to the situation prior to the reform and the number of people receiving a pension decreases in a similar amount, which has a positive effect on the elderly dependency ratio as it effectively decreases. However, this is not a long-term solution as the dependency ratio will steadily increase over time and the retirement age cannot rise indefinitely –therefore the dependency ratio will reach unsustainable levels again.

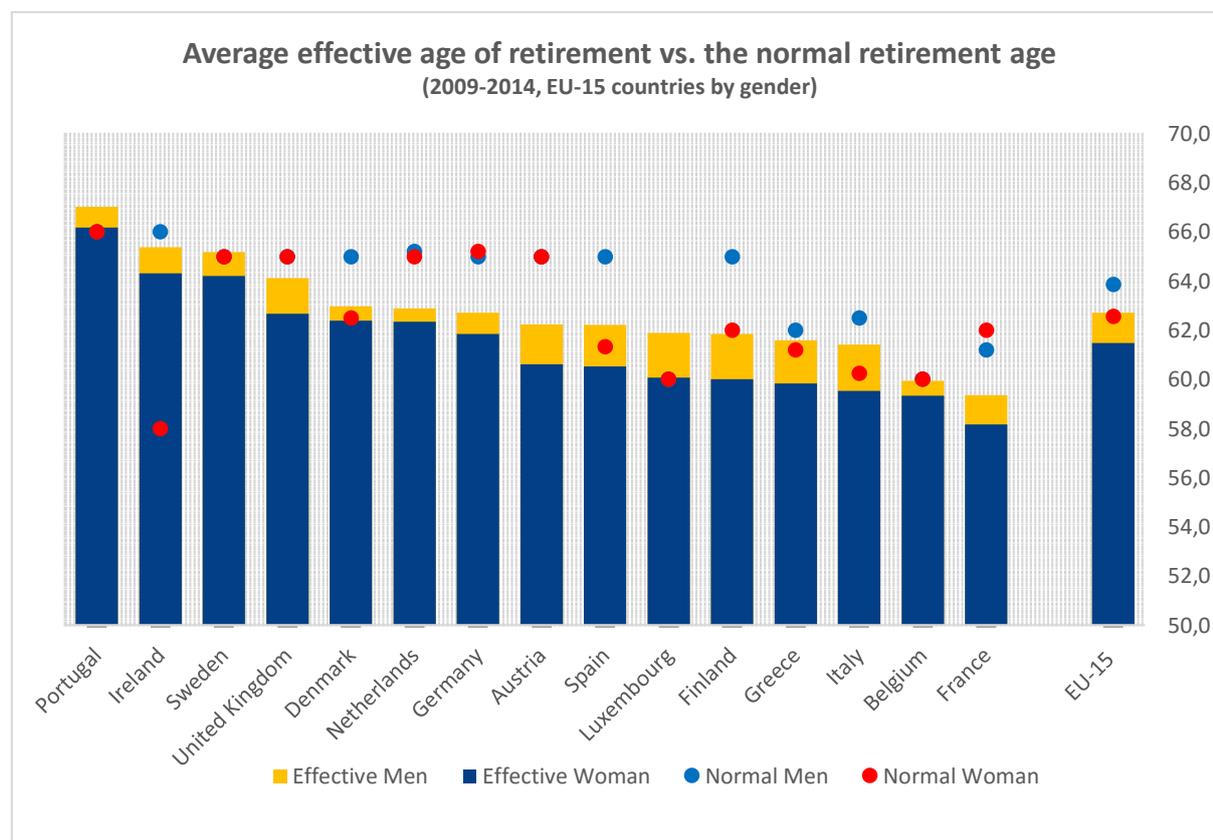
According to Talavera's (2016) Global Economic Model the later retirement has a positive side-effect on the economy's potential growth rate. The potential increase in the number of employed people will be of 1.2 million people by 2027 under the new scenario of retirement age at 67 years old. His estimates on the GDP are a raise of a 0,2% compared to the previous scenario. Díaz-Gimenez et al (2016) consider that this growth will be much higher, as according to their model the reform increases both factor inputs, so not only labour but also capital due to the lower expenditure in retirement pensions. Nonetheless, both works agree on the fact that the reform is expansionary, and that is the second main consequence of the reform.

However, as Argandoña et al. (2013) point out, the economic growth does not always help to maintain the reposition ratio of the pensions, as it can be the case that the average pension tends to increase in response to the increase in the average wage of an expansionary cycle. Therefore, it does not necessarily contribute to solve the problem of the long-term pension sustainability, and they are only alleviated in the event of higher productivity in the economy if say, they are updated with other indexes than the salaries such as the CPI or the new Revaluation Index.

Furthermore, the reforms that aim at enlarging the working life depend on the capacity and the incentives of the firms to hire these older workers, and in case they fell out of the labour market, it could be a situation of worsening in the standards of living and poverty risk among the older population.

The increase in the years of contributions to achieve a full pension. This reform is another incentive to increase the working life, as early retirement now has a higher opportunity cost because of the penalisation on the pension it implies. However, as seen in GRAPH 11, these incentives are limited, as the effective retirement age is indeed lower than the legal retirement age. The main problem is that lower educated workers are more likely to receive the minimum pension when they decide to retire, and this pension is exempt of the discounts on the pension applied to early retirements. Therefore, they retire at the minimum retirement age. Another similar retirement behaviour happens among the least productive workers,

whose lower earnings at the end of their working lifetime result in a lower income in the additional years before reaching the legal retirement (Díaz-Giménez and Díaz-Saavedra, 2008).



GRAPH 11: Average effective retirement age compared to the normal retirement age by gender for the EU15 countries and the period 2009-2014.

Source: Own elaboration from OECD Pensions at a Glance 2015. Chapter: 7 (figures 7.1 and 7.2).

However, the model economy of Díaz-Giménez and Díaz-Saavedra (2016, p. 26) that includes the 2013 reform on the minimum pension retirement age, shows that this reform is effective in increasing the retirement ages for all the educational levels in the long run, as they state:

Part of this delay is forced since the legal retirement ages are delayed, and part of it is voluntary because workers choose to increase the duration of their working lifetimes to increase their savings to make up for their reduced retirement pensions (...) high school dropouts and high school graduates delay their retirement substantially, because these two educational groups are affected the most by the large cuts in minimum pensions.

The increase in the years accounted for the pension’s regulatory base. The increase in the number of years of contributions that are taken into account in the calculation of the regulatory base of the retirement pension from 15 to 25, achieves its objective of reducing the pension expenditure. The reason for that is the evolution of the salaries during the working life, that tend to be much lower during the first years of employment and increase as the worker gets older (Banco de España, 2011).

At the same time, this measure will increase the proportionality of the system, as the pensions received would be more related to the contributions completed in the moment of retirement.

The Sustainability Factor has a direct effect on the pensioners' payment. As it was shown in the section 3.1.1, life expectancy will tend to keep rising over the years, and the sustainability factor will make the futures' retirement pensions lower than the current ones under the same working career. However, they will benefit during more years of that pension, what will eventually balance the initial lower pension making the total amount of pension in absolute terms to be similar among different generations, and therefore there will be intergenerational equity (Banco de España, 2014).

The Revaluation Index also affects the pensioners' payment, and the intergenerational equity. In this case however, since the regulatory base does not depend on the Consumer Price Index, a period of inflation could mine the purchasing power of the retired people, as the pension would be lower in real terms. At the same time, the application of a maximum and minimum index guarantee that the pension will be relatively stable in nominal terms.

The inclusion of both factors in the calculation of the pension payment has a positive impact on the financial sustainability of the Social Security System, as the amount of the pension payment is now automatically adjusted in order to mitigate both the economic and the demographic adverse risks it might face. Therefore, the evolution of the pensions is now linked to the availability of the system to generate revenues in order to pay. Additionally, with regard to the intergenerational fairness, this reform equalises the burden of the additional costs due to the demographic pressures that the future generations will have to hold.

This positive impact is included in the revision of the *Stability Programme 2014-2017* by the Spanish Government, which estimates a 3,4% of the GDP in savings of the pensions expenditure in year 2050 with respect the previous scenario. Some simulations on the Spanish economy of the reform, focusing in the pension expenditure (Díaz-Giménez et al, 2014; and Sánchez, 2014), give similar results. This reform therefore implies a progress in order to guarantee the financial sustainability of the pension system in the long run, as it faces the progressive impact of the ageing population in a more efficient way than the 2011 reform.

Another important impact is the fact that the introduction of these two sustainability factors has imposed a significant transformation to the Spanish Pay-as-you-go pension scheme, which has shifted from a defined benefit system into a *de facto* defined contribution system (Díaz-Giménez, 2014).

However, these factors have a big drawback that is the increase in the uncertainty upon the pensions of the workers. To solve this, the Banco de España (2014) claims it is essential that the Government can ensure transparency in order to inform the future pensioners and allow

them to make optimal decisions about their savings during all their working life in order to face the retirement. This last reform establishes some mechanisms to guarantee this transparency: the data regarding life expectancy will be published in order to inform about the sustainability factor the pensioners will have in the future, and the same will happen, on a yearly basis, with the components of the revaluation index.

Nevertheless, the general perception of these reforms with regard to uncertainty has been negative. The reforms were unpredictable, such as the non-revaluation of the pensions in November 2012 by the Consumer Price Index increase as agreed on the *Pacto de Toledo* but on the Government's decision of increasing them 1%. In addition, they have been constantly discussed in the last decade, and the reforms being scaled and insufficient made them need further reforms, which increased confusion of the current workers and pensioners. This is particularly negative for the older workers, who do not have time scope to change their retirement plans and therefore are the most vulnerable (Argandoña et al, 2013).

7. Alternative or Additional Reforms

The last reforms in the Spanish pensions were both parametric and structural, and under the approach of reducing the public pension expenditure. As seen before, these measures have reducing effects on the pension burden, but there is still room for improvement.

The increase in the legal retirement age is a measure long overdue both in Spain and in other countries. However, it does not have a fully efficient impact due to the tendency towards the early retirement as shown in GRAPH 11, particularly among some groups of workers. The increase in the retirement age is justifiable by the increase in the life expectancy, the delay in the entrance in the labour market and the lower physical requirements of the current jobs with an improvement in the overall physical condition of the elderly. According to Talavera (2016, p. 4), the retirement age when pensions were first introduced in Spain was 42 years old, but only 33% of the population would get older than 42, a percentage that is now over the 90%. If that was taken as a reference, in 2019 the proportional retirement age would be 89. He uses this to point out that "raising the retirement age is not only a financial necessity but also a normal move given the radically different demographic context."

In order to achieve more efficiency in enlarging the working lifetime, several additional measures can be implemented:

- To link the legal retirement age to the increases in the life expectancy on a periodic basis.

- To incentivise the participation on the labour market of the older workers with active policies such as the long life learning and the incentives to job opportunities for older people.
- To ease the coexistence of salary and pension, especially since the perception of any other sort of capital rent is compatible with the pension; and further, to make the retirement reversible.
- To rationalise more the access to early retirement and the other ways of early exit from the labour market, so that only those workers with the longer contribution periods retire early.

The years of contributions required to achieve a full pension, as well as reducing the pension expenditure directly, also affect the retirement behaviours. Two main further changes can be made in this sense:

- To give more relevance to the contribution years, since younger workers have more incentives to be misleading by working in the shadow economy as their contributions do not affect their future pensions, and also because it would favour the approximation of the effective retirement age to the legal one.
- To improve the adjustments to the penalisation on the reception of the pension if retiring early with the minimum contribution years. The 50% decrease of reception of the pension if retiring early with the minimum contribution years becomes a 100% if retiring one year before that, and the percentage increases per marginal year of work before achieving the legal retirement age also have huge discontinuities. This is a disincentive to work until the normal retirement age and to contribute for people with discontinuous or incomplete working history.

However, as said in the previous section, the ultimate solution is not to increase the retirement age, as it cannot rise indefinitely and not even at the same path as the increase in the dependency ratio. Therefore, this would only help alleviating the burden.

Another possible reform that has been recently on the table and that would both reduce the expenditure and increase the Pensions Fund is the effective separation of sources of finance of the Social Security between the State transfers and the contributions. An example of that would be the non-inclusion of the widowhood pension in the Social Security contributory pensions and rather to finance it through the State's transfers, potentially under a means-tested scheme (OECD, 2010). Some authors (Ojeda, 2008; Ayuso et al, 2014) suggest to also remove its life condition and make it a temporary pension under the condition of need –which

should be carefully considered to ensure that it does not lead to situations of poverty risk and vulnerability.

This is also the case of the minimum complements to the pension to achieve a level of income enough to survive in legal terms. As defined in the first sections of this work, they are not a contributory pension, and yet they are funded through the Social Security. Furthermore, this source separation was established in the *Pacto de Toledo*, and it has been pending reform since.

Moreover, some academics, such as Valero et al (2011) and Díaz-Jiménez (2014) suggest that this non-contributory system of minimum pensions under the State's General Budget should be the complement to a structural reform towards a notional defined contribution system, following the Swedish case, and exclusive of the old-age pensions. They also suggest to complement this with a private occupational pension, similar to the National Pensions Saving Scheme of the United Kingdom, with a favouring tax treatment and a minimum mandatory amount.

One of the singularities of the Spanish pensions that were exposed in section 2.2. *The Private Funds* is the excessive concentration in the Pay-as-you-go system, making the private pensions, both personal and occupational, marginal. According to the Banco de España (2011), Argandoña et al (2013) and Díaz-Jiménez (2014) -to give a few-, it would be convenient to develop additional incentives to increase the savings for the retirement on the private sector, so that the public pensions can be complemented with them. Some ways to achieve that are (Ayuso, 2014): tax benefits such as reductions on the social contributions or benefits on the Corporate Tax; making it compulsory; and to include them in the Social agreements -which has been so far unsuccessful in Spain.

In Spain there are already tax benefits for pension funds holders, however, according to Argandoña et al (2013) using the taxation in order to incentivise the capitalised plans only alleviates the problems of the unsustainable pensions system without solving them, and what is more, it provides inefficiencies to the taxation system as it decreases its collection capacity. They say it is more efficient to use the taxation system to generate revenues for the State and to make the complementary capitalised pensions compulsory or quasi-compulsory.

Another effective way of increasing the coverage of the private funds is the automatization of the enrolment, as some countries already do (namely the UK and the Netherlands), which is at the same time a good way of reducing the administrative costs. Another good option in order to incentivise personal private funds and improve the confidence in them is to give increased higher quality information on their products, as well as the overlook on their profitability and their administrative costs.

Also regarding to tax treatment, some countries such as Portugal and the United Kingdom have imposed measures of tax reduction for the pensioners. Despite creating tax distortions, a preferred tax treatment to pensioners is a solution to enhancing the retirement-income adequacy, justified by the fact that work income is generally higher than that from the pension, and yet this measure does not increase the pension expenditure.

On the income side, several measures can be implemented as well, without incrementing the actual contribution type which, as said in section 2.3.1. *The Retirement Public Pensions*, would increase the labour costs and have negative repercussions both on the labour market and on the competitiveness of the firms. Furthermore, Spain already has the highest mandatory pension contribution rates in total (i.e. including Social insurance and private mandatory rates; although in Spain this only applies to the Social contributions) for average worker amongst the EU15 countries with a 28,3%.

One measure would be to delete the ceilings on the contribution base, both on the minimum and the maximum salaries. According to Banco de España (2011), since the minimum quantities are low, the outcome of this measure would be positive. The collection would increase because of the increase in the nominal wages, something currently constrained in the higher sections of salary by the existence of maximum ceilings updated according to the projected inflation.

A big potential problem of this measure could be an increase the future pension's expenditure as the regulatory bases would increase, due to the parallel change in the maximum pension in order to keep their profitability and their contributory condition. Therefore, a complementary measure on the expenditure as the explained above should be considered, such as the accountancy of all the working lifetime for the pension quantity.

Additionally, this would put the Spanish pension system in a closer position to those of the EU, as in Spain we have higher contribution types than the average of the Eurozone but lower ceilings on the maximum contribution base, which makes the pensions less progressive than the average of the Eurozone. Therefore, this measure would solve the problem of the current regressive character of the contributions, and would reduce the incentives to the hidden economy and the disincentives to work.

A structural reform to increase the collection is to include the people who work in unpaid jobs such as homecare into the contributory pension system. They could undertake a similar regime to that of the self-employed, having a minimum contribution in order to obtain the benefits. This would increase the base upon which the contributions are applied, and it would be an equivalent to having a larger active population (Ayuso et al, 2014).

However, the lack of universality of the Spanish pension system due to the existence of multiple regimes and different contribution schemes makes it potentially less contributory. One example of that is the Self-employed Special Regime. Since the pensionable rights are calculated by years at the beginning of the working life and in euros in the last part, these workers have incentives to manipulate their pension reducing their contributions during the first part and increasing them towards the end of their working lifetime (Argandoña et al, 2013). Therefore, maybe the future reforms should move towards a universal system in order to both increase the revenues of the Social Security and the intragenerational fairness.

Last, one big drawback in the investment management of the Pension Reserve Fund is that it is mostly invested in the Spanish Public Debt (a 90% in 2012 against the remaining 10% invested in German, Dutch and French Public Debt). The Law 28/2003, of 29th September, regulative of the Social Security Reserve Fund and the later development in the Royal Decree-Law 337/2004, of the 27th of February, establish that this fund has to be invested in fixed-income instruments in order to obtain profitability with the lowest risk possible, and it could only be in triple A qualification bonds.

The problem is that the State becomes both creditor and debtor, what can lead to huge public indebtedness problems. This would happen in case the Social Security will need to charge the pensions on the Reserve Fund, and therefore sell the Public Debt titles in the secondary market, making the State have to emit more Public Debt to finance those titles at their expiration (Argandoña et al, 2013). Therefore, it could be a good option to diversify the investment internationally to avoid part of the geographic dependence of the Pay-as-you-go pension System.

8. Further Challenges to the Spanish Pensions System

One of the remaining challenges that Spain has to face and that would have an impact on the sustainability of the Spanish Pension System is the increase in the active population. Spain has a problem of employment creation, as there are nearly 4 million unemployed people according to INE. Therefore, there is a huge part of the population in working age that could contribute to the Social Security and increase the revenues of the system. This problem is partly cyclical, but it has a big structural component and has been long discussed with little success.

Closely related to this current economic situation, since the Great Recession more and more people have discontinuous working paths, which may increase the early retirements, and can lead to a situation of more people depending on the minimum pension. This also implies that the future pensioners will not have such a good working life as the current ones, as the stroke of the crisis has meant a big delay in the access to the labour market for younger workers as

well as an incredibly high long-term unemployment among the older cohorts. This will mean low pensions for a big part of the population at retirement.

Another problem facing the country is the tax evasion. This also applies to the social contributions, as explained in previous sections; the younger workers have incentives to work in the shadow economy because their contributions are not taken into account for their pensions. This extrapolates to the self-employed, who do not contribute enough, and the lower paid workers or those with an incomplete working lifetime. To tackle this problem, it is important that there is belief in the stability and commitment of the public pension system. As said in the previous section, it would also be positive to reduce the special regimes and the differences between the private and the public sectors, making a convergence in the contributions of all workers.

Transparency is also a big challenge closely related to that. In order to ensure that the workers can plan their retirement according to the Revaluation Index and the Sustainability Factor, the Law of the reform of 2013 already established that all the data concerning these indexes would be published by the competent institutions. There is a further challenge in making sure the citizens can easily understand how these factors are calculated and how the different components affect them.

On the private pensions side, the ongoing situation of low interest rates are detrimental for the pension funds, as they have no scope to operate and generate profits, which can lead to a risky situation of inability of accomplishing the commitments by those companies in the case of defined-benefit schemes or similarly lead to situations of lower pensions in the defined-contribution ones. At the same time, these low interest and growth rates that might induce the pension funds and life insurers to seek higher profits incurring into higher risks, which is a threat to their creditworthiness as well as the retirement income of the people entitling them.

In view of that, the Government's policies regarding the private funds should not only aim at increasing their coverage but also at ensuring their proper regulation in order to avoid the situation above-described. However, this should not dissuade the Spanish Government from increasing the popularity of the private funds, as all the advantages described in the sense of efficiency still apply and are compatible with higher control.

Equally, it is important to keep in mind that pensions have a big impact on distribution and on the standard of living of the elderly, and therefore they should not be considered only in the sense of efficiency. In words of Boldrin et al (1999, p. 19), "pension funds reflect a host of fiscal and legal incentives unjustifiable on grounds of economic efficiency", which proves that efficiency -albeit a priority- is not the final goal of pension systems. In this sense, the Spanish pensions have the highest replacement rates in the EU15 countries with 82,1%, well above

the OECD and EU15 averages (see TABLE 2). However, these replacement rates are expected to decrease, to which longer life expectancy adds a risk of people outliving their resources.

Life expectancy though, has big inequalities depending on the health working conditions. According to the OECD (2015), by not taking into account these differences in the labour experience, the poorer workers with higher mortality rates are receivers of a pension for shorter; which can make the contribution systems regressive. Therefore, further efforts should be directed towards ensuring not only the financial but also the social sustainability of the retirement pensions.

Nevertheless, the biggest challenge that every country has when facing a pension system's unsustainability problem is the lack of willingness by the Government to apply unpopular or drastic measures, such as a structural change. The reason for that is the major weight of pensioner's votes within ageing populations, which makes the policy-makers biased in favour of them. For that reason, they instead do alleviatory measures to surpass the problem temporarily, which ends up generating confusion and a sense of unpredictability among the citizens. The most affected by this situation are indeed the older workers, as they have less room for adapting to the new reforms; the younger cohorts, however, end up suffering the burden of the unsustainability of the pensions as they will have to face measures irredeemably. Hence, it is necessary a consistent coordination between the different affected sectors (both public and private) so that the population get a sense of awareness and perceive the measures as necessary and, furthermore, they are well informed of their expected future income and can plan it time wisely.

II. CONCLUSIONS:

This paper firstly reviews the Spanish pension system, and then sets the reasons behind the last reforms of 2011 and 2013 by compiling evidence on the unsustainability of the Pay-as-you-go system; later, it analyses the impact of such measures. Last, it gives improvements to them and comments on the further challenges that the system will have to face.

After the study of the different pension systems of the EU15, and particularly focussing on the Spanish case, we arrive to the conclusion that the Spanish pension system has several problems in its original design.

With regard to the minimum pension, the Social Security Administration funds it. Nonetheless, it is not a contributory pension, and thus it should be the State to one to finance it in order to alleviate the pension burden and increase the contributory character of the Social Security.

Concerning the private funds, they have a marginal role in the Spanish retirement pensions, despite the efforts of the government to incentivise them with tax benefits. These preferred tax treatments, apart from ineffective, make the taxation system inefficient, and hence other incentives would have a better result. Some alternatives are to provide an automatic enrolment of the workers to a pension fund or to make it mandatory or quasi-mandatory. What is clear is that transparency and information of the population help increase the coverage of these plans, and assist in the better planning of the workers' retirement income. The advantages of the pension funds versus the public pensions are the higher diversification of the funds, what protects them from geographic and demographic instabilities.

However, the public pensions are guaranteed by the State and benefit from large-scale economies. Therefore, the optimal solution is the combination of both systems. Nevertheless, there are a few drawbacks to the current scheme of the Spanish retirement pensions. One big problem is that they are characterised by a lack of universality originated by the diversity in regimes and workers' treatment, which cause a lot of intragenerational unfairness as well as inefficiencies in the contributions by tax evasion. Furthermore, there are negative incentives in the design of the accountancy of the years of contribution and in the penalisations for early retirement, which respectively make the younger workers try to be misleading with their salaries and the older workers retire early in some cases. Additionally, this system has maximum ceilings that make it regressive, and deprive the Social Security Administration from revenues. Finally, one big problem in the Social Security Reserve Fund is the lack of diversification in the investments, since they are mainly invested in national bonds.

The last reforms try to solve the problems of the unsustainability of the system. These are the demographic trend towards an ageing population and the consequences of the last economic

crisis, which both have triggered the raise in the dependency ratio by the increase of pensioners and the decrease of workers. The measures on the one hand try to increase the working lifetime, but this has several constraints derived both from the behaviour of the workers and the impossibility of increasing the retirement age or the minimum years of contributions to achieve a full pension indefinitely. Hence, this is just a short-term alleviation of the increasing pension burden. The other big package of measures is the indexation of the pensions with the Sustainability factor and the Revaluation Index. These two factors are more effective in guaranteeing the sustainability of the system as they mean that the pension are now automatically adjusted to mitigate both of the threats to the sustainability of the system.

These measures, however, will not be enough as the expectations are that the dependency ratio will keep rising in the forthcoming decades, to which there are other challenges to add. First, due to the economic crisis, the active population has lowered, making the system obtain less contributions caused both by the lower salaries and occupied population but also meaning that a big percentage of the Spanish workers will have discontinuous careers and late entrance to the labour market. This will make the minimum pensions as well as the risk of old-age poverty rise. In addition, the aftermath of the economic crisis is a context of low growth and low interest ratios, which both compromises the ability to pay back of the private funds but also introduces damaging incentives as they might seek higher yields in trade-off higher risks.

To sum up, besides applying drastic reforms such as the change to a notional pension system, there are many problems to solve in the Spanish pension system's design. The long-term unsustainability threat is real, but there are many inefficiencies in the system that make it unfair. It is hard for any politician to set up a package of measures, as the public opinion of the majority of voters are biased, since they are mainly the current pensioners. The initial response to the shed in the public light of the pension system debate has generated confusion and discomfort, but better information and further awareness by the citizens can change their perception. It is necessary that the current pensioners and more particularly the current workers have the knowledge to plan their future and ensure that they will have enough income to live through the longer retirement years.

For that reason, the efforts to reform the Spanish pension system have to emanate from the different public institutions as well as the private sector. More transparency is required in order to generate trust in the Spanish retirement pension system and understanding of the key factors of the reforms. This will also increase the weight of the private pension funds in the Spanish households, as the original aversion might be due to a lack of information. No matter what, the further reforms should always try to achieve universality of the system, equal treatment of all workers based on objective and rational indicators and the guarantee of adequacy to afford the longer retirement that the future generations will enjoy.

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