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THE ITALIAN PENSION SYSTEM: CAUSES, PROBLEMS, SOLUTIONS

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INTRODUCTION

Pensions are one of the most controversial and discussed issues in our society.

There are several reasons why: pensions affect all generations, impacting our past, present and future; the budget constraints to guarantee the sustainability of a pension system are poorly perceived and considered, also because of the widespread economic and financial illiteracy; pensions lead to interpersonal comparisons that typically reveal injustices and privileges that the public opinion does not tolerate.

Moreover, many social contradictions are charged on the pension system, such as the tendencies to complain about the future of young people, lacking in opportunities, and, at the same time, to take away their resources to allocate them to older – and less poor – people who have greater electoral weight in an aging country: in fact, in pay-as-you-go (PAYG) pension systems – as the Italian one – the pensions paid to pensioners today are financed with the contributions paid by workers today, who therefore bear their costs.

Then, it is easier to charge dissatisfaction and demands to the State rather than to the private sector, not only with regards to pensions but for all the welfare benefits that the State ensures.

Since these benefits depend on laws, politicians tend to see their improvements as generous acts, and citizens may not realize that the consequent economic and budgetary distorsions will make them lose more in the future than what they can obtain today.

> *Social security must be achieved by co-operation between the State and the individual. The State should offer security for service and contribution. The State is organising security should not stifle incentive, opportunity, responsability; in establishing a national minimum, it should leave room and encouragement for voluntary action by each individual to provide more than that minimum for himself and his family.*

This quote[1] could seem the current advice of an economist who has studied the history of pension systems of the last century: however, it is what William Beveridge, considered the founder of the modern welfare state, expressed in the report he drafted for the government of United Kingdom in 1942, called “Social Insurance and Allied Services”.

[1] Sir William Beveridge, Social Insurance and Allied Services: Report, New York, Macmillan Co., 1942, pp. 6-7.

Any reform of pension systems – and more generally of the welfare state – should be inspired by that statement.

This thesis aims to investigate the historical causes that have determined the features of the Italian pension system, and therefore its problems and possible solutions.

To do so, I first deal with pension systems from a theoretical point of view, discussing how pensions protect people from the risk of having insufficient income after retirement, how pension systems can be financed, how they should be designed to pursue economic adequacy and financial sustainability, how pension system and labour market are closely linked, and which are the possible pension calculation systems and access conditions (part 1).

Afterwards, I focus on the historical path of the Italian pension system, since its foundation up to the interventions in the last years, and the current financial and demographic trends, in order to highlight problems and weaknesses and therefore present solutions (part 2 and 3).

1. THEORETICAL FRAMEWORK OF PENSION SYSTEMS

1.1 Pensions: insurance contracts to cover the risk of having insufficient income after retirement

One of the main concerns of our society is how to survive when we become too old to work and therefore to continue to earn sufficient income to deal with our consumption needs. This risk outlines a pact between generations that has characterized the human history.

In the pre-industrial societies this pact primarily took the form of the family care during the old age, and this is one of the reasons why it was typical to have many children.

With the Industrial Revolution and the urbanization process, the relationships based on common working interests strengthened and other more structured forms of insurance were created. For example, in the XIX century in England there was the birth of the so-called friendly societies: the workers signed up voluntarily to these associations and deposited money in a common fund that was used to intervene against negative events, supporting injured subscribed workers and, in case of their death, their widows and orphans.

The XIX century was also the period of the social reforms conducted by national governments: the task of the assistance and the distribution of the pensions moved to the public institutions, which made mandatory the payment of the contributions for those services. This is the case of the reforms made in the 1880s in Germany by the Chancellor Otto Von Bismark, considered the father of the modern pension systems.

This brief historical excursus shows that pensions have been insurance contracts that cover individual risks, spreading them across groups of people (however, the aggregate risk is ineliminable within the same group).

Therefore the concept of risk has been crucial in the construction of the modern pension and welfare systems. It is possible to define risk differentiating it from uncertainty: the first can be statistically measured, the latter can not. However its measurement is unavoidably imperfect, because based on information coming from the past which can not contain the news will emerge in the future.

A crucial type of risk concerning the pension systems is the risk of staying alive without a sufficient income. This is the longevity risk, and it is measured in the mortality tables. These tables basically show how many people of a certain age, alive in a certain year, are still alive in

a certain following year, therefore computing the probability of survivorship and, on the other side, the mortality risk of a population segment.

Figure 1: the survivorship function, Italy (years 1931, 1961, 1992, 2016)

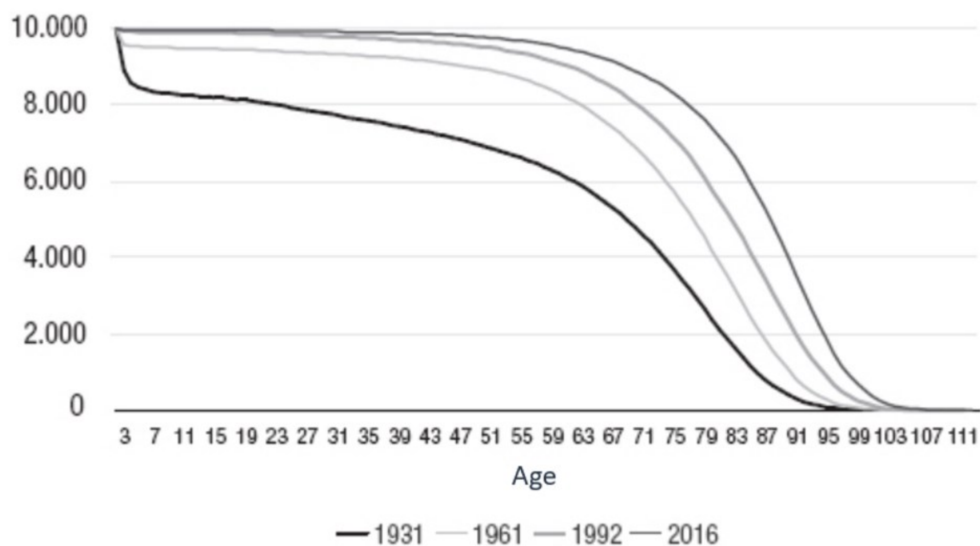
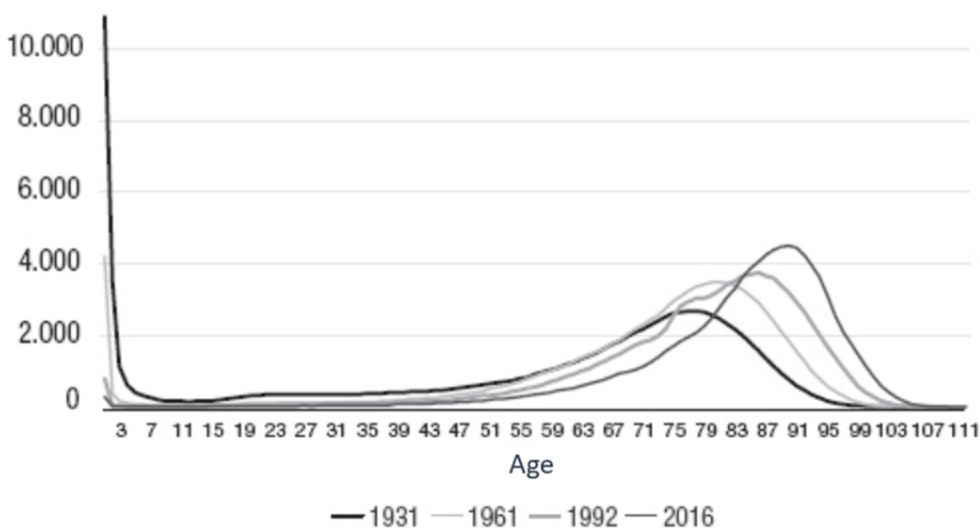


Figure 2: the curve of deaths, Italy (years 1931, 1961, 1992, 2016)



Using those tables, it is possible to derive the survivorship function and curve of deaths, respectively plotted in Figure 1 and 2 [2] for Italy. They jointly show a considerable increase in the average lifetime during the last century. This is due to the huge reduction of the child mortality: in Figure 1 the curve shifts upward since the first years of life and it specularly goes down in Figure 2 in correspondance of the same years.

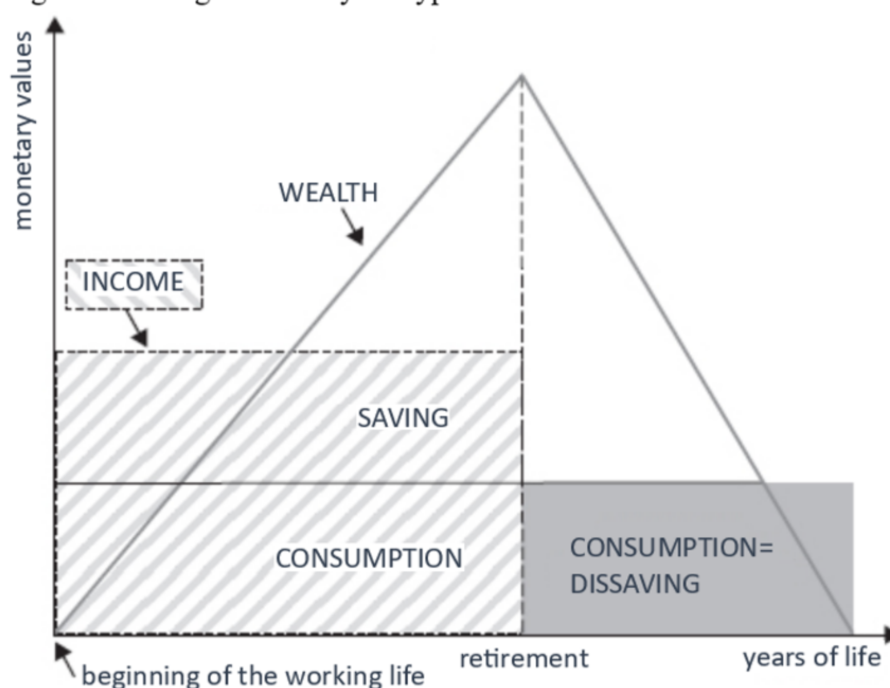
[2] E. Fornero, Chi ha paura delle riforme. Illusioni, luoghi comuni e verità sulle pensioni, Milan, Università Bocconi Editore, 2018, p. 39.

Moreover, the longevity of the Italians increased: the survivorship curve shifts also to the right, and the curve in Figure 2 displays the concentration of the deaths on an older age.

This represents an undoubted positive achievement of our society, but it determines, as already mentioned, the risk of staying alive without sufficient income. Therefore insurance institutions that pays pensions must compute this risk: if they do it wrongly and the insured people "live too long", the raised financial resources won't be enough. This problem regards both private insurance companies, for the private pensions, and the State, for the public ones: however, in the latter case – as explained more in the details in the following chapters – an inefficient pension system affects the entire population, particularly the young generations.

A useful scheme to focus even more on this topic is the one proposed in the 1950s by the Italian economist Franco Modigliani, in his life-cycle hypothesis (a simplified version of it is illustrated in Figure 3[3]).

Figure 3: Modigliani life-cycle hypothesis



Modigliani thinks to the life-cycle as formed by three periods:

• the education period, hypothetically over the first twenty years, when the individual acquires the knowledge to apply more or less profitably in the subsequent professional career;

[3] E. Fornero, Chi ha paura delle riforme. Illusioni, luoghi comuni e verità sulle pensioni, Milan, Università Bocconi Editore, 2018, p. 43.

• the working period, over the following almost forty years, when the individual enters the labour market to earn labour income;

• the retirement period, hypothetically over the last twenty years, when the individual leaves the labour market, ceasing to earn labour income.

The scheme of Figure 3 does not consider the first period and it focuses on the other two. It is relevant to consider that Modigliani, making his theory, referred to the American society in 1950s, when the workers used to remain continuatively in the same firm, receiving a relatively constant labour income until the retirement, and the public pensions were low, so that their income drastically fell down after retirement.

On these assumptions, Modigliani hypothesizes rational expectations of the individuals: they don't want to consume too much when their income increases and is high (during the working period) and not enough when it falls, is low or null (during the retirement period).

Adding the assumptions that the accumulation of savings doesn't depend by any hereditary reason (it was reasonable for the American society in 1950s, where the heredity regarded the upper class and not the majority of the population, while in the Italian reality saving decisions are heavily driven by hereditary reasons) and that the return on wealth is null, Modigliani stated that the individual should save every year one third of his labour income to smooth the consumption in order to maximize his utility over the entire life: what the individual earns in his working life (more or less forty years) has to be enough for all his adult life (approximately sixty years).

With this analysis Modigliani introduced the concept of intertemporal budget constraint: in the consumption choices what counts is not just the current income but also the expected future income flows.

Hence, to consume goods after the retirement is necessary to save enough during the working life: this is what the rational individual in the simplified version of the Modigliani's model is supposed to do by his own.

However, the life circumstances are more complex and characterized by risks and uncertainties.

The main risks against the achievement of the necessary savings for the life after retirement, i.e. to have a good pension, in addition to the aforementioned longevity risk, can be classified

as follows: the income risk, the risk of inadequate contribution payments and the risk of a too low retirement age. Due to these risks, letting people raise savings on their own may reveal inefficient and unfair: this is the reason for the existence of public pension systems and the compulsory participation to them.

As the income risk is concerned, it characterizes a poor and discontinuing working life sometimes due to a low educational level, health problems, spread undeclared work, or as a bad effect of a technological change that eliminate some job positions, typically the low-skilled ones. This is a risk that the market does not cover and which therefore inevitably regards the public sphere. In a public pension system financed by the payment of contributions taken from labour income, this risk can be addressed ex post through a minimum pension which integrates, with recourse to general revenues of the State, the missing part of the contributions, and/or ex ante with the financing of missing contributions paid with general revenues in order to prevent the pension from being too affected by the unfortunate circumstances of the working life.

The risk of inadequate contributions is closely linked to the income risk. In the public system this risk is solved by establishing a mandatory contribution rate, which can be the same for everyone or different between categories. However, this rate could be inadequate: it could be too high and, contributing to raise the cost of labour, have a negative impact on the demand for labour by companies, or be insufficient to guarantee a decent level of pension. In Italy, for example, the rate is set at the 33% of the gross salary and it is considered high in terms of labour costs and low in terms of the resulting pension. This risk is even greater for women, given the greater discontinuity of their working life, and for young people, holders of more flexible or precarious contracts. Furthermore, the risk of inadequate contributions may also depend on the lack of good vehicles for supplementary pensions.

Finally, there is the risk of a too young retirement age, sometimes emphasized by opportunistic political choices. When the pension system allows such possibility and the pension calculation method encourages it, the worker runs the risk of leaving too early from the labour market and to be left with an inadequate pension. A good measure to prevent this risk is to link the retirement age to life expectancy, constantly calculated by an independent statistical institute.

It is now worth recalling the aforementioned aggregate risk. I stated before that it is ineliminable: the aggregate risk on the average longevity of a generation, i.e. the risk that it will live, on average, longer than the previous ones, can't be shared within the same generation.

The individual risk of dying before or after the average age of a generation is statistically measurable and can therefore be covered sharing it among subjects who are part of that generation: those who live longer than the average will be financed, at least in part, by those who live less than average.

However, if it is the average age to grow, everyone in the same generation benefits in terms of longevity but at the same time, holding a pension contract, is financially affected by the reduction of mortality and therefore of the monthly payments taken from the accumulated pension capital, which must be spread on a longer horizon. Therefore, either the generation itself provides for its own greater consumes, working and producing more, or inevitably subtracts resources to the following generations. This is a current problem: recalling the survivorship function and curve of deaths, we can observe how the life expectancy of the new generations is normally higher than the life expectancy the of previous ones e how deaths are increasingly concentrating towards high age.

Therefore, the aggregate risk implies relevant consequences both for individuals and for the public pension system. If one lives longer, it is generally necessary to work longer and/or save more during the working period to finance consumption in old age. Hence, the aggregate risk represents one of the reasons for the existence of a public pension system structured as an inter-generational contract: however, it is necessary that the system is adequately constructed to represent the interests of future generations who tend to have little voice in an aging society.

1.2 Public pay-as-you-go pension systems against financial market risks: an intergenerational contract

One of the most important choices in the design of a public pension system concerns the method for the benefits financing. The two alternativies are the pay-as-you-go (PAYG) system and the capitalization system, or their combination.

In a public capitalization system, the contributions paid periodically by workers (and employers) are invested in financial assets and their returns are credited to a common fund of the system, or to the worker's individual account.

The accumulated financial capital allows, during the retirement period, to receive a benefit commensurate with the amount of contributions paid, the compound interest accumulated year by year and the worker's life expectancy.

To measure how much convenient this system is, it is necessary to look at the rate of return on the paid contributions: approximately the rate is equal to the average interest rate on low-risk securities of the financial market.

With this financing method, the system doesn't promise a predefined level of pension, but only the distribution, over the residual life of the insured individual, of the accumulated capital.

For a given percentage of contribution, supposedly sufficient to ensure the monthly pension goal of the worker, the worker is exposed to financial risk, i.e. the risk that the pension obtained through the investments in financial markets will be inadequate in terms of purchasing power compared to previous expectations. On the other hand, since the system makes no promises, it doesn't run the risk of unsustainability, given that the size of pensions is determined by the level of accumulated capital.

In good financial conditions, with higher-than-expected returns, it is possible to increase benefits or temporarily reduce contributions. However, with bad financial conditions, it may become impossible to even preserve the face value of the pension capital.

Insufficient pensions will require assistance interventions by the State using the revenues from other taxes: this shows the inadequacy, for a public pension system, of a financing mechanism completely based on the assumption of no financial shocks.

Furthermore, the capitalization mechanism does not allow addressing the aggregate demographic risk discussed on pages 7-8, since each worker receives as a pension the

capitalized value of the total amount of contributions paid, unless public redistribution interventions are carried out within the generation: if an entire generation of people lives more than expected thanks to a technological shock (for example, new medicines are discovered), there won't be enough resources.

The intergenerational pact, however, is crucial in a public PAYG system.

In this case there is no accumulation of funds, since the contributions paid in each period by active workers are used in the same period to pay the pensions of those who have already retired. Today workers, therefore, know that their contributions are used to pay pensions of current pensioners and are confident that they will in turn be able to count, when they retire, on the contributions paid by future active generations.

The pension entitlement is therefore based on trust in the continuity of the intergenerational pact, and more specifically on the belief that there will be, in the future, sufficient contributory income from active workers to finance the entire amount of pensions to be paid. The pact is renewed every time a new generation enters the job market and starts paying contributions.

With the PAYG system, the State can make rather precise promises on a certain pension replacement rate, i.e. the ratio between the amount of the individual pension entitlement and the average pre-retirement earnings of the last part of working life: for example, it can establish that for 40 years of contribution, the pension will be equal to 80% of the average labour income of the last "n" working years, as in the Italian case (it will be explained more precisely in part 2 of this thesis).

This is possible because the State can always cover any deficit by increasing the contribution rate, using general revenues or by increasing the public debt.

Is the PAYG pension system convenient from a personal point of view, compared to alternative solutions? As well as the capitalization system, it can offer a return on the contributions paid, maintaining a structural balance between income and expenditure of the pension system, i.e. its sustainability. However, while the capitalization system can't but rely on financial market rates, in the case of the PAYG system there are no invested savings on which to compute returns, and there is therefore political discretion on the rate to be applied. There is a particular return which has the advantage of maintaining the financial balance of the system and which can be approximated by the gross domestic product (GDP) growth rate.

Indeed, in every period there are young people who work and elderly people who receive a pension. Young people pay contributions equal to a percentage of their gross labour income. The total contributions are distributed among all pensioners. If the population grows and the average income of workers grows as well, each elderly generation can receive, as a sum of pensions, a higher amount than the total amount paid before: this the implied advantage of the PAYG pension system. A sort of "virtual" interest is therefore recognized on those contributions, and it is equal to the sum of the growth rates of the number of workers and their per capita income, i.e. this yield can be approximated with the percentage increase in GDP.

Whatever the difference between the financial market interest rate and the GDP growth rate, there is always someone who receives a net benefit with the introduction (or extension) of the PAYG system. When a PAYG pension system is introduced (or expanded), it is established that the entitlement to benefits (or their increase) is recognized not only to new entrants into the labour market, who would have time to finance their benefits by paying contributions required by the new regime, but also to those who, being already at or close to retirement age, have not had the opportunity to contribute (or fully contribute) to the system. The expansion of benefits therefore implies a gift and gifts made with public money either correspond to solidarity (if they go in the right direction, i.e. from the richest to the poorest) and are fully legitimate, or they create privileges and are therefore socially unacceptable. The political attractiveness of the PAYG system arises from this mechanism: the possibility of being generous without, at least apparently, anyone paying the price. Moreover, the pressure on politicians tends to become stronger with the aging of the population, which raises the average age of voters.

When the pension system is financed on a PAYG basis, financial risk is therefore absent – or limited to the indirect effects of financial shocks on real economy – but two other main risks, interconnected with each other, are relevant: the demographic and economic risks.

The demographic risk is due to the aging of the population, which increases the so-called old age dependency ratio, i.e. the ratio between the population aged 65 or over and the working age population (indicatively the age group between 20 and 64 years).

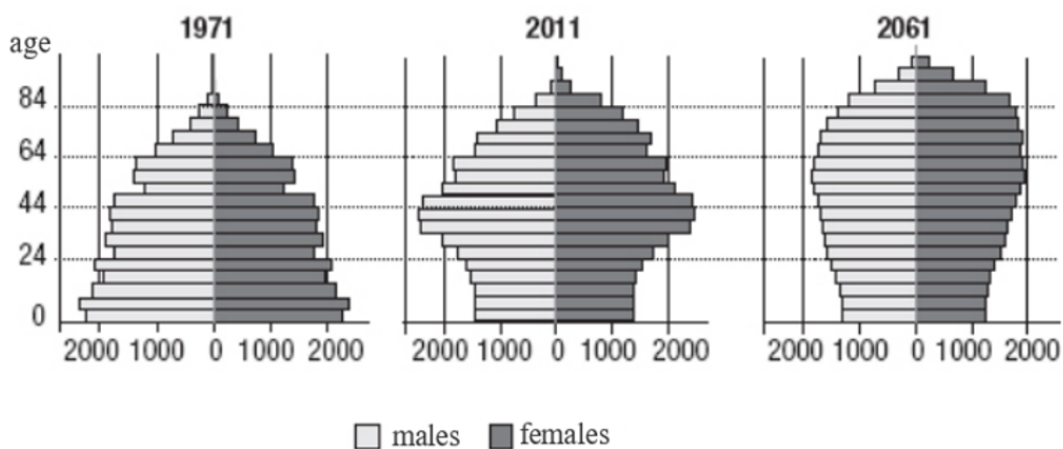
In fact, the new generations of workers must be sufficiently numerous and able to produce income to make the payment of pensions sustainable. More precisely, the equilibrium of the pension system requires that the total amount of contributions in each period (given by the number of workers multiplied by their average labour income, and again multiplied by the average contribution rate) is at least equal to the total amount of pensions paid in the same

period (given by the number of pensioners multiplied by the average amount of pensions paid). Otherwise, the system defaults.

The old age dependency ratio will increase in Italy – and in general also in other advanced economies – in the near future: if in 2005 it was equal to 29,4%, in 2050 it will be 66,5%.[4]

Figure 4[5] shows the population pyramid in 1971 and 2011 and its statistical projection to 2061, for Italy. The 1971 pyramid has the typical triangular shape, with a broad base of young age groups and a limited number of elderly people. In 2011, forty years later, the pyramid highlights the birth boom in 1950s and 1960s, which leads to broader average age classes: from this age upwards there continues to be a normal pyramid, while towards the bottom the pyramid is reversed, with the density of the younger age groups approximately equal to half of the density of the 40-50 years old group. Current trends instead lead, in the projection of 2061, to a very strong concentration of the population in the age groups aged 60 and over.

Figure 4: population pyramid for Italy, 1971, 2011 and 2061



To address the demographic risk and keep the system in balance without resorting to additional debt, the reduction of non-pension spending in favor of pension spending (already very high in Italy and equal to 15,9% of the GDP in 2019 according to OECD, and estimated to increase up to 16,2% in the two-year period 2023-2024) and the increase in the contribution rate (very high as well in Italy and equal to 33% for workers with an average income), the burden of the adjustment can only concern the retirement age, also considering the improvement in life expectancy and health conditions of the population.

[4] Eurostat-Statistics Explained, "Ageing Europe - statistics on population developments", February 2024.

[5] E. Fornero, Chi ha paura delle riforme. Illusioni, luoghi comuni e verità sulle pensioni, Milan, Università Bocconi Editore, 2018, p. 94.

More generally, a PAYG system flourishes in a growing economy. This growth can be caused, as mentioned before, by demographic factors as the increase in the number of active workers, but also from economic factors as the increase in total factor productivity (TFP). However, the Italian TFP stopped growing from the mid-1970s and began to decrease from the 2000s.

This economic risk can't be solved, however, within the pension system. Rather, a broader range of economic and employment growth policies is necessary, as well as policies to promote education, professional training and apprenticeships. Pensions are in fact a consequence of the labour market conditions, not the opposite: the logic of retirement as a way to facilitate employment is wrong and policies must aim to raise the participation rate and cover the risk of unemployment not with a subsidy that allows the unemployed people to live even without labour income, but with interventions that stimulate the active search for new job positions.

1.3 The unavoidable trade-off: economic adequacy and financial sustainability

A good pension system should meet two fundamental requirements.

First of all, it should offer adequate economic security in old age, that is a socially sustainable income to allow a decent old age; secondly, it should be financially sustainable, that is, respect the balance - not necessarily year on year, but at least in the medium term - between revenues from contributions and expenditure for the payment of pensions. Otherwise, the consequent deficits continuously increase the public debt, leading to the risk for the State that, at a certain point, there may be a lack of resources to pay back interest and loans.

However, it can be difficult to meet both requirements at the same time, especially without economic growth. In the short term there is a trade-off between them: the price of greater adequacy is less sustainability, and vice versa, ceteris paribus.

In more general terms, an increase in the generosity of the pension system (for example, a general increase in pensions or a reduction in the retirement age) requires higher contribution rates for workers, or, since these cannot reasonably rise above certain levels, higher taxation for the taxpayers and/or an increase in public debt.

The trade-off between the two variables is not necessarily fixed. In favorable economic circumstances of growth in both employment and productivity, it is possible to obtain an increase in pensions without necessarily worsening the financial sustainability of the system: increases in productivity and employment can make the system more adequate, but no less financially sustainable, or more financially sustainable but no less adequate.

The task of pension reforms (to be integrated with tax and labour market reforms, which this thesis, however, does not deal with) should be precisely the improvement of this trade-off.

For what concerns the economic adequacy (or social sustainability), it is necessary to define what "adequate pension" means, considering both the individual and the collective dimensions.

From an individual perspective, the definition has to take into consideration the entire life cycle: in section 1.1 of this thesis, it is established that an individual saves adequately (spontaneously or compulsorily) if he accumulates sufficient wealth over time to avoid falls in his living standard at retirement; therefore, the pension system should be an efficient institution to achieve this objective.

From a collective point of view, the pension system is adequate if it effectively reduces the risk of poverty and social exclusion of elderly people, allowing them to keep pace with the younger generations.

To measure the economic adequacy of a pension system the so-called pension replacement rate, already defined on page 10 of this thesis, is used. Normally, a pension replacement ratio lower than 1 is considered appropriate, which means that the pension is lower than the final salary/earning: a pensioner, in fact, does not bear the expenses associated with the working life routine and is subject to lower taxation on the pension income compared to taxes on labour income.

In any case, it is difficult to establish how much the pension can be lower than the final salary/earning without causing a lowering of the living standard because the variables that play a role are many and different between individuals. In fact, the workers may have accumulated, on their own initiative, savings for a supplementary pension (in this case the overall pension should be considered to assess its adequacy). The services available, in particular healthcare, which contribute to determine the living standard after retirement and vary in quantity and quality from region to region (and also from municipality to municipality), should also be considered.

Observing some data on the net pension replacement rate (personal income taxes and social security contributions paid by workers and pensioners are taken into account), it is higher in Mediterranean countries: according to OECD, in 2022 it was equal to 86,5% in Spain, 82,6% in Italy, 71,9% in France, much more than in Germany (55,3%) and in Northern European countries in general.

However, this doesn't translate into similar differences in the living standard of the elderly in the various European countries: in some countries, in fact, the public pension is the most important, if not almost the only instrument for financing consumption in old age, while in other countries it is supplemented by other services such as long-term care services, rent contributions, free or low-cost use of public transport, the availability of supplementary pensions (more widespread in Northern Europe than in the South), the taxation of pensions which is present in some countries, almost absent in others (for example it is lower in Germany and France than in Italy).

As regards financial sustainability, it must first be defined what "pension debt" is. To measure this debt, it is necessary to distinguish between pensioners, who no longer pay contributions, and workers, who contribute to the system. The entitlements of the active workers depend on

their personal work history, and therefore on the contributions already paid, directly or through the employer. The sum of the entitlements accrued by all pensioners (for pensions still to be earned) and workers (for contributions already paid) constitutes the State's pension debt. This debt exists regardless of whether the pension system is in financial equilibrium: it is determined by the mechanism of the PAYG system and increases every time innovations to improve pension benefits are introduced into the system.

To understand whether pension debt is sustainable, the same criteria to evaluate whether total public debt is sustainable can be used. If a country has a total debt higher than GDP, total public expenditure - net of interest - structurally higher than tax revenues (primary deficit) and an interest rate on total debt stably higher than the GDP growth rate, every year this country issues new debt, in addition to that necessary to meet the repayments of previous ones. To solve this situation, the government must intervene with an increase in taxes and/or a reduction in public spending to create the budgetary surplus necessary to start reducing the debt.

Pension debt arises with the PAYG system introduction and increases if the system promises a rate of return on contributions that is stably higher than the equilibrium rate, i.e. the percentage growth of GDP. The conditions of financial unsustainability are not precisely definable, but it can be assumed that a situation of high pension expenditure, tending to grow, in relation to GDP, and a high total debt-to-GDP ratio, threaten the financial creditworthiness of the country and therefore its ability to obtain, in the international financial market, the loans it needs, causing a scenario of instability favorable to speculative attacks. Furthermore, this situation has discouraging effects on saving, investment and employment which derive from the high contribution rates necessary in a generous pension system.

1.4 Labour market and pension system

In a public PAYG system, pension benefits can be defined according to two different types of formula.

The defined benefit (DB) formula, which ensures a pension equal to a certain percentage of the earnings of the last years of working life. Typically, to get the annual gross pension, this kind of formula multiplies a rate of return (for example equal to 2%) by the number of years of contribution payments, and by the average earnings of the last years of working life; in this case, with 40 years of contribution payments, one can obtained a pension equal to 80% of the average earnings of the last years of working life.

On the other hand, there is the defined contribution (DC) formula: all the contributions payed during the working life determine a (virtual) capital amount (higher than the simple sum of all contributions thanks to the application of a rate of return on them), which is then divided by the number of years of life expectancy at retirement to get the annual gross pension (this mechanism is explained in more detail in section 2.6 of this thesis for what concerns the Italian pension system after the Dini reform in 1995).

With both formulas, without a good working life in terms of quality, continuity and length and therefore of overall labour income and consequent contributions payments, it is impossible to get a good pension. This particularly happens with the DC formula, given that the DB formula can instead determine a wider gap between the pension benefits and the contributions actually paid, because it links the pension to the average earnings of the last years of working life (which, moreover, are typically higher than the average earnings considering the entire working life).

The relationship between the pension system and the labour market is therefore binary: a good, inclusive and dynamic labour market is the best prerequisite for good pensions and a good pension system does not penalize, but rather encourages employment. If the pension system widens the gap between contributions paid and benefits received, at the expense of the former – for example by ensuring, at an inappropriately low retirement age, a high pension replacement rate – it is impossible that negative effects on the supply of labour will not arise, with a decrease in employment rates.

Giving to the individuals the right to choose the moment of retirement – based on personal and family reasons, which only the indiviuals can know – could theoretically be right, but, at the same time, what is important to keep in mind is that the public pension system is mandatory, constitutes a contract between generations and that the terms of this contract can't be delegated

to the individuals because their choices can influence the collective results: the requirements for access to retirement (the main ones are the age and years of contribution) must be decided for the community of workers involved, with overall reduced margins of individual choice. These minimum requirements must be set so that employment is not discouraged, given that it is the workers who finance the pension system.

At the same time, however, it is appropriate that the increase in pension wealth ceases at a certain age, beyond which staying in the labour market should begin to be discouraged, so as to facilitate generational turnover.

The definition of these upper and lower bounds of retirement requirements are typically discussed in pension reforms. Recently, the 2019 expansionary pension policies (discussed in section 3.1 of this thesis) were justified by the policy makers who implemented them with the fact that workers considered too old were forced to occupy those job positions that otherwise would have been reserved for new hires.

However, there is literature[6] explaining that increases in employment of the elderly do not necessarily exclude other age groups from the labour market. On the contrary, longer working careers and higher employment rates for the elderly would be associated with greater job opportunities and higher employment rates for young people, therefore without the so-called "crowding-out effect" occurring. At the same time, early retirement policies are ineffective or even harmful in promoting employment of young people.

The explanations of these theories are different.

Firstly, workforces of different ages are not homogeneous in terms of skills and vocations and that therefore the different generations are complementary rather than substitute. From this perspective, a generational turnover incentivized or even induced by early retirement measures could unbalance the composition of the overall workforce and had negative effects on productivity.

Secondly, higher spending on pensions would translate, because it is financed through the PAYG system, into higher taxes and/or mandatory contributions, with distorting effects on both the labour supply and demand sides.

[6] Ufficio parlamentare di bilancio, "Il dibattito sulla flessibilità pensionistica", Focus tematico, n. 6, 4 agosto 2016.

Then, when public spending is excessively unbalanced on pensions due to a retirement age that is too low, there are not sufficient resources to employ in other welfare institutions such as active and passive labour policies.

Furthermore, lower retirement age requirements create a disincentive in the long term to accumulate human capital since this can be used over a shorter working life. Over time, this disincentive would translate into lower quality of the workforce and lower economic growth, with fewer employment opportunities for everyone.

Finally, it should be underlined that no pension system is, in itself, able to correct the limits and weaknesses of the labour market. The job and income precariousness of young people requires interventions on school, extracurricular training processes and within the labour market, and making measures such as apprenticeships effective.

2. HISTORY OF THE ITALIAN PENSION SYSTEM

2.1 The origins of the Italian welfare state

As briefly mentioned on page 3 of this thesis, a turning point for the birth of the modern pension and welfare systems was the Industrial Revolution that began in the second half of the XVIII century, which led to the proliferation of new productive activities, the agglomeration of people around them and the progressive abandonment of the countryside – the urbanization process – and therefore the slackening of family bonds and the creation of new links between workers in the same sector, consolidated in the friendly societies created since the XIX century.

Besides this huge social transformation, the Industrial Revolution led to durable and consistent economic growth, which can be considered the cause of the former: the increase in output and employment and therefore in average wealth of people, made investments in social security possible, starting from what were in fact insurance contracts provided by the friendly societies for the payment of some initial contributions. In the Middle Ages, for example, this was impossible: the resources available were too few, especially after the agrarian and food crisis, epidemics and wars.

The other crucial factor for the birth of the modern pension and welfare systems was the consolidation of national States in the XIX century, which took on the fight against poverty and social diseases.

Firstly, national States enacted laws to encourage the activity of friendly societies, then they basically "nationalized" their tasks, imposing the insurance obligation on workers and the compulsory payment of contributions.

Indeed, friendly societies represented, until that moment, a privileged phenomenon that involved only the most organized and best paid workers, a limit that national States aimed to overcome towards a more universal system.

The path just described also concerned the Italian case, even if not immediately after the Unification in 1861.

Indeed, at the beginning of the history of the new State, social policy in Italy remained an almost exclusive monopoly of the Catholic Church, mainly through the activity of the religious organizations called “Opere Pie”.

The prudence of the State in the social field in fact coincided with the positions and interests of the most relevant political and social forces: the bourgeoisie remained substantially faithful to the “laissez-faire” principle, believing that the State's tasks in the welfare sector should not extend beyond the maintenance of public order, and Catholics opposed any public interference in the field of social protection for which they were traditionally responsible.

However, in the last two decades of the 19th century the "social question" fully entered the political agenda, becoming the subject of the first concrete legislative interventions.

Therefore, on April 16, 1886, with the law n. 3818, the Italian Parliament codified the activity of the “società di mutuo soccorso”, i.e. the friendly societies operating in Italy.

First of all, the article 1 of the law gave to them a legal definition:

> *The “società di mutuo soccorso” have non-profit purposes but pursue general interest objectives, on the basis of the constitutional principle of subsidiarity, through the exclusive performance of one or more of the following activities for the benefit of the members and their family:*
>
> *• provision of social-health treatments and services in cases of accident, illness and disability at work, as well as in the presence of temporary or permanent incapacity;*
>
> *• provision of subsidies in the event of health expenses incurred by members for the diagnosis and treatment of illnesses and accidents;*
>
> *• provision of family assistance services or economic contributions to the family of deceased members;*
>
> *• provision of economic contributions and assistance services to members who are in conditions of serious economic hardship following the sudden loss of personal and family sources of income and in the absence of public benefits*

The “società di mutuo soccorso” had to prove they granted just this kind of provisions, they were economically stable, and they chose their directors among the effective members, favoring the development of forms of participation and internal democracy.

Moreover, the law established some tax exemptions for those societies, in order to fovour their proliferation: in 1894, after 8 years from the promulgation of the law, there were 6.722 “società di mutuo soccorso”, with more than 900.000 members.

In 1895, the first organic collection of laws on public pensions was created to reorder all the Piedmontese legislation on the pensions of public employees the Italian State had implemented in 1864-1865, immediately after the Unification of Italy, and all the following realized laws.

For example, the law 1731/1864, established that

> *either public employees who have completed 40 years of service or are 65 years old with 25 years of service have the right to be retired and receive a pension.*

For what concerns the financing of those public pensions, the law 279/1893, stated that

> *the pensions due to retired public employees will be paid on the average of the salaries received during the last five years of active service.*

Therefore, those pensions were already computed with a defined benefit formula, and when the contribution payments were not enough, the State added the remaining part.

In 1898, with the law n. 350, the Italian Parliament also intervened in favor of the private employees, creating the so-called "Cassa nazionale di previdenza per la invalidità e per la vecchiaia degli operai" (National insurance fund for the disability and old age of workers) to protect disabled and retired workers. This fund was still financed voluntarily by both employees and employers, supplemented by a contribution from the State.

There are several factors that influenced the choice to leave the accumulation of social security savings to individual initiative. Firstly, the aforementioned position of a large part of the political class anchored to dictates of economic liberalism, also concerned about the costs of the possible institution of compulsory pension insurance. Secondly, the existence of a rather extensive network of "società di mutuo soccorso", also thanks to the law in 1886, which already provided social security protection to workers.

As regards the beneficiaries of the 1898 intervention, the amount of potential insured members was quite large: around two million industrial workers and approximately nine million employees of the agricultural sector, for a total of almost eleven million people.

These workers could therefore enroll at the national fund and contribute to build their social security assets with an annual payment varying from a minimum of 6 lire to a maximum of 100 lire and the fund paid a supplementary contribution for each registered member up to a maximum of 12 lire. The right to obtain such pensions accrued at the age of 60, after 25 years

of contributions and the financial resources were managed by a capitalization system combined with the defined contribution method for pension calculation.

Only in 1919, with the law n. 603, the pension for private employees and the relative payment of contributions were made mandatory. Indeed, the number of voluntary pensions had grown very little: in 1919, after more than twenty years from the law in 1898, there were approximately 660.000 enrolled members, less than 4% of the total amount of Italian workers.

The "Cassa Nazionale per le Assicurazioni Sociali or CNAS" (National Social Insurance Fund) was founded to manage the expanding pension system. This reform marked an important turning point towards a more universalist direction, including the poorest part of the private employees.

Indeed article 1 of this law established that:

> *disability or old age insurance is mandatory for people of both sexes aged between 15 and 65, who provide their services employed by others as: workers, journeymen, apprentices, orderlies, assistants, clerks, supervisors and employees in industrial, commerce, agriculture, including hunting or fishing, public services, liberal professions, including private teachers and tutors, those who work on behalf of others such as sharecroppers and tenants who habitually provide manual work in the respective companies, and domestic servants.*

According to this law, self-employed workers and private higher-income employees were still allowed to contribute voluntarily.

The 1919 reform represented a first step towards the creation of a single redistributive community, transversal to the industrial and agricultural sectors. There was the recognition of the perfectly balanced financing of the pensions between employees and employers, and the State contribution of 100 lire per year for each pensioner. For what concerns the calculation method of pension, the law established a hybrid system in which pensions were commensurate with contributions, but also with pre-established revaluation rates to cover predetermined remuneration quotas.

The access conditions were made more stringent by raising the retirement age at 65 for both men and women, with a minimum contribution period of 10 years, and the capitalization system for the management of contributions was confirmed.

To make an assessment of this period, from the Unification of Italy to the advent of fascism, the Italian welfare state had taken on a relatively well-defined shape.

First of all, the spread of compulsory public insurance on old age and disability had led to a clear differentiation between the social insurance aspect, covered by these new forms of protection, and the social assistance aspect, still relegated to local public institutions which operated voluntarily, such as the "Istituzioni pubbliche di assistenza e di beneficenza or IPAB" (Public Assistance and Charity Institutions), organizations controlled by the Municipalities into which the old religious structures called "Opere Pie" had been transformed in 1890.

Furthermore, the social security provisions recognized the worker's right not only to wages, but also to adequate protection from certain risks which, together with the related insurance coverage, had to be precisely quantified and not managed with extemporaneous criteria or left to goodwill of individuals or private societies.

However, the legislation on the social field adopted in Italy in this period, although innovating and modernizing the previous one, still had a sectoral scope and the number of those who benefited from the coverage of the main insurance contracts remained small: in fact until the First World War, public expenditure on interventions in the social field remained below 2% of total public expenditure and only the contingencies of the conflict – so not a general reform of the welfare state – increased it up to 5,4% at the end of 1918.[7]

[7] Ministero dell'Economia e delle Finanze. Dipartimento Della Ragioneria Generale Dello Stato. Servizio Studi Dipartimentale, *La spesa dello stato dall'unità d'Italia. Anni 1862-2009*, January 2011, p. 41.

2.2 The consolidation of the public pension and welfare institutions during Fascism

In 1922, Mussolini government took office and initially showed no intention to change the approach to social issues of the traditional liberal administration of previous decades.

The expansion of social expenditure in the years following the First World War was described by the new fascist regime as an abuse of the "collectivist State", to definitively consolidate its consensus among the bourgeois classes, which didn't want to face further fiscal tightening.

It is not by chance that one of the first measures Mussolini adopted was the abolition of the State monopoly on life insurance, established, with a transitional period of 10 years, by a decree of the minister Francesco Saverio Nitti during the fourth Giolitti government in 1912: Mussolini kept the "Istituto Nazionale delle Assicurazioni or INA" (the National Insurance Institute supposed to manage the insurance State monopoly) in force, but left private companies – the "società di mutuo soccorso" – operating.

Then he made some changes to the legislation on social insurance, establishing more restrictive criteria: with the decree-law 3158/1923, self-employed workers in the agricultural sector (including sharecroppers) were excluded from the protection of insurance against disability and old age, a right they had obtained, as already mentioned, thanks to the law 603/1919. The exclusion of workers of the agricultural sector from insurance protection was carried out in compliance with the wishes of the landowners – who had always opposed the introduction of compulsory insurance because it represented a cost for them – for the decisive support they provided to Mussolini.

It was only from the mid-1920s that the tendency towards State interventionism, a distinctive feature of the fascist welfare state, prevailed. The motivations are different: the goal to rationalize costs and improve social protections through State control, the desire to acquire political credibility among workers by associating the fascist State with the strengthening of social protections, and the interest in the huge financial resources produced by the expansion of contribution payments, which could be used for national political purposes.

Therefore, Mussolini government increasingly favored the establishment of large institutions for the management of social security.

Just to mention some of these new institutions, coming then to the one concerning the pension system, that is the topic of this thesis, in 1925 the "Opera nazionale per la protezione della maternità e dell'infanzia or ONMI" (National Institution for the protection of maternity and childhood) was founded: it was supposed to take care of mothers during gestation and childbirth but also of the care of pre-school and school-age children.

In 1926 the "Associazione nazionale per la previdenza degli infortuni sul lavoro or ANPI" (National Association for Workplace Accident Insurance) was created: the task of this institution was the compensation for workplace accidents.

1933 was the year of the foundation of what Mussolini called "istituti fascistissimi" (literally "very fascist institutes").

With the decree-law 264/1933, the "Istituto nazionale fascista per l'assicurazione contro gli infortuni sul lavoro or INFAIL" (National Fascist Institute for Insurance against Workplace Accidents) was realized, with the task of protecting victims of workplace accidents via mandatory insurance.

For what concerns pensions, with the decree-law 371/1933, the CNAS – previously founded in 1919 – was renamed "Istituto Nazionale Fascista della Previdenza Sociale or INFPS" (National Fascist Institute of Social Security).

The evolution of the institution from CNAS to INFPS, even if it was just an organizational-managerial reform without substantial changes to the existing insurance schemes, had broad implications.

CNAS was founded in 1919 as a financial institution, with a light structure, responsible for managing social security issues in substantial autonomy from political parties: the board of directors was made up of representatives of employers, representatives of compulsory and voluntary insured employees, experts in the insurance field and ministerial officials. The approach reflected the liberal culture of the time.

The 1933 reform marked the transformation of the fund from a financial institution to a public institution, at disposal of political purposes: the INFPS board of directors was in fact supposed to be made up of representatives of the fascist party and trade unions.

This process was consolidated with the decree-law 1827/1935, when the organic reform untitled "Improvement and coordination social security legislation" was implemented. This reform

strengthened even more the character of the INFPS as a public institution, its rigidly bureaucratic organization and its highly regulated functions, similarly to the public administration: it became the largest public structure by number of employees and it developed an extensive network of local offices.

The centralization of social security in the INFPS and the extension of protection allowed the institute to increase its financial resources, becoming a sort of treasury of the fascist regime. The non-social security activities were very diversified: in addition to participation in the capital of other public institutions through the “Istituto per la Ricostruzione Industriale or IRI” (Institute for Industrial Reconstruction), another fascist body founded in 1933, the INFPS financed hospitals and other health facilities, professional training, supported colonial emigration in Libia and financed agricultural public works in the colonial territories, and also military operations as the War in Ethiopia in 1935-1936.

After Mussolini's deposition on July 25, 1943, with the decree-law n. 704 on August 2, 1943, the "fascist" name assumed by institutions and companies was suppressed together with the fascist party: the INFPS became “Istituto Nazionale della Previdenza Sociale or INPS” (National Institute of Social Security), the name still used to identify the main social security institution of the Italian public welfare system.

As protections are concerned, the main reform interventions introduced only incremental changes.

Law 2900/1928 determined the increase of the lowest pensions by 75% and the others by 23%, with greater supplements for dependent children.

A more incisive pension reform was approved with the decree-law 636/1939, which determined some innovations: the extension of pension insurance coverage to employees with a monthly salary of up to 1.500 lire and the reduction from 15 to 14 years of the minimum age requirement for compulsory insurance; the reduction of the retirement age at 60 for men and the introduction of different treatment for women with the retirement age set at 55 years; the introduction of the reversible survivor's pensions, which are pensions for family members who, following the death of the head of the family, i.e. the subject who carried out work, would have been left without a source of income.

In April 1943, a 50% increase in the contribution levy and a 25% increase in the amount of pension payments were approved.

Furthermore, the equal financing of pensions was overcome, with the contribution burden being distributed in the amount of 2/3 borne by the employers and 1/3 borne by the insured employees.

The general strengthening of welfare state institutions produced a significant increase in public expenditure on social security: in 1922, when Mussolini became prime minister, it was the 4,8% of the total public expenditure, while in 1940, before Italy entered the Second World War, the 7,3%[8].

State contribution to social security funds was still limited: it was just the 3% of total contributions in 1935–1940 and increased sharply only after the war.

Social security benefits were often kept well below contributions: as already mentioned, the strong increase in INFPS resources was used extensively for non-welfare policies.

A feature of the Italian pension system exacerbated by the fascist regime was its fragmentation, with a large multitude of funds for specific categories of workers.

Indeed, in addition to the differentiation in insurance coverage for pensions between self-employed workers and employees and in pension payments between public and private workers, special funds for the management of pensions were established, dedicated to particular professional categories: for example the fund for employees of the tax offices (in 1922 with the law n. 1146), the fund for the staff responsible for managing consumption taxes (in 1924 with the decree-law n. 540), or the fund for the staff of telephone companies (in 1925 with the decree-law n. 1395).

This fragmentation was an instrument of political power and control and reflected a precise "divide et impera" strategy: the system of contributions and insurance coverage was in fact characterized by a systematic differentiation of treatment not only with respect to occupational categories, but also to particular groups within them.

Hence, alongside the annihilation of any form of trade union organization independent from the fascist party, which had progressively occupied the public institutions, the significant disparities in social security coverage contributed to divide the labour class and to protect the stability of the regime from any collective claim. This fragmentation was then inherited by the republican Italian State after the Second World War.

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[8] Ministero dell'Economia e delle Finanze. Dipartimento Della Ragioneria Generale Dello Stato. Servizio Studi Dipartimentale, *La spesa dello stato dall'unità d'Italia. Anni 1862-2009*, Gennaio 2011.

2.3 Pension policies at the beginning of the new Italian Republic

At the end of the Second World War, the Italian welfare system inherited from the fascist regime had reached a rather large extent and presented a configuration marked by high fragmentation and regulatory disharmony. This system had in fact been structured in an incremental and disorderly way, through numerous legislative interventions.

To overcome these weaknesses, some principles regarding the social security system were consolidated in the post-war period.

Firstly, that the pension system should be managed on a pay-as-you-go basis, because this method guarantees greater resistance to the instability of the currency and therefore to inflation – which characterized those years – and flexibility in the adjustment of benefits and contributions.

Secondly, that within the framework of an employment-based social security system – i.e. a system that excludes "fixed sum" benefits for all citizens and instead links the benefits to the contributions the workers pay during their working life – a "minimum pension" should be provided for all workers.

That social assistance measures within the social security system should rely, at least partially, on State financing through the general revenues.

That an administrative rationalization and regulatory harmonization of the pension system were necessary.

That the system should be completed with the extension of pension insurance to self-employed workers. This last objective found a fundamental institutional basis in the new Italian Republican Constitution. Article 38 established that

> *every citizen unable to work and without the necessary means to live has the right to social assistance. Workers have the right to be provided and insured with adequate means for their life needs in the event of accident, illness, disability, old age and involuntary unemployment.*

These principles were also determined by a situation of widespread poverty caused by the war damages, made even more serious by the very high rates of inflation: in 1945 the cost of living was 24 times higher than in 1939, and then rose to 27 times in 1946 and 44 times in 1947.

The emergency was particularly acute for pensioners. In fact, if three years after the end of the war the increase in wages would have equaled, on average, the increase in the cost of living, in the absence of emergency interventions the value of social security benefits would have continued to be eroded by the exhaustion of the reserves of the various pension funds – still managed with the capitalization system – caused by inflation.

Between 1945 and 1950 the numerous pension schemes in force underwent legislative interventions aimed at adapting benefits to the cost of living.

In the pension sector the obstacle to such interventions was represented by the capitalization system: it is in fact less flexible in allowing the immediate increase in benefits balanced by the corresponding increase in contributions, while in the PAYG system the increase in the contribution levy allows the provision of more generous benefits even in the short term. Furthermore, deficit spending was impossible given the difficult Italian financial conditions.

It was therefore necessary to create a new instrument called "Fondo d'integrazione per le assicurazioni sociali or FIAS" (Integration Fund for Social Insurance), established by the Bonomi government with decree-law 177/1945, which determined the addition of the PAYG system to the original capitalization one to have a tool to make immediate changes in the amount of social security benefits and the simultaneous achievement of contribution revenue adequate for their increase.

The fund had two objectives: the provision of a pension supplement equal to 70% of the pension itself and a minimum pension varying between 3.240 and 5.400 lire per year. To meet these new expenses, the Italian government decided to increase the maximum salary subject to contribution levy from 3.600 to 6.250 lire per month, to be paid by employers, without any increase in the contribution rate, and a financial transfer to the fund by the State using general revenues.

In 1947 the so-called "Fondo di solidarietà sociale or FSS" (Social Solidarity Fund) was added to the FIAS. It was used to provide a new subsidy for all pensioners called "contingency allowance" with an amount increasing in the age of the beneficiary and financed by contributions paid by workers in the amount of 25% of the overall burden (and calculated as a percentage of their earnings), alongside the one of the State equal to 25%, and of the employers

equal to 50%. The amount of the "contingency allowance" for old-age pensioners was set between 800 and 2.400 lire per month.

Another significant step forward occurred with law 633/1950, which included private employees with a salary exceeding 1.500 lire per month in the compulsory contribution for pensions: with this law the process of extending old age protection to all employed workers was completed.

Afterwards, law 218/1952 reorganized the mechanisms that already emerged with the introduction of the FIAS first, and then the FSS. In particular, the reform confirms both the capitalization system for the provision of the basic pension (it was calculated according to the rules defined by decree-law 126/1943) and the PAYG system for the integration to this basic pension. However, at the end of the 1950s, only 3% of contributions were managed through the capitalization system.

The PAYG system was based on the new "Fondo per l'adeguamento delle pensioni or FAP" (Pension Adaptation Fund), which was established with the simultaneous suppression of the FIAS and the FSS.

With law 218/1952, the integration to the minimum pension benefit was permanently introduced. The annual amount of the minimum pension was set at 60.000 lire for over 65 pensioners and at 42.000 lire for those under 65.

In the mid-1950s, after the limited extension of old-age insurance to all employees of the private sector and the reorganization in 1952, the crucial issue of the expansion of old age insurance coverage to all workers, including self-employed ones, still remained.

The first category on which political and trade union forces focused was the one of self-employed agricultural workers, which counted 4.100.000 workers in the 1950s.

In 1957, with law n. 1047, compulsory insurance was established for disability, old age and reversible survivor's pensions for direct farmers and sharecroppers.

The retirement age was set at 65 for men and 60 for women, differently from the general rule for employees, which established the retirement age at 60 for men and 55 for women. This provision was justified by the fact that, while for employees the moment of cessation of the working activity was formalized and evident, in the case of self-employed workers in

agriculture the transition from the working phase to the retirement phase was less clear, since these workers continued often to work even beyond the age of 60.

Self-employed agricultural workers were not included in the general FAP regime for private employees but in a special fund within the INPS in order to avoid that the other categories of workers had to bear the costs of their pensions: in fact, the transitional rules set that self-employed agricultural workers who were already over 65 in 1957 had the right to obtain a pension even with just one year of contributions.

To finance this new fund, in addition to the contributions of the insured self-employed workers, the State guaranteed a progressive payment from 4.5 billion lire in 1958 to 26 billion for 1967.

This was followed in 1959, with law n. 463, by the expansion of old age insurance coverage to workers of craft sector. The pension insurance system for craftsmen essentially followed the one for self-employed agricultural workers. In fact, it was an insurance scheme with categorical coverage, financed partly by the beneficiaries and partly by the State, which provides benefits commensurate with the contributions, with a minimum level.

With the approval of law 463/1959, the 1950s ended with a definitely different and more "mature" structure of the pension system compared to ten years earlier. The size of the old age insurance sector had gone from covering 39% of the labour force in 1955 to as much as 89% in 1960 and pensions represented around 29% of the total social public expenditure at the end of the decade[9].

[9] Flora P. (1983-87), *State, Economy, and Society in Western Europe 1815- 1975: A Data Handbook in Two Volumes*, Campus-Macmillan Press-St. James Press, Frankfurt-New York-London-Chicago, p. 511.

2.4 The expansionary phase of pension spending starting from the 1960s and the emerging imbalances after the end of the golden age

The 1960s represent a phase of undoubted importance for the development and expansion of the Italian pension system.

After years of wage stagnation, the economic boom of the late 1950s had finally allowed a decisive increase in wages, leading Italy in the era of mass consumption.

However, pensioners were essentially excluded from the sharing of this new wealth. This was the result of pension rules that were still not very generous: the self-employed workers, newly included in the mandatory pension insurance, could only aspire to the minimum benefits – they didn't have the opportunity to pay enough contributions – and the last intervention to adjust the benefits dated back to 1958, i.e. precisely when the Italian economy had started growing at high rates.

Furthermore, the favorable demographic situation of the time determined budget surpluses measured, in particular, in the employees' pension fund of the INPS (the FAP).

In this context, political parties and social players called for a structural reform to rationalize and at the same time further extend the pension system, after almost fifteen years of contingent interventions, aimed at establishing or strengthening the protection of specific categories.

However, again, there was no real structural reform of the pension system, but an incremental evolution, although very significant both quantitatively and qualitatively.

Primarily, attention was paid to pension schemes for the main categories of workers already covered by compulsory insurance: private employees and self-employed workers in the agricultural and craft sectors.

First of all, the Italian Parliament approved the laws n. 1338 and 1339 in 1962.

Law 1338/1962 related to private employees and introduced changes to the value of pension benefits and the methods of their financing. It established the raising of the minimum pension to 12.000 lire per month for those under 65 and 15.000 lire for those over 65; the increase in the multiplication coefficient of basic pensions from 55 to 72 (the pension revaluation mechanism of the time considered the so-called "basic pension" mentioned on page 32, and multiplied it by a coefficient, which was increased); the raising of the mandatory contribution rate up to 18% (from 30 June 1962) and to 19,8% (from 30 June 1963); an additional State

contribution in favor of the FAP equal to 14 billion lire for the years 1962-63 and 37,5 billion for the following year.

On the other hand, law 1339/1962 intervened on pension payments, conditions of access to pensions and the financing regarding the pension fund of the craft sector. In particular, the provision established the raising of the minimum pension to 10.000 lire per month, the increase from 55 to 72 of the revaluation coefficient of basic pensions, and brought forward by 7 years – from 1970 to 1963 – the possibility of retirement at age of 60 for women. As the financing was concerned, the law established a State contribution of 4 billion lire for the years from 1962-63 until 1966-67.

With law 9/1963, the increase in pensions for self-employed workers in the agricultural sector was also implemented. The minimum pensions were brought to the same level as those provided for craftsmen, i.e. 10.000 lire per month. The multiplication coefficient of basic pensions was raised in the same way to that established for the other categories of workers (from 55 to 72). Furthermore, it was established that the financial burden deriving from this law was shared fifty-fifty between the implied categories and the State: therefore, an extraordinary disbursement of 7 billion lire was provided for pension fund of the agricultural sector and a further contribution of 13.5 billion for the years 1962-64.

These three laws had great financial importance: the expenditure for old-age and reversible survivor's pensions of the involved private workers had grown from 528 billion lire in 1961 to 768 in 1962, i.e. a 240 billion increase (+45 %), to 870 in 1963 with an overall increase of as much as 59% between 1961 and 1963.

The measures introduced with the subsequent law 903/1965 were in line with those adopted in the years 1962-63, resulting in a further increase in pension benefits.

First of all, the law established the so-called "social pension" with the aim of introducing a homogeneous basic benefit for all the public pension funds. This "social pension" was set at 12.000 lire per month, effectively raising the minimum for self-employed workers, but the minimum level of benefits for private employees was also increased – 15.600 lire per month for those under 65 and 19.500 lire per month for over 65 – thus maintaining the differentiation between job categories.

The law then introduced early old-pensions in the private sector, linked not to the age of the worker, but to the years of contributions paid. A minimum contribution requirement of 35 years

was established to be entitled to it, therefore with much less generous conditions than the early old-age pensions in force for public employees, already introduced 9 years earlier with the decree of the President of the Republic 17/1956, which set a minimum contribution requirement of 25 years for men and 20 for women (the so-called "baby pensions", made even more generous in 1973 with the transition to 20 years for men and 15 for women) .

Pensions above the minimum were also increased, confirming the defined contribution method and raising the revaluation coefficient of basic pensions from 72 to 86,4 times.

A year later with law 613/1966, compulsory pension insurance was extended to traders with rules substantially similar to those provided for craftsmen and self-employed workers in the agriculture sector.

With law 238/1968, further expansionary interventions were decided such as increasing the minimum pension up to 21.900 lire per month for employees and 13.200 lire for the three categories of self-employed workers insured by INPS (workers in the agricultural sector, craftsmen and traders).

But the truly innovative content of this law was the adoption of the defined benefit method for the calculation of private employees' pensions. The provision established that from 1970 onwards the link of the pension to the salary was 80% (during the first two years the commensuration of the benefits would have been only 65% of the "pensionable salary" calculated as the average of the last 3 years of salary) after 40 years of working activity.

Law 153/1969 made the defined benefit method introduced a year earlier more generous, linking the pension to 74% of the pensionable salary in the first years after the law, and to 80% starting from January 1, 1976, still in the case of 40 years of contributions.

It then introduced a social pension totally not linked to the contribution payments, for all citizens over 65 who were in hard economic and social conditions, equal to 156.000 lire per year divided into 13 monthly payments.

The decisive change that this law determined was the definitive elimination of the original capitalization system which had coexisted since 1945 with the PAYG system, and the automatic adjustment of pensions to the increase in prices.

In 1973 there was the most generous intervention in the history of the Italian pension system: Rumor government further decreased the age requirements for early old-age pensions for public employees, lowering the retirement age from 25 to 20 years for men and from 20 to 15 years for women (the aforementioned "baby pensions").

Law 160/1975 completed the 1969 reform, with the introduction of the indexation mechanism for employees' pensions above the minimum, linking benefits to the growth of wages in the industrial sector.

Therefore, at the beginning of the 1970s Italy had an extensive pension system, financed through contributions managed with the PAYG system. Pension benefits were calculated with the defined benefit method for both public and private employees and still with the defined contribution method for self-employed workers subjected to public mandatory pension insurance.

However, the so-called "golden age" – approximatively the thirty years following the end of the Second World War – was about to end. This period, as already mentioned, was characterized by the constant growth of the Italian economy, interrupted only occasionally by contingent economic crises, and was the factor that favored the development of the Italian welfare state. It began to weaken from the mid-1970s onwards due to epochal social and economic transformations.

Demographic aging has affected Italy due to the decline in fertility rates and the progressive increase in life expectancy: in 1965 those over 65 were 9,9% of the Italian population; in 2010 20,2% (EU average was 17,4%), with a significant share of people aged over 80 (5,8%). Demographic aging has generated not only a greater demand for pension benefits but also a relatively lower working age population, the one that finances pensions in a PAYG system.

Then, there occurred a profound transformation of the production: technological innovation, tertiarization and globalization of the economy have caused important effects in the Italian labour market, since stable and secure jobs, with permanent employment contracts has considerably diminished. Unemployment increased especially in the South, among some categories such as young people, women, and over 50 people, with the formation of the so-called "working poor" groups.

Furthermore, family and gender relations have changed. In the post-war phase, traditional families with a single male income earner and a housewife were the majority, but last decades

have been characterized by a greater plurality of forms of family: with two income earners, single parents and so on, and the average size of families has decreased. These changes, together with the increase in divorces and separations, caused a "precariousness" of social relationships in Italy and European countries, with important consequences in terms of economic vulnerability and inclusion.

These transformations highlighted the need for a process of reform and reduction of pension expenditure which, due to interventions such as the introduction of early old-age pensions in 1965 and the transition to the defined benefit method in 1969, had significantly increased, becoming the highest among European countries already in the 1980s.

In Italy, however, such reforms would have been guiltily postponed until the 1992, with the reform realized by the Amato government and even, in 1990, the extension of the defined benefit method to compute the pension payments for the self-employed categories insured by INPS was achieved (law 233/1990).

2.5 Amato reform in 1992

The turning point towards legislative interventions able to contain the dynamics of pension expenditure took place only starting from 1992. Those important reforms recalibrated the Italian pension system, adapting it to socio-economic transformations such as the aging of the population and the decrease in the fertility rate, the precariousness of many jobs and the consequent less continuous contribution payments by workers, the decline in economic growth and the increase in public debt, which could no longer be ignored.

Two contingent factors were crucial in determining the first of this series of reforms, the one realized by Amato government in 1992.

First of all, the Maastricht Treaty, signed on November 7, 1992 by the twelve Member States of the European Community, which set the so-called convergence criteria, i.e. the economic and financial requirements that the countries had to meet in order to join the Economic and Monetary Union (EMU) of the future European Union. They regarded price stability, the deficit-to-GDP and debt-to-GDP ratios, the exchange rate and long-term interest rates. Any deviation from those objectives could have given the impression that Italy was not able to comply with the treaty and thus to access the benefits of the common market planned with the other European countries.

The second was the currency crisis that hit the lira: in August 1992 the government tried to defend the stability of the exchange rate, which was one of the parameters set by the Maastricht agreement. However, after huge loss foreign exchange reserves, it was necessary to proceed with the devaluation of the lira, and Italy exited the European Monetary System (EMS).

A restrictive reform of the pension system became inevitable for the government in order to demonstrate to the international partners its credible desire to adjust the State budget.

With law n. 421 on October 23, 1992, Parliament delegated the government, within 90 days, to issue one or more legislative decrees for the rationalization and revision of the pension system, based on the following principles: decisive intervention on particularly critical and unsustainable institutions, i.e. the retirement age with the necessary contribution requirement, the calculation of pension benefits, early retirement, and the pension indexation system.

Legislative decree 503/1992 established that, for what concerns public and private employees, the minimum age requirement was increased from 60 to 65 years for men and from 55 to 60 for women, while the minimum contribution requirement from 15 to 20 years.

The following tables illustrate the transitional period.

Required age for the old-age pension

Periods	Men	Women
January 1, 1995 – June 30, 1995	61 years	56 years
July 1, 1995 – December 31, 1996	62 years	57 years
January 1, 1997 – June 30, 1998	63 years	58 years
July 1, 1998 – December 31, 1999	64 years	59 years
from January 1, 2000 onwards	65 years	60 years

Required contributions for the old-age pension

Periods	Years of contribution
January 1, 1993 – December 31, 1994	16
January 1, 1995 – December 31, 1996	17
January 1, 1997 – December 31, 1998	18
January 1, 1999 – December 31, 2000	19
from January 1, 2001 onwards	20

For what concerns the earnings to be taken into account for the calculation of the pension with the defined benefit formula (2% × years of contributions paid × average earnings of the last years of working life before retirement) – the legislative decree provided:

• for employees and self-employed workers with more than 15 years of contributions paid on December 31, 1992, a gradual increase in the reference period of earnings to be taken into account from 260 weeks (i.e. five years, as established by law 297/1982) to 520 weeks (ten years) of contribution payments before the retirement (the transition took the form of a 50% increase in the number of reference weeks between January 1, 1993 and the date of retirement, so it would have been fully operational after ten years);

• for those who could claim less than 15 years of contribution payments on December 31, 1992, a reference period which was determined by adding to the period established by the legislation previously in force (260 weeks for employees in the private sector) until December 31, 1992, all the period between January 1, 1993 and the date of retirement; consequently, for new hires from January 1, 1993, the earnings of the entire contributory life would have been taken into account.

This differentiation disadvantaged those who had been in the labour market for less time. Let's consider, for example, the case of a private employee who on December 31, 1992 had accrued 15 years of contributions paid, and who on January 1, 2001 had decided to ask for an old-age pension, complying with the minimum age and contribution requirements that for the new rules were respectively set at 65 and 20 years. This pension would be calculated on the basis of the wages received in the last 9 years before retirement. However, for the same worker who, on December 31, 1992, had achieved 14 years of contributions, decided to apply for a pension on January 1, 2001, and complied as well with the minimum age and contribution requirements of the new rules, the pension would be calculated on the basis of the wages received during the last 14 years before retirement.

Since wages tend to rise over time thanks to revaluations with respect to the cost of living, calculating the pension based on the average of the salaries of more recent and fewer years is more convenient.

The early old-age pension was not affected in a structural way and it was established that the possibility of making use of this type of pension (except for serious cases) would have been blocked for about 18 months. Stricter requirements for the early retirement of public employees were established: for those who had less than 8 years of contribution payments the requirement rose to 35 years as in the private sector, but all the others retained the same previous requirements (25 years of contribution payments for men, 20 for women).

A more favourable regulation was then provided for workers in hazardous and arduous job positions, with an anticipation of the retirement age requirements of two months for each year of employment, up to a maximum of five years.

The system of indexation of pensions was modified: the automatic adjustment of pensions, before the reform, had been linked since 1975 to changes in the wages of industrial workers; after the reform, the adjustment was linked only to changes in prices. In addition, price indexation was reduced from a semi-annual to an annual frequency (on 1 November, later

deferred to 1 January). This allowed for savings on pension spending since wage increases were typically greater than price increases.

To sum up, the Amato reform maintained the defined benefit method, introduced in 1968, to compute the pension payments, even if considering more years of earnings before the retirement, not opting for a return to the defined contribution method.

2.6 Dini reform in 1995

At the end of 1994, Italy experienced a period of political instability due to the government crisis that led the prime minister of the time, Silvio Berlusconi, to resign on December 22, just 225 days after the beginning of his first government. This led to a collapse of the lira with respect to other currencies, especially the mark and the dollar. There was therefore an absolute need to readjust the public accounts. Moreover, Italy was still in the process of being accredited to its European partners in order to adopt the euro as the single currency.

The President of the Republic, Oscar Luigi Scalfaro, managed the economic and political crisis in order to form a new government chaired by Lamberto Dini, Minister of the Treasury of the outgoing government, with a very limited program in terms of time and objectives. Among these priority points, a new pension reform to continue the process of recalibration begun with the Amato reform stood out. Therefore, the Minister of Labour Tiziano Treu started a negotiation with the trade unions that ultimately led the Parliament to approve the law n. 335 on August 8, 1995.

It concerned the adoption of the defined contribution (DC) system instead of the defined benefit (DB) system introduced in 1968, through which pension expenditure was reduced, stricter requirements of access to pension benefits and the promotion of supplementary pension schemes.

Three pension calculation schemes were established: one with the DB formula, one with the DC formula and another one with a mix of the two, depending on the years of contributions that workers were able to claim as of December 31, 1995. The financing PAYG system was not changed.

Years of contributions on December 31, 1995	Pension calculation system
≥ 18	DB formula, linked to the earnings of the last working period
< 18	DB formula, for the years of contributions up to December 31, 1995; DC formula for periods after January 1, 1996
0	DC formula, counting the contributions paid during the entire working life

As far as the system based on the DB formula is concerned, the rules prior to law 335/1995 were kept fixed, therefore the formula 2% × years of contribution payments × the average earnings of the last years of working life remained unchanged: this meant that at most, with 40 years of contributions, a worker could obtain a monthly pension equal to 80% of the average earnings of the reference years established by the previous Amato reform, which for new hires from January 1, 1993 were those of the entire contributory life.

The requirements for the old-age pension did not change from the Amato reform and remained 65 for men and 60 for women, with a minimum of 20 years of contributions (when fully operational).

Two alternative ways were established to be able to access the early old-age pension for employees: with 35 years of contribution payments and 57 years of age (58 for the self-employed workers), or with 40 years of contribution payments, without any age constraint. The following access "windows" were fixed:

Possession of the requirements by	Access to early retirement pension
First quarter of the year	On 1 July of the same year, if aged 57 years or older
Second quarter of the year	On 1 July of the same year, if aged 57 years or older
Third quarter of the year	On the following 1 January
Fourth quarter of the year	On the following 1 April

The mandatory contribution rate for pensions calculated with the DB formula was raised for public and private employees to 32,65% (23,8% to be paid by the employer and 8,85% by the employee) and for the self-employed to 15%, gradually increasing to 19%.

For the system based on the DC formula, the pension was calculated using the so-called Notional Defined Contributions (NDC) method. In a PAYG system, in which there is no accumulation of reserves, the method works as follows. Each employee pays a certain percentage of his gross salary as a pension contribution (the percentage also includes the part formally paid by the employer). These "mandatory savings" are nominally credited to an individual retirement account. The term "notional" implies that the capitalization of the contributions paid is simulated and not materially carried out in the financial market because the system is PAYG and there are no resources to be invested.

Therefore, this capitalization is virtual and not based on the rates of the actual financial market, but on a rate of return that is linked to the real economy and is able to maintain the structural equilibrium of the pension system. The rate chosen in the Dini reform is given by the five-year average change in nominal GDP, specifically calculated by the Italian National Institute of Statistics (ISTAT), with reference to the five-year period preceding the year of revaluation.

At the time of retirement, the capital accumulated by the worker is converted into the amount of the annual pension by multiplying it by a "transformation coefficient" which takes into account the retirement age and therefore the life expectancy of the worker at that age (the transformation coefficients are therefore the reciprocal of the number of years of life expectancy, i.e. as the retirement age increases, the coefficient increases because the residual life decreases).

Law 335/1995 set the following transformation coefficients, stipulating that they would be redetermined every ten years by joint decision of the Ministry of Labour and Ministry of Treasury.

Age	Transformation coefficients
57	4,720%
58	4,860%
59	5,006%
60	5,163%
61	5,334%
62	5,514%
63	5,706%
64	5,911%
65	6,136%

Hence, what the worker will receive on average will be equal to what he has paid. For a given accumulated pension capital, the higher the retirement age, the higher the level of pension, since the same amount is spread over a smaller number of years. This method therefore determines the pension on the basis of all contributions paid, the GDP growth rate and the retirement age. Therefore, every euro of contributions paid counts to have a higher pension in this system, and a higher retirement age corresponds to a higher pension without any disincentive in postponing retirement as in the case with the DB formula.

Thus, within the DC system, a flexible retirement (from 57 to 65 years) was established for a single type of old-age pension. The minimum requirement for this old-age pension was set at 5 years of contribution payments, provided that the beneficiary was able to receive a pension at least equal to 1,2 times the amount of the so-called "assegno sociale" (social allowance) – which replaced the social pension previously introduced by law 153/1969 – i.e. the welfare benefit provided by INPS to Italian citizens over 65 years of age in particularly disadvantaged conditions.

The contribution rates were set for employees at 33% of the gross salary, while for self-employed workers under the mandatory public pension schemes managed by INPS at 20% of the labour income.

The reform then established that, at the beginning of 1996, the "Istituto nazionale di previdenza e assistenza per i dipendenti dell'amministrazione pubblica or INPDAP" (National Institute of Welfare and Assistance for Public Administration Employees) – founded in 1994 – started to manage the pension benefits for State employees (before they were managed by the Ministry of Treasury). The operation granted a greater transparency of the public accounts, and involved a huge amount of resources, i.e. about 40 trillion lire transferred from the Ministry of Treasury to INPDAP in 1996-1997.

The discipline of the supplementary pension schemes (financed with the capitalization system) was also strengthened (it was only introduced by the Amato reform) as a measure to compensate future generations for the transition from the DB to the DC formula. However, the mandatory contribution rate for employees, equal to 33%, did not allow – and does not allow, since it is still set at that level – to have an adequate amount of savings for supplementary pensions. Indeed, the real problem of new entrants to the labour market is not the application of the DC formula – because if a new hire works long enough and without career interruptions he can retire with a good pension replacement rate even with that formula – but job insecurity and a late access to the labour market.

In any case, Dini reform has the merit to have dealt with the imbalance caused by the DB system which, considering the increase in life expectancy, tended to give pensioners a certain number of years of pension benefits not covered by contributions. The law thus designed, however, provided for a very long transition to the new method and only with the 2011 reform (described in section 2.8 of this thesis) the DC system was extended to all future pensions, regardless of the residual length of working life. The inadequacy of such a long transition to address both financial imbalances and distortions of the system was well underlined in a 2001 study by the

Center For Research on Pensions and Welfare Policies (CeRP)[10] , which estimated that to ensure the balance of the employees' pension fund managed by INPS, contribution rates of around 45-48% would have been needed until 2030, instead of 33%. This would have determined higher labour costs, lower competitiveness of companies and savings to be invested in old age protection. All this was reflected in public budget deficits of more than 4% of GDP, well above the threshold of 3% required by the European Union.

[10] E. Fornero, O. Castellino (a cura di), La riforma del sistema previdenziale italiano, Sintesi del rapporto, Bologna, Il Mulino, 2001.

2.7 Maroni reform in 2004

In 2001 the centre-right political coalition won the elections and Berlusconi formed a new government more than 6 years after his first experience as prime minister (this time he remained longer in charge, until May 2006). Roberto Maroni was chosen as Minister of Labour, and he made some changes to the pension system. Its reform was approved by the Parliament in August 2004 (law 243/2004).

As for workers subject to the defined benefit (DB) formula, the law established that starting from January 1, 2008 they could retire with the minimum requirement of 65 years for men and 60 years for women, as already established by both the Amato and Dini reforms. Maroni reform, on the other hand, acted on one of the channels for early retirement: the one of 40 years of contribution payments at any age remained the same as with the Dini reform, and the one with 35 years of contributions changed, which could no longer be accessed with a minimum of 57 years but with 60 (61 since 2010 and, if necessary on the basis of budgetary constraints, 62 since 2014). For the self-employed workers, on the other hand, still with respect to the latter channel of early retirement with a minimum of 35 years of contributions paid, the age requirement increased from 58 years up to 61 (62 since 2010 and, if necessary, 63 since 2014). The number of annual "windows" in which to apply to access to the pension was halved: from 4 under the Dini reform to 2 (one valid until the second quarter of the year, and the other one by the fourth quarter). For women, as mentioned, the limit of 60 years for the old-age pension remained confirmed, but until 2015 they were given the option of retiring at 57 years of age, however with the full application of the DC method, thanks to the new early retirement channel called "opzione donna".

On the other hand, for workers to whom the defined contribution (DC) method was applied, a flexible old-age pension was provided from 57 to 65 years of age for men and from 57 to 60 years for women with 5 years of contribution payments, as already established by the Dini reform. In addition, they were also offered the two same channels of early retirement for those with a pension calculated with the DB formula.

Early old-age pension requirements for employees

Year	Minimum contribution + age requirements	Minimum contribution requirement alone
2002-2003	35 + 57	37
2004-2005	35 + 57	38
2006-2007	35 + 57	39
2008-2009	35 + 60	40
2010-2013	35 + 61	40
from 2014 onwards	35 + 62	40

Early old-age pension requirements for self-employed workers

Year	Minimum contribution + age requirements	Minimum contribution requirement alone
until 2007	35 + 58	40
2008-2009	35 + 61	40
2010-2013	35 + 62	40
from 2014 onwards	35 + 63	40

This intervention would have led to significant savings of over than 75 billion euros from 2008 to 2017 and reduced the pension expenditure-to-GDP ratio (-0.6%) in the decade 2020-2030, but at the cost of a "jump", from 2007 to 2008, of three more years of age to obtain the pension with 35 years of contributions.

The so-called “certificazione del diritto a pensione” (certification of the entitlement to a pension) was then introduced: when the entitlement to retire was achieved, the worker would have received from the INPS a certificate to allow him to benefit the same pension requirements in the future, even in the presence of legislative changes that had occurred in the meantime.

An incentive was established for private employees to delay early retirement: the full amount of contributions paid by them and their employers would have been fully charged in their wages, and their pension calculated since the date of the continuation of the employment relationship. This bonus, which came into force in November 2004, expired on December 31, 2007. Evaluating the incentive ex-post, it could be observed that the new early old-age pensions paid

in the years in which the bonus was in force had been more or less the same as in the period before the introduction of the incentive: in the majority of the cases, the bonus was granted to people who had already made the choice to remain at work anyway, even without the incentive.

The second part of the Maroni reform concerning the promotion of supplementary pensions established, for example, that employees could choose to allocate their future "trattamento di fine rapporto or TFR" (a lump sum payment at retirement) to supplementary pension schemes.

Maroni reform had the merit of focusing on one of the main problems of the Italian pension system, not sufficiently addressed by the previous reforms: the early retirement. The consideration was valid even though the average effective retirement age was in line (around 61 years at that time) with that of the countries of the European Union. Indeed, considering the stock of pension benefits in the private sector managed by INPS, about 2,5 million early old-age pensions had been paid to male workers (largely resident in the Centre-North) against just over 500 thousand benefits to women: a huge and unfair gender imbalance.

2.8 Fornero reform in 2011

In the elections of 13-14 March 2008, the centre-right coalition won the elections again. Thus the fourth government headed by Berlusconi took office and Maurizio Sacconi was appointed Minister of Labour.

Since its settlement, this government had to deal with the economic crisis of 2008, which started with the default of several American financial institutions and subsequently reached Europe.

The most significant intervention on the pension system that the government implemented to save resources and deal with the crisis was the automatic linking, starting from 2015, of the retirement age provided for the different types of pension schemes to life expectancy, detected by ISTAT with reference to the previous five-year period, thus determining an increase in the age requirement of 3 months every three years (decree-law n. 78 on July 1, 2009, subsequently converted by law 122/2010).

However, a report in November 2009 by the "Nucleo di valutazione della spesa previdenziale" (an office set up at the Ministry of Labour to study the financial trends of the Italian pension system) stated that, although the recalibration of the pension system carried out from 1992 onwards had contained pension spending, the long transition to the new rules remained a problem also given the effect of the worsening of the crisis on the economic and employment growth, which was already insufficient before, and the consequent increase in the pension expenditure-to-GDP ratio (grown by more than 3 points, with almost 2 points between 2001 and 2011).

The situation worsened even more from mid-2011, when Italy, after other countries with very weak public budgets, namely Greece, Spain, Portugal, Ireland (the five countries were labeled with the derogatory acronym PIIGS), was hit by a financial crisis caused by the lack of confidence that the financial markets, in which investors who buy the sovereign debt securities operate, began to have on the Italian State creditworthiness. The long-term weakness of the Italian economy thus overlapped with the short-term financial crisis and the impressive increase in the spread, that is the gap between the interest rate on the Italian sovereign debt securities with a maturity of 10 years and the interest rate on the corresponding German securities. The spread reached a maximum of 574 basis points on November 9, 2011. Berlusconi government, politically unable to remedy the crisis, resigned in a precise perspective: the birth of a

"technical" government composed of expert and non-political members with the task of realizing reforms to overcome the crisis.

On November 17, a new government headed by Mario Monti took office and one of the sectors in which it concentrated the most was that of pensions.

The reform of the Minister of Labour Elsa Fornero, contained in articles 24 and 25 of decree-law 201/2011 (and converted by law 214/2011), was fundamental to restore the Italian creditworthiness, and can be considered the completion, strengthening and acceleration of the path previously started by the other reforms since 1992.

The reform was based on the following principles, explicitly set out in article 24: the affirmation and extension of the defined contribution method to compute the pension benefits; the convergence of the treatment provided for men and women; the overcoming of the most favourable positions with the harmonisation of age requirements, contribution rates and methods of benefits calculation between the different pension schemes, with derogations only for the weakest groups of workers; the minimum requirements to access pension entitlement in line with life expectancy.

As regards the measures actually adopted, the reform can be divided into a transitional phase and a fully operational phase.

As far as transitional measures are concerned, from January 1, 2012 the defined contribution method was extended to all workers, regardless of the years of contributions paid up to that point (hence, eliminating the exceptions established by the Dini reform). For men, the age requirements range was between 66 or 66 years and 6 months (the minimum age already provided for old-age retirement) and 70 years.

In addition, from January 1, 2012, the retirement age for female employees in the private sector was raised to 62 years, and to 63 and 6 months for self-employed women. The equalisation of the age requirement between women and men (66 years for employees and 66 years and 6 months for the self-employed) would have been completed by 2018, taking into account the change in life expectancy (in 2022 the age requirement would have been 67 years).

The minimum requirement of 20 years of contribution payments established by the previous system for the old-age pension remained.

Increases in life expectancy started to be applied to all age requirements, with effect from 2013, confirming the rule introduced by Sacconi but bringing forward its entry into force by two years.

However, an early retirement channel was in any case allowed, with just the contribution requirement: 42 years and one month for men and 41 years and one month for women, indexed to life expectancy as well.

The mandatory contribution rates of the self-employed in the craft and trade sectors were increased to 24%.

It was established that, in 2012-2013, the automatic indexation with respect to inflation would operate only on pension benefits equal to three times the minimum (1.404 euros gross per month). This measure was mainly motivated by the need to rapidily reduce pension expenditure: anyway, since sacrifices were being asked to active workers because of the crisis, it was fair that pensioners were also being asked to make sacrifices, starting from a certain level of income and above all considering the relative generosity of the defined benefit formula by which their pension had been determined.

The reform designed a fully operational pension system, i.e. starting from around 2035, in which the new pensions paid would be fully calculated with the Notional Defined Contributions (NDC) method introduced by the Dini reform, with retirement age flexibility. This system was applied uniformly to all workers, encouraging them to continue to work. However, a form of early retirement was also provided for those pensions calculated with the DC formula, with the following requirements: at least 63 years of age, 20 years of contribution payments and the monthly amount of the first pension equal to 2,8 times the amount of the social allowance.

Another inefficiency that was overcome with the reform, through the incorporation of INPDAP by INPS, was the anachronistic separation between the management of private and public employees, which had traditionally led to a more favorable treatment of the latter. The unification of the institutions was important not only for the realized savings, but also, and above all, for the increase in transparency of the pension system of public employees, traditionally much more unbalanced than that of private employees.

The commitment to the pension reform (and the speed of its realization) led to an immediate drop in the spread: the rate paid by the Treasury on ten-year securities began to fall significantly,

as well as on the securities with shortest maturities, bringing Italy out of the danger of a financial collapse.

Fornero reform produced an increasing reduction of the pension spending-to-GDP ratio over time, from about 0,2 percentage points in 2012 to about 1,4 percentage points in 2020, then falling to 0,9 percentage points in 2030, about 0,2 percentage points in 2040 and then zero around 2045/2050.

The reform was certainly decisive in convincing the European Commission to stop in May 2012 – a few days after the end of the Monti government – the infringement procedure for excessive deficit opened against Italy in 2009.

Despite these important achievements, the political debate focused only on the short-term negative effects of the reform, with recriminations mainly concerning the absence of a longer transition period: emblematic in this sense was the issue of the so-called "esodati" workers.

Those workers, who decided to leave their jobs early before the age necessary for retirement, with the Fornero reform, which moved forward the age requirement, suddenly were without a pension and a salary. Until 2021, there have been nine interventions to safeguard these individuals (the first of them was provided for by the Fornero reform itself for 65.000 workers). However, the number of expected “esodati” turned out to be greatly underestimated, because many individual and collective early retirement agreements between workers and employers had taken place without any formal registration and a significant number of people had spontaneously chosen to retire earlier and continue their voluntary contributions.

3. THE ITALIAN PENSION SYSTEM TO DATE AND REFORM PROPOSALS

3.1 Pension policies in recent years

Even during the years of the crisis, the social group of pensioners was able to rely on a substantial stability of earnings. Public pension spending in Italy, although already the highest among European countries, increased up to 15,9% in 2015, and families economically led by a pensioner are the only ones for which the incidence of poverty has decreased during the crisis (3,8% in 2015 compared to an average of 6,1%).

This happened despite the Fornero reform and the previous restrictive reforms, since they all provided for a long transition period towards the full calculation with the DC formula for all pensions and, with regard to the Fornero reform, because its effects of containing pension expenditure were considerably alleviated by the numerous safeguard interventions that allowed many to retire de facto with the previous rules.

In February 2016, the Italian Parliamentary Budget Office highlighted[11] that INPS had estimated almost 88 billion euros in savings achievable thanks to the Fornero reform over the decade 2012-2021 and that the seven safeguard interventions implemented up to that point eroded about 13% of these savings.

Despite this evidence, through the 2017 budget law (law 232/2016) the Gentiloni government introduced new mechanisms for early retirement and accompaniment to retirement.

The first was the so-called "Anticipo pensionistico or Ape", in its "voluntary" and "social" versions, introduced on an experimental basis from May 1, 2017 until December 31, 2018 (only the Social Ape has been renewed until today).

The voluntary Ape did not technically constitute a form of early retirement, because there was no discount on the requirements for access to the pension, but a bank loan with a guarantee represented by the old-age pension itself, and characterized by financial interests calculated on the amount of the loan plus an insurance premium against the risk of early death. The disbursement of the loan would have taken place by the bank in payments, not subject to

[11] Ufficio parlamentare di bilancio, "Il problema degli esodati e le salvaguardie dalla riforma Fornero", Focus tematico, n. 2, 23 febbraio 2016.

taxation, of equal amount for 12 months per year, until the month in which the age requirement for entitlement to the old-age pension accrued (66 and 7 months in 2018 and 67 years in 2019 and 2020). Once the beneficiary of the voluntary Ape reached the age requirements, the repayment of the loan began in monthly tranches taken from the pension income, for 20 years (therefore, 240 monthly tranches). The voluntary Ape could be requested by employees and self-employed workers (apart from professionals enrolled in the pension funds for lawyers, engineers, labor consultants, accountants and so on) who did not benefit from another direct pension benefit, who were at least 63 years old and who would have reached the age requirement for the old-age pension within 3 years and 7 months, with no less than 20 years of contribution payments.

Social Ape – still in force, as mentioned – differs from the voluntary version because it is dedicated only for four specific categories:

• unemployed people who terminate their employment relationship due to dismissal, including collective dismissal, with at least 30 years of contributions;

• caregivers for at least six months, in favor of the consort or a first-degree relative with a disability, with at least 30 years of contributions;

• disabled people, with at least 30 years of contributions;

• people in hazardous and arduous occupations at least for 7 of the last 10 years (or for 6 of the last 7), with at least 36 years of contributions.

The other main difference is that, within certain limits on the amount of the pension, the beneficiaries can take advantage of tax benefits aimed at making at the expense of the State the twenty-year tranches for the repayment of the loan. Beneficiaries must have ceased the employment relationship and don't receive any other direct pension benefit. Moreover, there is no time limit on reaching the old-age pension requirements. The maximum amount of the monthly subsidy, paid in 12 months per year, is 1.500 euros (gross). The minimum age requirement was set at 63 years as well as for the voluntary Ape.

In addition, the Gentiloni government allowed "early workers" (those who had started paying contributions at least 12 months before the age of 19) to retire with 41 years of contributions, regardless of age requirement, and it carried out the eighth safeguard intervention for the "esodati" of the Fornero reform, allowing another almost 28 thousand people to retire on the basis of the previous requirements.

With law 205/2017, the so-called “rendita integrativa temporanea anticipata or R.I.T.A.” was introduced: it gave the opportunity to receive advance payments taken from the capital accumulated in supplementary pension funds until the pension requirements of the mandatory scheme were achieved. The possibility of applying for the R.I.T.A. was reserved for people, who had ceased to work, in possession of the requirements for access to the Ape, certified by INPS.

The outcome of the 2018 elections led to an unprecedented government majority composed mainly by the political parties Lega and 5 Stars Movement, which during the election campaign had promised to abolish the rules of the Fornero reform, considered vexatious. The operation was carried out in two stages: the first with the 2019 budget law, the second with the decree-law 4/2019.

Article 21 of the budget law established, at the Ministry of Labour and Social Policies, a fund for the revision of the pension system through the introduction of additional forms of early retirement, with an allocation of 6,7 billion euros for 2019 and 7 billion euros per year from 2020. The law just allocated the resources, delegating the implementation of the interventions to specific regulatory provisions.

Decree-law 4/2019 established an experimental and temporary channel for three years (2019-2021) of access to early retirement, the so-called "quota 100", which implied minimum and both necessary requirements of 62 years of age and 38 years of contributions paid.

In addition, the previous channel for early retirement established by the Fornero reform (42 years and 10 months for men, one year less for women, regardless of age) was blocked until 2026 at the level of the requirements set in 2018: therefore from 2019 until 2026, the automatic adjustment of the requirements to life expectancy would have no longer been applied.

The technical report of this decree-law provided worrying data in terms of higher pension spending: only for the effect of "quota 100" in the three-year period of experimentation, 973 thousand pension treatments were expected, with a cost of over 20 billion euros. The total expenditure for all pension measures over the decade 2019-2028 would have been more than 48 billion euros, which corresponded to more than half of the savings attributed to the Fornero reform in the first decade of application. This reflected in three points of GDP that the pension system would have charged to future taxpayers, worsening the sustainability guaranteed by the 2011 intervention.

The majority of workers with the requirements set by the new rules would have concerned public employees: this made turnover problematic, with possible serious repercussions on services, as then occurred in schools and healthcare.

The introduction, just considering the year 2019, of "quota 100" together with the renewal of "opzione donna" (the early retirement channel for women, originally introduced by the Maroni reform), Ape and rules on early workers, produced as many as 264.765 pensions with more favorable requirements.

These, together with the other approximately 340.000 beneficiaries of the numerous safeguard and early retirement interventions – which until 2018 had determined a cost of about 30 billion, almost 25% of the savings expected to realize with the Fornero reform – resulted in more than 604.000 pensioners in 8 years from 2011 who had literally circumvented the original design of the Fornero reform (i.e. about 75 thousand per year out of a total of 16 million pensioners).

Early old-age pensions already in force on January 1, 2019 in all sectors of private and public employment exceeded old-age pensions by about one million: 6.065.445 compared to 5.026.394. The public sector made a clear difference with 1.663.069 early old-age pensions compared to 400.543 old-age pensions. Decree-law 4/2019 has only worsened the situation, although the pensions actually paid with the "quota 100" requirements were much less than expected: 374.432[12] in the three-year period 2019-2021 compared to the more than 900 thousand initially expected.

The effects of the decree on the generational turnover were modest as well: it was estimated that out of 100 elderly people who left the labour market, 42 young people entered.

Another observation concerns the gender inequality of the measure: in the three-year period 2016-2018, the paid early old-age pensions presented, among employees of the private sector, a ratio of one woman for every three pensioners, while with "quota 100" the ratio was one woman for every six retirements.

A further distorting effect created derives from the fact that the measures introduced were temporary and that therefore, at the end of the experimental period with the return to the Fornero regime (which "quota 100" did not cancel), a potentially very high "jump" in the retirement age could have been determined: from 62 years, i.e. the age requirement of "quota 100" (it was also the effective average age of those who could use the ordinary early retirement

[12] G. Santoro, M. Corsaletti, V. Ricci, F. Sciarretta per l'INPS; M. R. Marino, N. C. Salerno, L. Toffoli per l'UPB, Un bilancio di "Quota 100" a tre anni dal suo avvio, 2022.

channel with the blocked requirements), at a maximum of 67 years, i.e. the age requirement for the old-age pension established by the Fornero reform. This distortion would have created the conditions to demand a downward structural revision of the retirement requirements, blowing up all the forecasts on the decreasing incidence of pension expenditure on GDP developed in the previous years thanks to the reforms: what in fact happened with "quota 102" (introduced by the 2022 budget law) and "quota 103" (introduced by the 2023 budget law) that allow the access to retirement, respectively, at age 64 with 38 years of contributions and at age 62 with 41 years of contributions.

At the end of 2020, the XIX INPS Annual Report, updated until August 2020, pointed out that the Covid-19 epidemiological crisis did not highlight a choice of older workers to anticipate their exit from the labour market. In fact, in those months of crisis there have been no substantial changes in the trend of applications for "quota 100" pensions. After the first months of 2019 in which there was a stronger demand, due to the presence of several generations of workers who met the requirements, the number of applications remained stable. This choice, contrary to expectations, could be caused by the use of the smart-working, especially in the public administration, and by the use of the “cassa integrazione” fund (a fund that makes payments to the unemployed people after dismissal) in the private sector.

Coming to nowadays, some temporary early retirement programmes have been extended with the 2024 budget law. The period of the block of early retirement requirements – previously established by the decree-law 4/2019 at 42 years and 10 months for men and 41 years and ten months for women from January 1, 2019 to December 31, 2026 – has been reduced to December 31, 2024. "Opzione donna", with which now women can retire at 61 (60 with one child or 59 with two children) with at least 35 years of contributions, as at 2024, is only available for women who are caregivers, disabled, fired or employed by companies in crisis. Social Ape has been confirmed with the increase in the minimum age requirement from 63 years up to 63 years and 5 months. In addition, "quota 103" has been extended for all 2024.

For what concerns the pension benefits, in 2024, only the lowest pensions will be indexed fully to prices, with lower indexation of higher pension bands: 100% of the price level for the pensions up to 4 times INPS minimum; 85% between 4 and 5 times INPS minimum; 53% between 5 and 6 times, 47% between 6 and 8 times; 37% between 8 and 10 times; 22% over 10 times.

The picture of current pension benefits provided by the XXII INPS Annual Report in September 2023 shows that as at December 31, 2022, there were about 16,1 million pensioners in Italy, of which 7,8 million are males and 8,3 million are females. The total gross amount of pensions paid out is equal to 322 billion euros. Although females account for the majority of pensioners (52%), they earn 44% of pension income: 141 billion compared to 180 billion for males. The average monthly amount of pension income received by men is about 36% higher than that of women. Among Italian pensioners, about 96% receive at least one pension benefit from INPS and have an average gross monthly pension income of about 1.687 euros (the remaining 4% from other smaller funds). Early old-age pensions have the gratest impact on the pension expenditure with 56% of the total, followed by old-age pensions which absorb 18%, reversible survivor's pensions with more than 13% and disability pensions with about 4%.

With reference to the average amounts, early old-age pensions are the highest, with an average amount of 1.915 euros per month, compared to old-age pensions with 889 per month, disability pensions with 1.018 per month and reversible survivor's pensions with 747 per month.

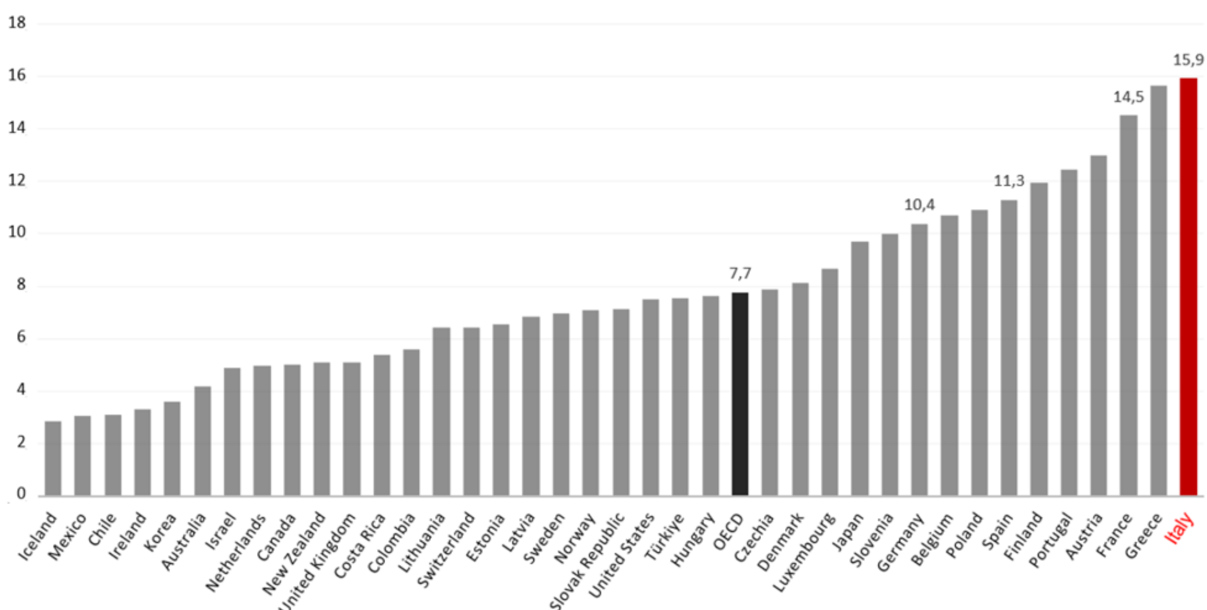
With regard to the gender distribution of the benefits in force as at December 31, 2022, 67% of early old-age pensions goes to males, while 62% of old-age pensions goes to females with an average amount of 752 euros per month compared to 1.112 euros per month for males. Females also have a prevalence in reversible survivor's pensions (87% of benefits).

3.2 Current financial and demographic trends regarding the Italian pension system

So far, I have discussed the characteristics of pension systems, their function, the criteria with which they should be designed, their implications on the economy of countries. I then covered the history of the Italian pension system: its development was a complex and stratified phenomenon, often dictated by the need to give immediate political responses to situations of economic and social tension, which led to interventions and reforms not very coherent with each other. The result of this century-old process is a welfare system that is certainly more inclusive than in the first half of the 20th century, but in which intra- and intergenerational inequalities still lurk and whose sustainability is at risk. Another useful analysis that can be added to the one done so far, in order to bring the problem even more into focus, is the comparison between the Italian pension system and the ones of other countries.

First of all, it is interesting to focus on the level of public pension expenditure in different countries. In Figures 5[13] and 6[14] it's possible to observe that both as a percentage of GDP and of total public expenditure, Italy has the highest public expenditure on pensions: considerably higher than the OECD average and above countries such as Spain, France and Germany, with which conventionally, due to economic, social and institutional similarities, the most indicative comparisons are made.

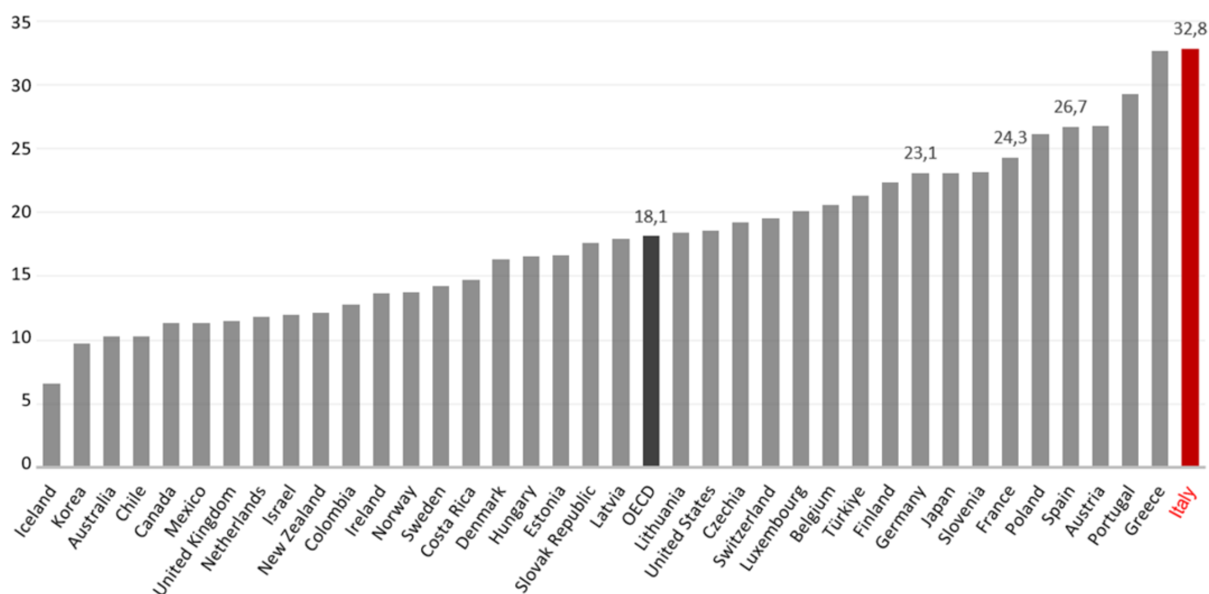
Figure 5: public pension spending as % of GDP, 2021 or latest available



[13] OECD data elaboration, https://data.oecd.org/socialexp/pension-spending.htm .

[14] OECD, Pensions at a Glance 2023: OECD and G20 Indicators, Paris, OECD Publishing, 2023, p. 211.

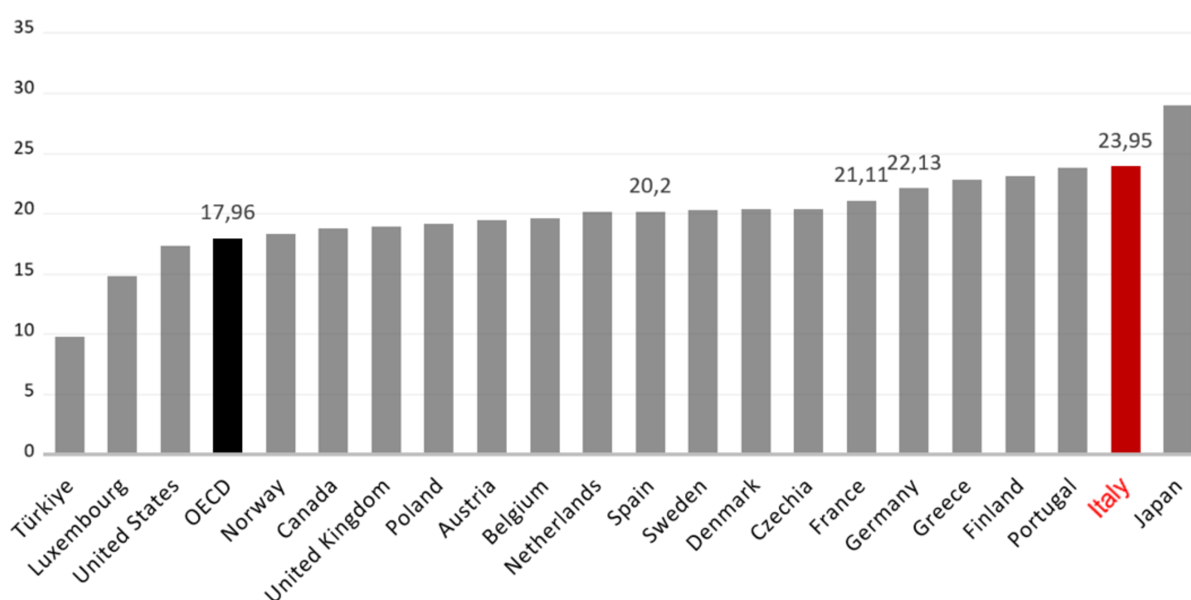
Figure 6: public pension spending as % of total government spending, 2019



The following objection could be made to these observations: the higher Italian public pension expenditure compared to other countries could be justified by the fact that Italy has a larger elderly population.

Looking at Figure 7[15], it can be noticed that after Japan, Italy has the highest percentage of citizens over 65 – typically considered the group of retired people.

Figure 7: elderly population (people aged 65 and over) as % of the total population, 2022



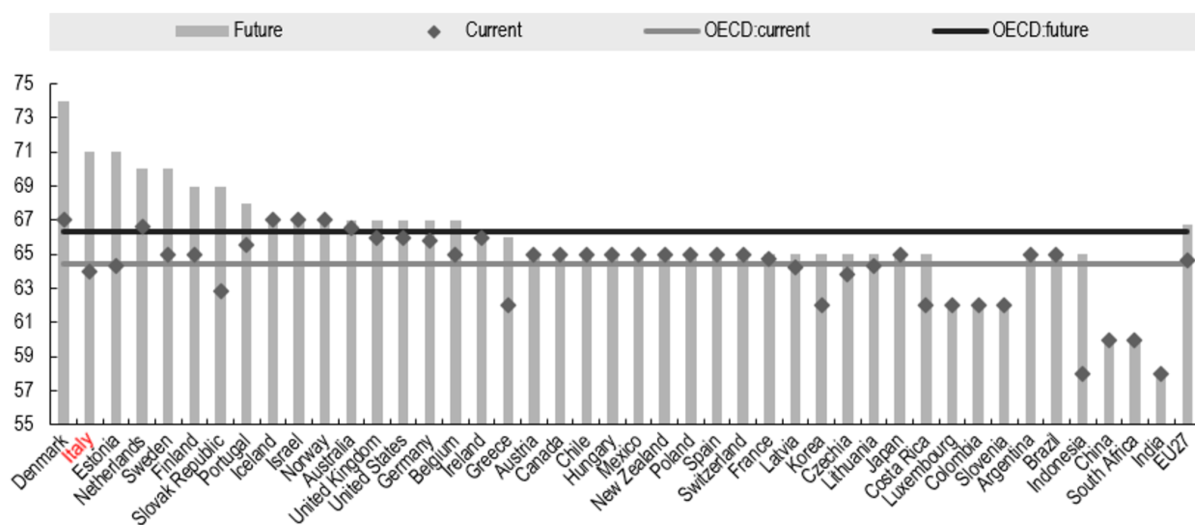
[15] OECD data elaboration, https://data.oecd.org/pop/elderly-population.htm .

However, looking at the differences with respect to the figure just above with other similar countries, and comparing them with those concerning pension spending, discrepancies can be easily noticed: taking Germany as an example, for an increase of 1,82 in the percentage of over 65 population, there is a 4,5 point increase in pension expenditure as percentage of GDP. Although this comparison is not strictly orthodox, it is indicative of an imbalance in Italy's allocation of public spending that can't be justified by the presence of a greater number of elderly people.

Similarly, some age and demographic data related to the pension systems of Italy and other countries can be compared.

Figure 8 from the OECD Report "Pensions at a Glance 2023"[16] indicates the current and future normal retirement ages for a man in different countries. The normal retirement age is defined as the age at which individuals are eligible for retirement benefits from all pension components without penalties, assuming a full career from age 22.

Figure 8: current and future normal retirement ages for a man with a full career from age 22, 2022



"Current" refers to people retiring in 2022, while "future" refers to the age from which someone is eligible to full retirement benefits from all mandatory pension schemes (without any reduction), assuming a full career from age 22 starting in 2022: for Italy these values are 64 and 71 years, respectively. They seem to indicate the rigidity of the Italian rules on the retirement

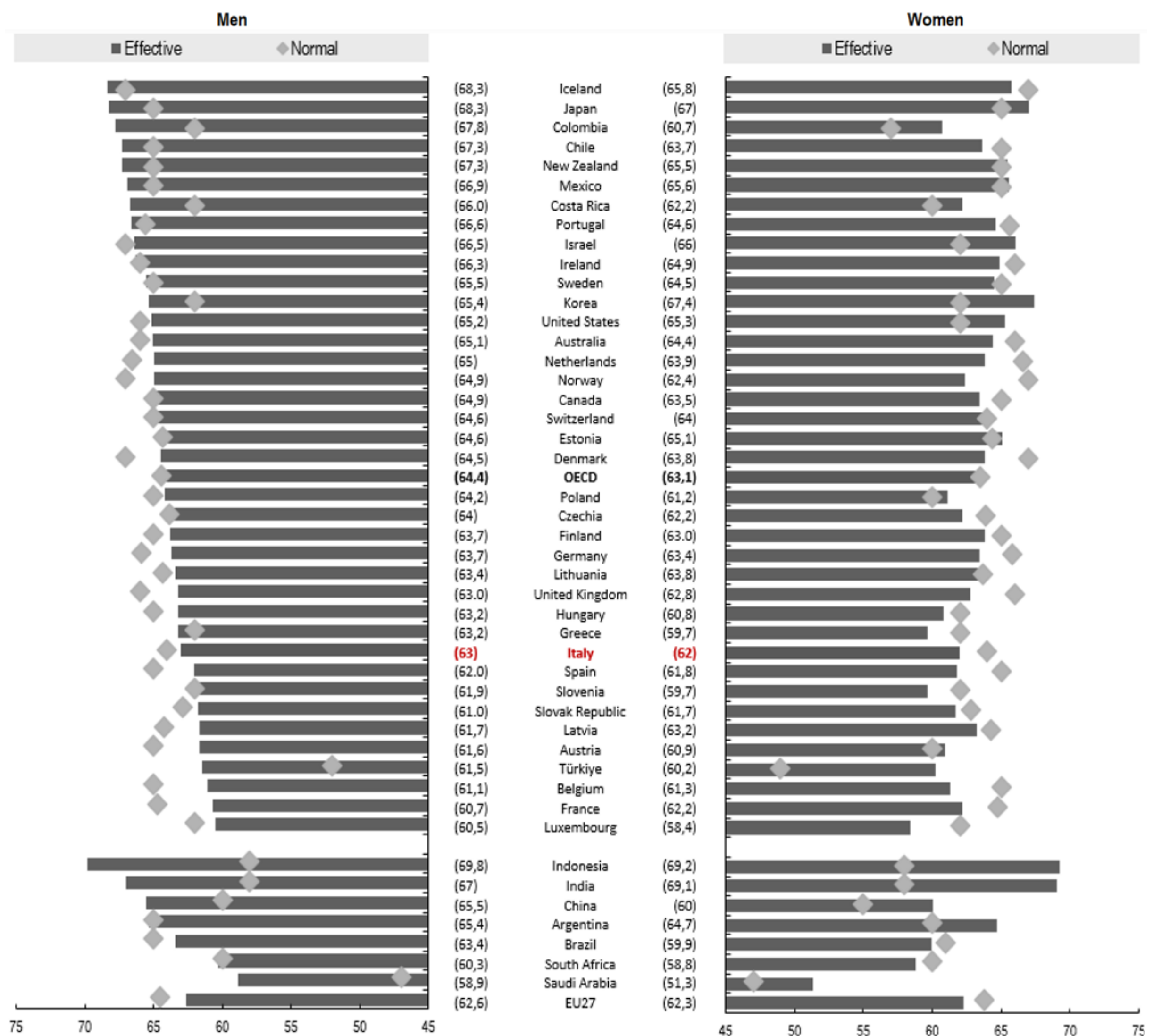
[16] OECD, Pensions at a Glance 2023: OECD and G20 Indicators, Paris, OECD Publishing, 2023.

age, especially in the future, even more so if one considers the statutory retirement age, which currently is at 67.

However, the same OECD document also provides a comparison between the normal retirement age as just defined, and the effective age of labour market exit, i.e. the average age of exit from the labour force for workers aged 40 and over, for both men and women (Figure 9). Italy recorded one of the lowest effective age of labour market exit in 2022 (63 for men, 62 for women, compared to 64 of normal retirement age), below the OECD average, although Spain and France are worse.

These data reflect what emerged in parts 2 and 3.1 of the thesis: in Italy a large number of people have access to early retirement.

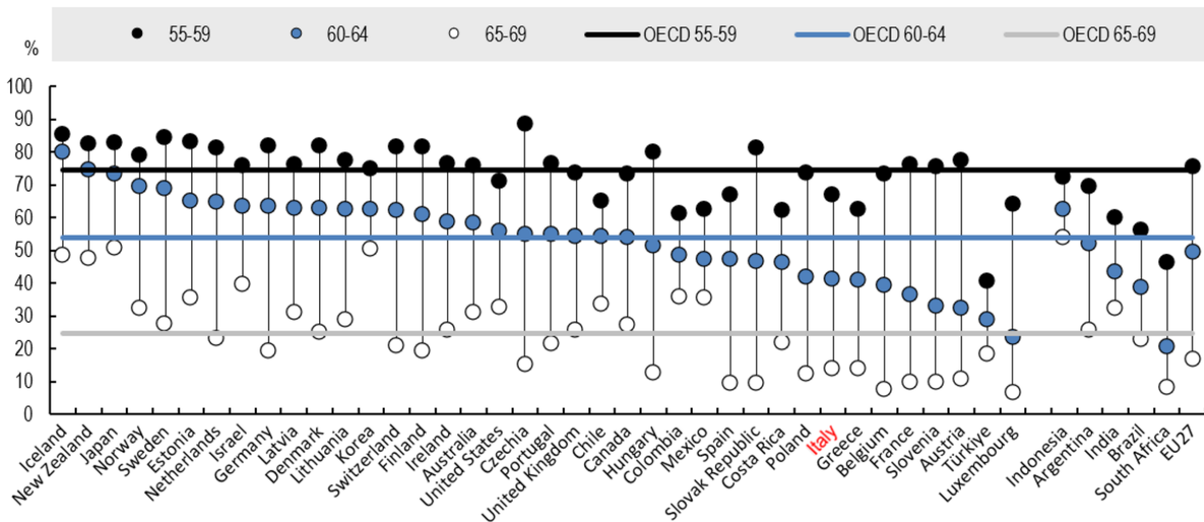
Figure 9: average effective age of labour market exit and normal retirement age, 2022



Another evidence provided by the OECD document, consistent with the observations just made, concerns the employment rates of workers aged 55-59, 60-64 and 65-69 in 2022: it is not by chance that Figure 10 shows that all the three rates are below the OECD average and are equal to 66,9, 41,2 and 1,8%, respectively.

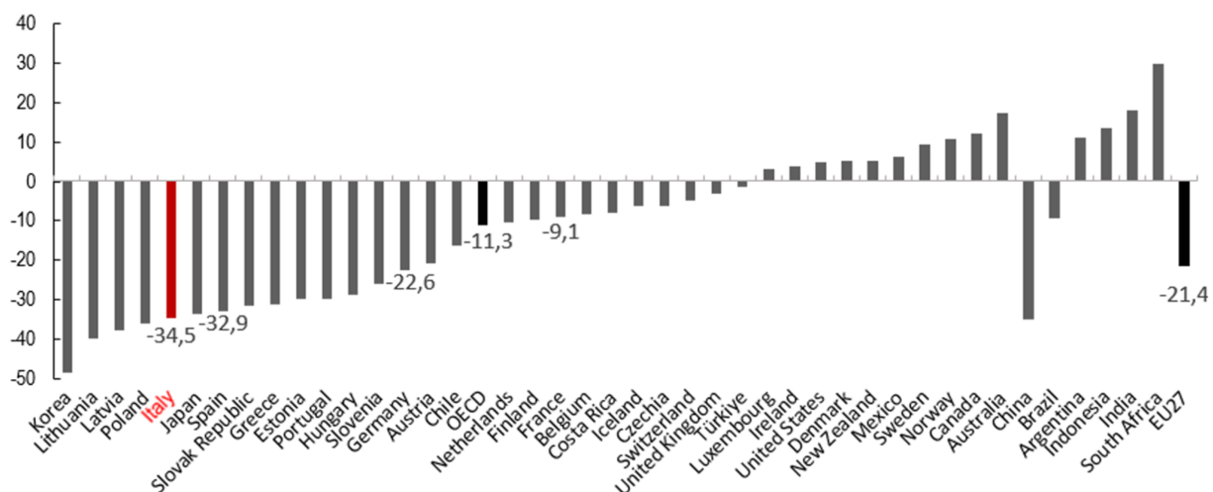
And, as stated in part 1.4 of this thesis, the countries with high employment rates among the older population are also those with the highest youth employment.

Figure 10: employment rates of workers aged 55-59, 60-64 and 65-69, 2022



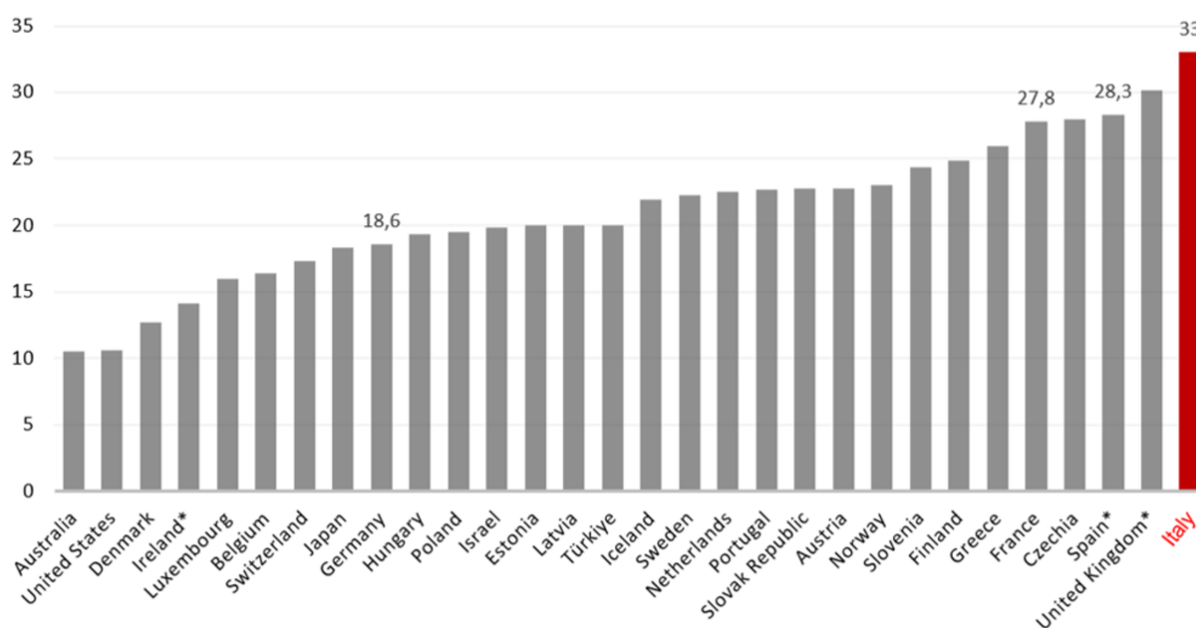
Together with an high number of pensioners, especially beneficiaries of early old-age pensions, which determine the highest public pension spending to GDP in the world, according to the OECD, Italy will also see a drastic decrease in the working age population (Figure 11), i.e. the social group that finances pensions in a PAYG system, more than Spain, Germany, the average of the 27 EU countries and in particular France.

Figure 11: change in the working age population (20-64), 2022-62, percentage



Looking at how much the working age population pays today for the financing of pensions, Figure 12 derived from the aforementioned OECD document shows that the Italian workers are already required to spend the highest amount: one third of the gross earnings of a worker with average earnings.

Figure 12: mandatory pension contribution rates as % of gross earnings for old-age and survivor pension schemes for workers with average earnings, 2022



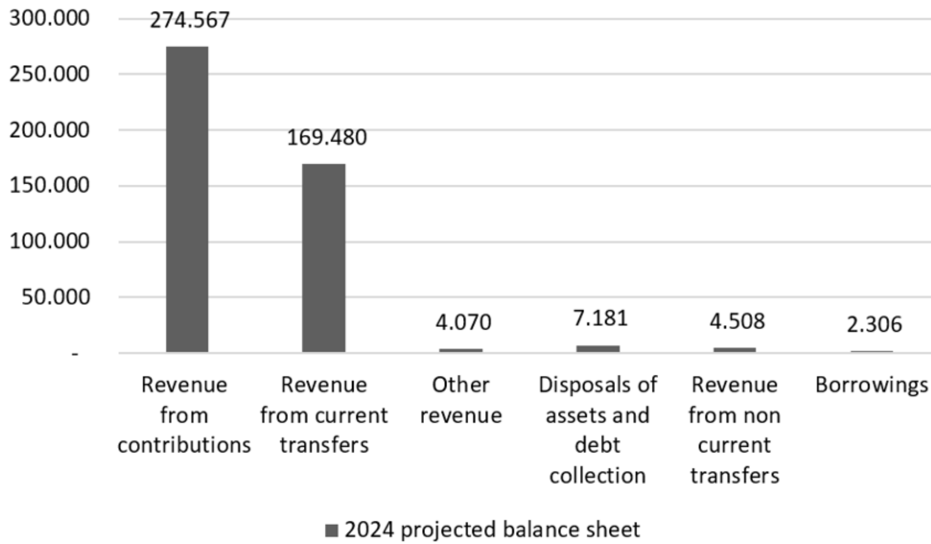
Note: * the indicated rates cover different social security schemes across countries

Despite the high contributions required, the technical annex of INPS balance sheet for the year 2024 presents alarming data.

As shown in Figure 13[17], contribution revenues are 274.567 million euros, with an increase of 11.315 million compared to previous forecasts. However, this amount is not enough to finance INPS expenses, 92% of which are pension benefits. INPS, in fact, drains resources from general revenues of the State: revenues from current transfers by the State are 169.480 million, with a decrease of 416 million compared to the previous forecasts. “Other revenue” represents the changes in corrective and compensatory items regarding other current expenses (such as recoveries on "reddito and pensioni di cittadinanza") or to revenue from civil and administrative penalties and fines. The other items refer to the sale of properties and to transfers by the State as an advance on the financial requirements of public pension funds managed by INPS.

[17] INPS, Bilancio Preventivo Anno 2024, Allegato Tecnico, 2023, p. 40.

Figure 13: INPS financial managment per macro-aggregates in mln €, 2024



All these additional findings strengthen the thesis that further interventions are needed to contain and rebalance pension expenditure, considering the international comparison, and that what has been done so far is not enough.

3.3 Reform proposals

The reforms that have been carried out since 1992 with the aim of containing pension expenditure have mainly operated through the following interventions:

• increase in mandatory pension contributions;

• raising the retirement age;

• changes in the methods of pensions calculation;

• the reduction of the revaluation of pensions.

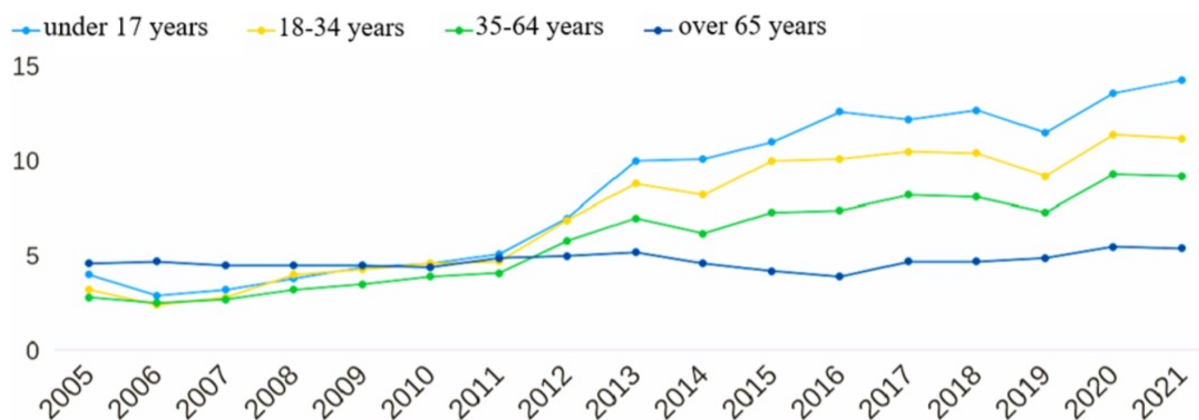
How much more can be done on these fronts? And what other measures can still be taken?

In this last section of the thesis, I try to answer these questions, starting from the assumption that the PAYG pension system should be maintained because of the advantages illustrated in section 1.2, even if the demographic and economic risks have weakened it, and also because, when the PAYG system is operational, it is almost impossible to switch back to the capitalization system, except by limiting the capitalization component to a supplementary role[18]. In fact, the generations, during the eventual transition phase, would have to bear the double burden of fulfilling the promises of the old PAYG system to pay pensions to current pensioners, and accumulating the reserves for the new capitalization system to finance their own future pensions.

With regard to a further increase in contributions, such increase would represent a contradiction with respect to the objective of intergenerational rebalancing that has been discussed so far, above all because Italy has the highest mandatory pension contribution rate among OECD countries, for which a third of the gross labour income is absorbed by pension spending, with negative effects on labour costs and employment. Increasing contributions would in fact represent a transfer of resources from those who, since the 2008 crisis, have suffered greater impoverishment (Figure 14[19]).

[18] E. Fornero, Chi ha paura delle riforme. Illusioni, luoghi comuni e verità sulle pensioni, Milan, Università Bocconi Editore, 2018, p. 97.
[19] Openpolis, Che cos’è la povertà assoluta, 16 Giugno 2022.

Figure 14: percentage of people in absolute poverty by age group, 2005-2021



For what concerns the retirement age, the main problem of the Italian pension system, as already explained, is the imbalance between the number of early old-age pensions and old-age pensions, in favour of the former. The result is that too many people retire when they could still work, and this has negative effects not only in terms of a higher financial burden for younger generations, but also on their employment, since, as recall in the previous section, higher employment rates in the over-55 age group correlate with higher youth employment rates. This situation was further aggravated by the decree-law 4/2019 which introduced "quota 100" (which leaded to "quota 102" and quota 103" in a logic of political compromises), and the block of the adjustment to life expectancy of the minimum requirement of years of contribution until 2026, which therefore generated a "potential jump" from 62 to 67 years in retirement age with the return to the Fornero regime. How is it possible to combine the objective of reducing early retirements as much as possible, with the flexibility of leaving the labour market, so that the conditions for the creation of other groups of "esodati" and therefore of consequent safeguard measures that effectively weaken the goal of containing pension expenditure, are no longer generated?

The age requirements from 2019 up to 2024 to access to ordinary old-age pension is 67 (with a minimum contribution of 20 years), according to current law, taking into account the adjustment to life expectancy. The following table reports, for the same period of time, the requirements for access to early retirement.

Early retirement requirements, 2019-2024

Years	Years of contributions independent of age for men	Years of contributions independent of age for women	For those who meet the following requirements in the period 2019-2024 (“quota 100,102,103”)	
			Required age	Required years of contributions
2019	42 years and 10 months	41 years and 10 months	62	38
2020	42 years and 10 months	41 years and 10 months	62	38
2021	42 years and 10 months	41 years and 10 months	62	38
2022	42 years and 10 months	41 years and 10 months	64	38
2023	42 years and 10 months	41 years and 10 months	62	41
2024	42 years and 10 months	41 years and 10 months	62	41

From 2025, the “quota channel" could be interrupted and a minimum age requirement could be added to the channel with the only requirement of years of contributions paid (42 years and 10 months for men and one year less for women), which, as already argued, has been characterized by an average effective retirement age of 62 years. I propose to start precisely from 62 years in 2025, for both men and women, and this age requirement would grow from that point onwards, together with the requirement of years of contributions, with life expectancy (this link, as mentioned, has been blocked since 2019).

The channel of old-age retirement (67 years of age and 20 years of contributions) would be maintained in parallel, with the adjustment of the age requirement to life expectancy (the same adjustment could possibly begin to be applied to the 20-year contribution requirement, which is now fixed).

There would therefore be two official channels to access retirement, without exception, which would allow savings in terms of lower pensions paid to workers who are too young, both in the short and especially in the long run.

The mechanism of adjusting requirements to life expectancy could continue to follow the rules originally established by law 122/2010: the aforementioned requirements are supposed to be updated every three years to an extent equal to the increase in life expectancy at the age of 65 ascertained by ISTAT in the three years prior to the update, and the increase in requirements can’t in any case exceed three months and is not carried out in the event of a decrease in life

expectancy. Otherwise, the mechanism could be modified to make it more up-to-date: the frequency of the update could be annual instead of every three years, as well as the length of the reference period for measuring any increase, and the limit of three months maximum of the increase could be eliminated, calculating it instead as a percentage of the increase in life expectancy itself. For example, it could be established that the annual increase in requirements is equal to 50% of the actual increase in life expectancy measured in the last year.

In this context, in my opinion, Social Ape should be preserved, in order to protect workers in hazardous or arduous jobs and uncomfortable conditions, for whom the flexibility in the exit from the labour market represents an act of social justice. The minimum age requirement, raised to 63 years and 5 months with the 2024 budget law, and the requirements of years of contributions paid (30 or 36 years) may continue not to be subject to the adjustment of life expectancy. An idea for the improvement of this institution could be the introduction, with regard to workers in hazardous or arduous jobs, of an objective criterion to identify the beneficiaries and not leave the selection to collective bargaining that can potentially lead to the inclusion of a category more for the lobbying capacity of the respective union than for the conditions of the workers concerned.

One could use life expectancy as the target, which is lower for hazardous and arduous jobs, and so establishing that if the life expectancy of a category at a certain age is significantly below the average of the distribution, then workers in that category can benefit from the Social Ape.

The decision of "how much below the average" inevitably remains arbitrary, but evidence such as the following one can be taken as a reference.

A 2021 study[20] reports the association of certain occupational domains with life expectancy for men and women at age 65 in Netherlands (using a sample that covers the years from 1992 up to the end of 2019), considering that the population median of life expectancy at age 65 is 16,5 years for men and 21,5 years for women. For example, the transport domain is characterized by the shortest life expectancy among the selected domains, with 14,7 years for men and 20,0 years for women, while the teaching domain by the longest life expectancy, with 18,3 years for men and 23,1 years for women. In-between there are, in ascending order, the non-skilled general, technical, administrative, care, and agriculture domains.

Thus, on the lowest end of the spectrum, the transport domain's life expectancy is 1,8 years below the population median for men and 1,5 years for women. On the other end of the

[20] D. J.H. Deeg, W. De Tavernier, S. de Breij, Occupation-Based Life Expectancy: Actuarial Fairness in Determining Statutory Retirement Age, 2021.

spectrum, the survival time advantage of the teaching domain is 1,8 years for men and 1,6 years for women.

As far as the methods of pensions calculation are concerned, the process that began with the Dini reform in 1995 and came into force in 1996, and completed with the Fornero reform in 2011, which came into force in 2012, outlined the following framework:

• the application of the full defined benefit (DB) formula for those who retired by January 1, 1996 or those who were over 18 years of age on January 1, 1996 and retired by December 31, 2011;

• the application, in accordance with the Dini reform, of a mixed scheme for those who were under 18 years of age on January 1, 1996 and retired in subsequent years, with the application of the DB formula on the first part of the (virtual) pension capital, which runs from the date of the first contribution to December 31, 1995, and the calculation with the defined contribution (DC) formula of the other part, which runs from January 1, 1996 to the date of retirement;

• the application, according to the Fornero reform, of a mixed scheme for those who were over 18 years of age on January 1, 1996, but retired after January 1, 2012, with the DB calculation of the first part of the (virtual) pension capital, which runs from the date of the first contribution to December 31, 2011, and the calculation with the DC formula of the second part, which runs from January 1, 2012 to the date of retirement;

• the application of the calculation entirely based on the DC formula for all those workers who have their first contribution from January 1, 1996 onwards.

As at January 1, 2022, 9.469.376 pensions (45,5% of the total) were still paid entirely with the DB formula, absorbing 42,6% of total annual pension expenditure (297.798,6 million euros). The mixed regime is divided into two sub-schemes: the mixed regime of the Dini reform with 1.647.925 pensions (7,9% of the total) and the mixed regime of the Fornero reform with 1.266.932 pensions (6,1% of the total). Only 755.759 pensions (just 3,4% of the total) were entirely calculated with the DC formula, and they were mainly old-age, disability or reversible survivor's pensions[21]. In addition, the regime with the application of the DC formula alone will become fully operational only after 2030 as regards the flows of new pensions and only after 2050 as regards the stock of existing pensions.

[21]Research and Study Centre Itinerari Previdenziali, *The Italian Pension System. Financial and demographic trends of the pension and welfare system in 2021*, Report n. 10, 2023, pp. 63-64.

The DB method, particularly when combined with early retirement, is the cause of distortions because it makes the link between contributions paid and pension benefits weak and, above all, there is no link with the life expectancy at the time of retirement. The effect of this distortion is that pensions calculated using the DB method typically enjoy higher rates of return on the total value of contributions paid than those calculated using the DC method.

A 2001 study by the CeRP[22] compared three different situations, imagining three workers who were equal in terms of career and earnings, but subject to different weights in those parts of their pensions calculated with the DB and with the DC formula.

A worker born in 1943 and retired, for example, at the age of 57 with 35 years of contributions, would have been granted an average annual rate of return of 3,25 percent in real terms, higher than that compatible with the equilibrium of the system (approximately equal to the GDP growth rate) and certainly also difficult to obtain in the financial market.

For a worker born in 1963, i.e. approximately a generation later, with equal contributions paid and the same retirement age but subjected to both the formulas, the return paid would have been 2,07 percent, lower than the previous one but still higher than the equilibrium return.

Finally, for a worker born in 1983 (a further generation later) with the same working career but entirely subjected to the DC method, the equilibrium return would have been 1,5 percent, that was the average GDP growth rate considered.

A possible intervention, therefore, from a theoretical point of view, could be the recalculation with the DC method of all the pensions already in place determined in whole or in part with the DB method and the consequent application of a solidarity contribution on these pensions on the basis of the difference between the actual pension and the contributions paid, in order to redistribute that surplus accumulated thanks to the application of the DB method.

For the recalculation of the part computed with the DB formula, the rules already introduced by the implementing decree of the Dini reform (legislative decree 180/1997) could be used. Those rules were established for those who retired after 1996 voluntarily, opting for the calculation with the DC formula.

The recalculated part, according to these rules, is determined as the product between the total number of years of contributions accrued up to the date the DC system became operational by

[22] Ibidem

the worker concerned (as seen, December 31, 1995 for some workers, December 31, 2011 for others), and the average of the annual contributions (given by the product between the labour income and the contribution rate in force in the corresponding contribution period), all revalued on a compound basis up to December 31 of the year preceding the year in which the pension takes effect, using as rate of return the GDP growth rate at the time.

Given the impossibility of reconstructing the contribution histories for all private employees before 1974 and those of public employees before the 1980s, the rules set by the legislative decree 180/1997 had also established that the reference period for the calculation of the average annual contributions before December 31, 1995 was ten years at maximum.

This kind of recalculation was made by the economists Fabrizio Patriarca and Tito Boeri and by the econometrician Stefano Patriarca[23] in 2014 who, taking as a reference the stock of pensions in payment in 2013, estimated that, limited only to pension income (thus adding together all the pension benefits received by the same person) above 2 thousand euros per month, an imbalance of about 17 billion euros between actual pension and contributions paid would have been determined for that year, just considering the employees alone.

By applying the following rates:

• 20% of the annual imbalance on pensions between 2.000 and 3.000 euros,

• 30% of the annual imbalance on pensions between 3.000 and 5.000,

• 50% percent of the annual imbalance on pensions above 5.000,

they calculated that the consequent solidarity contribution would have been equal to 4,2 billion euros with respect to the stock of pensions paid out in 2013.

If this operation was hypothetically applied annually from 2025 onwards, it would lead to savings presumably lower than the ones estimated for 2013 (the stock of pensions has changed and, although it is still composed by many pensions calculated entirely or in part with the DB method, such pensions weigh less than in 2013, and will weigh gradually less and less until their extinction) which, however, would still have the function of intergenerational rebalancing.

An obstacle to this proposal is represented by the possible adverse opinions of the Italian Constitutional Court, which has already ruled on other types of solidarity contributions in the past.

[23] F. Patriarca, S. Patriarca, T. Boeri, "Pensioni: l'equità possibile", lavoce.info, 14 Gennaio 2014.

The first attempt to apply a solidarity contribution was with decree-law 98/2011, which provided for a levy, from January 1, 2011 to December 31, 2014, of 5% for the portion of the pension above 90 thousand euros, 10% for that above 150 thousand euros and 15% for that over 200 thousand euros. However, this mechanism was deemed unconstitutional by the Court in its judgment n. 116/2013, according to which such an intervention is not admissible when it concerns only one category of persons, in this case pensioners, and so it doesn't ensure compliance with the principles of equality in taxation for people with the same income.

The measure was re-proposed with the 2014 budget law, introducing some new elements: the progressive nature of the levy has been better specified, in compliance with the ability to pay of each person; the temporary duration of the contribution (from January 1, 2014 to December 31, 2016); the allocation of the recovered resources to interventions within the pension system, thus excluding the levy would have been collected among the general revenues of the State balance sheet. This modified mechanism was declared legitimate by the Court with judgment 173/2016, recognising that this levy was temporary and not comparable with the other forms of taxation collected as general revenues, since the savings remained within the pension system circuit.

Another solidarity contribution was proposed with the 2019 budget law, for a period of five years starting from 1 January 2019 and it involved exclusively pension benefits computed entirely or partially with the DB formula (similarly to the proposal above). This contribution was a levy charged on five pension income bands above 100.000 euros (gross) per year, with more impactful reductions as the value of the bands increases. This time, the Court legitimized the intervention, but shortened the duration period from 5 to 3 years (the levy, in fact, lasted until December 31, 2021 and not until December 31, 2023 as originally planned). According to the Court, the application of the solidarity contribution couldn't extend beyond the time horizon of the budget law.

Considering what happened, it is therefore important that the solidarity contribution is designed in such a way that it can't be considered as a tax collected among the general revenues of the State, and its function must specifically relate to a rebalancing operation within the pension system. On the other hand, it seems difficult to imagine its extension for more than three consecutive years.

In an article for lavoce.info[24], the economist Antonio Massarutto presented a proposal to overcome this impasse. It consisted in establishing a specific tax, expressly intended for pension

[24] A. Massarutto, "Come tassare le pensioni d'oro", lavoce.info, 17 Marzo 2017.

income and designed with the aim of having a greater impact on pensions characterized by a greater share of privilege thanks to the DB method. Indeed, according to the author, the Italian Constitution does not oblige to tax all the types of income with the same instrument. The "pension tax" would have, as its tax base, the gross pension income, and would be calculated by dividing it into two parts. One part is the one calculated with the DC method according to the rules of legislative decree 180/1997, to which the IRPEF (the name of the personal income tax in italy) would continue to apply. The other part is represented by the imbalance mentioned above, i.e. the surplus obtained thanks to the DB method, to which higher and more markedly progressive rates should be applied (the rates proposed by F. Patriarca, S. Patriarca and Boeri can be used). Exemptions can be provided to protect the weakest pensioners such as a "no tax area" for pension income below a certain threshold (also in this case the one of the proposal above could be used, i.e. 2.000 euros). From the point of view of constitutional legitimacy, according to Massarutto, this would be a type of universal tax that affects income of the same nature with the same criterion, and therefore less open to attack by the Court.

Coming then to the cut in the revaluation of pension to prices, many interventions have already been made on this front and also in this case, in order to present a proposal that can effectively produce spending cuts without then being cancelled, it is necessary to observe the opinions of the Constitutional Court on this issue.

One in particular is that concerning the judgment 234/2020 with which the modification of the mechanism of indexation of pensions to prices established by the 2019 budget law was declared legitimate. The budgeet law set, for the three-year period 2019-2021, the indexation at 100% for pensions up to three times the INPS minimum, 97% for those between three and four times; 77% for those between four and five times; 52% for those between five and six times; 47% for those between six and eight times; 45% for those between eight and nine times; 40% for those over nine times.

The Court ruled that the mechanism was legitimate as “it does not have the effect of paralyzing, or suspending indefinitely, the revaluation of pension benefits, not even those with a higher amount, resulting instead in a mere cooling of the revaluation to prices dynamic, implemented with gradual and proportionate indexes".

It therefore seems reasonable to think that other similar interventions can be newly designed over a three-year period of time (the one currently in force established by the 2024 budget law, as seen in section 3.1 of this thesis, only applies in 2024).

However, an alternative way to apply the de-indexation could be adopted.

The mechanism just described provides that when each threshold is exceeded, the lower adjustment to prices applies to the entire amount of the pension concerned. A paradox arises from this: those who received a pension slightly lower than the value of a threshold before the adjustment, finally received a higher pension than those who were just above the same threshold.

In order to resolve this distortion, it could therefore be established that, when each threshold is exceeded, the lower adjustment to prices would apply only to the portion exceeding the threshold. This second mechanism was actually introduced in 2022 by the Draghi government, but abandoned after just one year. The 2022 rules could be used, with only three thresholds and three different rates, establishing that pension benefits up to four times the INPS minimum are revalued at 100% of inflation, at 90% the excess portion up to five times the minimum, at 75% the additional excess share.

To estimate the resources collected by such an operation, the de-indexation rule just described can be applied to the data reported in the Tenth Report drafted in 2023 by the research and study centre Itinerari Previdenziali, regarding the number of pensions and the overall gross annual pension benefits by monthly amounts in 2021[25].

Monthly pension amount classes (amount divided by 13)	Number of pensions	Total annual gross amount	Average annual gross amount
Up to 4 times the minimum (up to 2.062,32€)	19.995.976	203.610.802.300€	10.182,59€
4 to 5 times the minimum (from 2.062,33€ to 2.577,90€)	1.376.746	41.127.644.696€	29.873,08€
Over 5 times the minimum (over 2.577,90€)	1.386.075	68.264.208.100€	49.898,00€

[25] Research and Study Centre Itinerari Previdenziali, *The Italian Pension System. Financial and demographic trends of the pension and welfare system in 2021*, Report n. 10, 2023, p. 104.

The table just above is a simplified version of the one presented in that report (51 monthly pension amount classes are shown in the report, from the one corresponding to pension amounts up to 1 time the minimum pension up to the one including pension benefits over 50 times the minimum), where the monthly pension amounts are grouped into three groups that fit with the thresholds of the indexation rules in 2022.

Imagining that the rule will be applied in 2025, I calculated that, with reference to the 2021 pension stock (in the absence of more updated data), assuming an inflation rate of 2,1% (the one projected by the ECB for 2025, much lower than what occurred in 2022, with an average annual inflation rate of 8,1% in Italy), and without taking into account the other proposals concerning the age requirements for retirement and the recalculation of pension benefits with the DC method with the consequent solidarity contribution, the gross resources collected in one year would be approximately 143 million euros. It's not a large amount: this is due to the fact that above the benefit threshold more than 5 times the minimum, a uniform rate of 75% was applied. To raise more money, tighter rates could be applied by adding bands as the amount of pension benefits increases.

The resources raised by these spending containment measures could be used to lower the mandatory pension contribution rate, to allow greater financing of supplementary pension funds. Practical experience shows that young people do not approach pension funds precisely because they do not have resources in addition to those they are required to pay into compulsory funds.

A proposal presented by the Fornero reform on this topic (which was not implemented) provided for the introduction of a gradual and very limited possibility of exit from the public system (opting out) for the younger generations. This proposal followed the 2001 CeRP study already mentioned, and concerned the opportunity, given only to new recruits, to allocate 5 to 8 percentage points of the mandatory contribution rate, equal to 33%, to a private pension fund, so as to give them the possibility to build up a supplementary pension, distributing their pension risk over the public PAYG and private capitalization systems, without additional contributions. Not, therefore, a generalised cut in the mandatory contribution rate, which would remain at the current level according to this proposal (the mandatory contribution rate is still equal to 33%), but an option offered to new workers, who would therefore have fewer resources invested in the PAYG public pension system but could count, at the time of future retirement, on the savings set aside in the chosen private pension fund, savings that would "phisically" be invested and

not just “virtually” as in the PAYG system, and that would yield at the average market interest rate of the years of deposit, which tends to be higher than the growth rate of Italian GDP.

The two authors of the study, Elsa Fornero and Onorato Castellino, estimated the transition costs of this measure. With reference to the mandatory public pension fund for employees only, and assuming that this option was just offered to new entrants to the labour market and that all of them made use of the option, the costs (as a percentage of GDP) of the reduction from 33% to 25% of the mandatory contribution rate would have been those shown in the following table.

Year	Cost as % of GDP	Year	Cost as % of GDP
2005	0,16%	2040	1,30
2010	0,33%	2045	0,93
2015	0,49%	2050	0,62
2020	0,65%	2055	0,28
2025	0,82%	2060	-0,06%
2030	0,98%	2065	-0,06%
2035	1,14%	2070	-0,06%

In order to reduce the level of coverage of the PAYG system for public and private employees by about a quarter (from 33% to 25%), a transition phase lasting more than half a century was considered necessary, during which, in order to meet the expectations of the previous cohorts without reductions, the costs first grew to 1,3% of GDP and then, gradually, would have returned to zero.

On the basis of this analysis, updated with more recent data (even if the mandatory contribution rate has remained the same), all the resources obtained from the interventions proposed so far could be allocated to support these costs: this would represent a further measure of intergenerational equity.

In conclusion, a note must be made regarding the coherence and security of the rules: continuous regime changes and contradictory laws inevitably create uncertainty and make it more difficult for individuals to properly plan their future pension, so that they could respond to uncertainty by trying to get a secure source of income as soon as possible, even at the cost of losing something in economic terms: in other words, a greater incentive to take advantage of the available forms of early retirement.

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