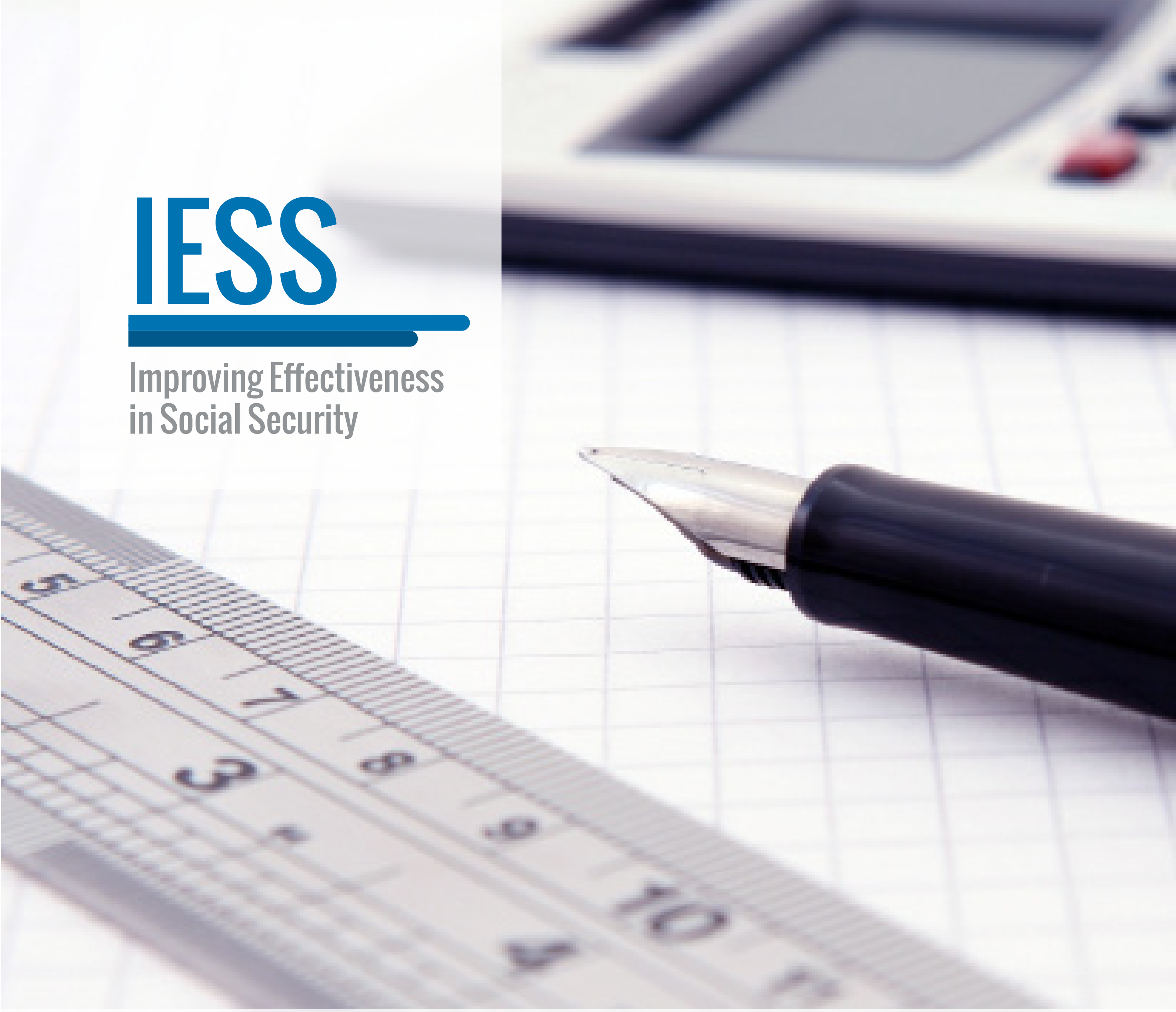

IESS

Improving Effectiveness in Social Security

The Italian pension system: recent reforms, present features and future challenges

BACKGROUND REPORT

MEF Dipartimento del Tesoro

INPS

FGB Fondazione Giacomo Brodolini

centre for economic & social Inclusion

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Introduction

Pension reform has been a national priority and has dominated the public debate in Italy since the beginning of the '90s. The main topics have been the need to ensure financial sustainability for the social security system in the short and long term, the reduction of iniquities and disincentives engendered by the traditional Defined Benefit computation formula and the inception and development of private pension schemes.

Since 1992, an outstandingly long series of reforms (1992, 1993, 1995, 1997, 2004, 2005, 2007, 2010, 2011) has radically transformed the Italian pension system, modifying several fundamental parameters of the public system –computation formulas, indexation rules, eligibility requirements for old-age and early retirement – and trying to foster the development of private occupational and personal pension plans.

As a result of the reform process, the pay-as-you-go (PAYG) financed public scheme has switched from a Defined Benefit formula (DB, in Italy known as *retributivo*) to a Notional Defined Contribution one (NDC, in Italy known as *contributivo*); age and contributions requirements significantly rose and further increases are expected in the future due to the automatic link to changes in life expectancy; the system's architecture adopted a multi-pillar configuration, even though the public pillar is still largely predominant.

Concerning the two main objectives to be pursued by pension systems in EU countries, sustainability and adequacy[1], it has to be pointed out that the reforms of the last two decades, mostly because of the gradual phasing in of the NDC scheme, are expected to ensure financial sustainability in the medium and long run, in spite of the intense ageing process that is characterizing the Italian population[2]. On the other hand, in spite of the still high replacement ratio, providing adequate benefits seems more problematic, particularly to individuals characterized by unsuccessful working histories and/or who spend many years as atypical workers.

In this report we first review the pension reform process of the last twenty years: section 1 focuses on the characteristics of the system before the reform process started and on the '90s' reforms, section 2 focuses on the reforms introduced in the period 2000-2010 and section 3 on the measures introduced by the Monti Government in December 2011 and on the most recent adjustments. In section 4 we present the architecture of the private pillar, highlighting its main drawbacks. Afterwards, we move focus to the public NDC pillar, clarifying its characteristics and highlighting the main challenges that will have to be addressed in the future in terms of adequacy issues (section 5).

1 See European Commission (2010, 2012).

2 The old-age dependency ratio is supposed to raise dramatically from 32.66% in 2013 to 53.06% in 2060 (Eurostat).

1. The reforms of the '90s

Following the numerous expansionary reforms of the 1950s-60s (Jessoula, 2009; Cinelli, 2012), at the beginning of the '90s the Italian pension system presented a single public pillar structure, pay-as-you-go financed and informed to Defined Benefit computation rules, that covered nearly all workers[3]. A means-tested pension supplement (*trattamento minimo*) was provided to retirees with very low contributory pensions. A means-tested social assistance allowance (*pensione sociale*, since 1996 known as *assegno sociale*), financed via general taxation, was also provided to poor elderly who did not fulfil seniority requirements for contributory pensions[4].

In Italy, two typologies of retirement have historically existed:

- 'Old-age pensions': the welfare system intervenes to provide workers with adequate means for their subsistence needs when they cannot provide for themselves because of old-age[5]; the access to old-age retirement has traditionally been subject mainly to age requirements.
- 'Seniority pensions': the welfare system rewards workers with high seniority, generally regardless of age[6].

Retirement ages were the most generous aspect of pension rules at the beginning of the '90s. According to l. 153/1969, the 'Brodolini reform', old age pensions were awarded at 60 for males and 55 for females (with at least 15 years of seniority) and, independently on age, workers with at least 35 years of contributions were entitled a seniority pension[7].

The traditional Defined Benefit computation formula for the first benefit reads:

$$P = r \times S \times E(w)$$

where *r* is the rate showing the return for each year of contribution[8], *S* is the seniority[9] and *E(w)*, the so-called *retribuzione pensionabile*, is a 'conventional salary' calculated as an average of final earnings[10]. Being linked to final wages, the *retributivo* system granted rather generous replacement rates, up to 80% when *S*=40.

In addition to that, up until 1992, existing benefits were indexed to the growth rate of nominal wages.

3 Professionals (e.g. lawyers, architects) did (and still do) not participate to the public scheme, but they are obliged to enroll to a private fund managed by their category (see l. 537/1993, d.lgs. 509/1994, l. 335/1995, d.lgs 103/1996, l. 111/2011).

4 Trattamento minimo (2015): 502.38 Euros; Assegno sociale (2015): 448.51 Euros.

5 See art. 38 of the Italian Constitution.

6 First introduced with l. 903/1965, then suppressed and reintroduced by l. 153/1969, one of the main scopes of seniority retirement was to allow middle-aged workers to leave the job market earlier and 'make room for the young', in a period of economic and demographic boom. Referring to such line of thinking, some authors have used the expression 'lump of labor fallacy'.

7 Much lower requirements were set in specific sectors: public employees could access seniority retirement having paid contributions for just 20 years, 15 if they were women with children.

8 Said 'annual rate' was usually set at 2%, but was higher in some sectors, e.g. public employment. L. 67/1988 introduced a set of 4 rates (later augmented to 5 by the 'Amato reform') set to operate pro quota progressively on the 'conventional salary' E(w) (the higher the value of E(w), the lower the value of r applied pro quota).

9 In the Defined Benefit formula applied in Italy, seniority cannot exceed 40 years, hence reducing incentives to postpone retirement (e.g. DB pensions awarded to individuals with 45 years of seniority are computed considering 40 years).

10 According to pre-1992 rules, the calculation was based on the last 5 annuities of pensionable earnings for private employees and on the final monthly wage for public employees.

The generosity of public pensions broadly crowded out supplementary private schemes, virtually unknown until the mid-1990s[11]. The single pillar pension system effectively guaranteed income maintenance to the workforce, as well as (limited) poverty protection to those not entitled to a contributory pension. This scenario, however, was doomed to disappear. Joint pressures from the EU convergence parameters set in Maastricht – forcing national authorities to consolidate public finances – as well as the 1992 crisis had a tremendous impact on the Italian pension system, which at the time presented three main drawbacks (Fornero and Castellino, 2001; Franco and Marè 2002): i) a critical financial situation, mostly in the long run due to the fast ageing of the population; ii) a strong incentive to early retirement: the Defined Benefit formula did not take into account retirement age, engendering an implicit tax on the procrastination of retirement once minimum requirements had been reached (Gruber and Wise 1999, 2004); iii) wide (and often regressive) inequities due both to the differences in computation rules and eligibility requirements across occupational categories and to the fact that the Defined Benefit formula grants higher implicit internal rates of return (on contributions) to workers who enjoy a steep wage profile at the end of their careers and to those with lower seniority, thus advantaging the ones who least need it and the ones who least 'deserve' it – since they have contributed less to the maintenance of the PAYG system (Gronchi 1995, 2003). This 'reverse solidarity' (Cinelli, 2012) can be attenuated, but not eliminated, by extending the number of annuities on which *E(w)* within formula (1) is calculated and by employing a set of progressive annual rates for *r* – the higher the value of *E(w)*, the lower the value of *r* applied (Gronchi and Nisticò, 2006).

As a consequence of the interaction of low retirement ages, generous formulas and a fast ageing of the population, the pre-1992 pension rules would have engendered huge increases of the pension spending in the upcoming decades. Hence, the main target of the reforms introduced in 1992 ('Amato reform') and 1995 ('Dini reform') was to restrain the rise in pension spending, by both limiting the number of pensioners and lowering the average amount of pensions.

The 1992 'Amato reform' (d.lgs. 503/1992) adopted a number of relevant parametric retrenchments to the first pillar, maintaining the Defined Benefit frame. The main measures introduced were:

- A gradual increase of the age requirements for old age pensions from 60 and 55 to 65 and 60, for males and females respectively, and of the seniority requirements from 15 to 20[12].
- The extension of the number of annuities included in the calculation of *E(W)* in formula (1) to the whole working life rather than to the final years. This extension was phased in very gradually, though, because the change in computation rules only concerned the *quota* of benefit relating to contributions accrued after 1992 (i.e. only individuals who had entered the labour market from 1993 on would have received a benefit entirely based on the whole working history)[13].
- A harmonization of rules applied to different categories of workers, in particular between private and public sector workers.
- The parameter for the indexation of pension benefits changed from nominal wages growth to inflation growth[14].

11 Before the 1993 reform of private pensions (d.lgs. 124/1993), only pension funds sponsored by banks and insurance companies in favor of their employees, the so called 'pre-existing funds', were operating.

12 For individuals having already accrued 15 years of contributions in 1992, requirements did not change.

13 Also, the formula did not substantially change for individuals having already accrued 15 years of seniority in 1992: for this category of workers, the period for the computation of *E(W)* was only extended from the last 5 annuities (last month for public employees) to the last 10 annuities.

14 Also, starting with l. 730/1983, later modified by l. 449/1997 and l. 388/2000, a partial indexation has been set for the portion of benefit exceeding certain brackets. L. 388/2000, which will resume its effectiveness in 2017, once the present 'transitional period' is over, reduces indexation by 10% for the portion of benefit between 3 and 5 times the so-called 'minimum benefit' (*trattamento minimo*) and by 25% for the portion exceeding it over 5 times.

Major changes were later introduced by the 'Dini reform' (l. 335/95), namely:

- The introduction of the NDC rules in benefit calculation.
- The increase of seniority requirements (gradually raised from 35 to 40) and the introduction of an age requirement (gradually raised from 53 to 57) for early retirement.
- The continuation of the harmonization process in terms of pension rules among different categories of workers.
- The extension of compulsory coverage to 'parasubordinate workers', i.e. economically dependent workers[15].
- The incentivization to access private pension plans.

First and foremost, the 'Dini reform' replaced the traditional Defined Benefit scheme (*retributivo*) with the new Notional Defined Contribution scheme (*contributivo*). The public pension system remains pay-as-you-go financed, but in the new NDC environment benefits are computed on the basis of actually paid contributions and according to life expectancy at retirement, following neutral actuarial rules. The system is conceived as a virtual bank, where individuals have 'personal accounts' in which contributions are 'deposited', while in work, and from which pension benefits are 'withdrawn', while in retirement (Gronchi and Nisticò, 2008).

In a NDC environment, pensions are computed as:

$$P=cc(\delta,m)\times M(w,\pi)$$

Where M, the accumulation of contributions, is positively correlated to wages (w) and to the annual rate of return virtually accrued on contributions (π) – in Italy equaled to the average nominal GDP growth of the previous five years –, while cc, the conversion coefficient, is positively correlated to the parameter δ[16] – in Italy set to 1.5% – and negatively correlated to life expectancy at retirement (m). The 'Dini reform' established that conversion coefficients would be updated every 10 years, l. 247/2007 set a triennial update, and finally the most recent 'Fornero reform' established that from 2019 coefficients will be updated every two years.

When properly applied, the NDC formula insures neutrality: all pensioners earn the same return on contributions paid to the system, explicitly set to π by the policy-maker, regardless of the length or success of their careers[17]; the NDC formula also guarantees sustainability in the long run, as long as π in formula (2) is set equal to the wage bill growth rate (the choice to set it equal to the trend growth rate of GDP is admissible as long as the percentage incidence of wages on GDP stays constant)[18].

Coherently with the actuarial logic of the scheme, the 'Dini reform' allowed for flexibility in pensionable age in the age bracket 57-65 (for both men and women). While the seniority requirement was lowered to 5 years, a new 'amount requirement' was set, as retirement was allowed before 65 only if the benefit equaled at least 1.2 times the amount of the *assegno sociale*.

15 Individuals formally acting as self-employed but usually working as substitutes for employees.

16 'δ' works as an 'anticipated return' awarded to 'virtual accounts'.

17 Of course, neutrality can only be guaranteed on average: individuals exceeding (not reaching) life expectancy at retirement will earn higher (lower) returns than π. Nevertheless, uniformity would still be assured *ex ante* if all workers electing to retire at a given age had the same life expectancy.The consequences of heterogeneous mortality could be sterilized by diversifying the conversion coefficients by homogeneous social groups, but diversification may prove technically unfeasible and socially unacceptable (Gronchi and Nisticò, 2008).

18 For further problematization of the assumptions underlying the desirable properties of neutrality and sustainability in a NDC scheme, see Samuelson (1958), Aaron (1966), Gronchi and Nisticò (2008) and Gronchi and Gismondi (2008).

The means-tested pension supplement (*integrazione al minimo*) is no longer provided in the new NDC scheme; poor elderly, independently of their previous contribution record, are only entitled to the means-tested social allowance for people over 65 (*assegno sociale*)[19].

The 1995 'Dini reform' designed a very slow phasing in of the new NDC scheme. Individuals who in 1995 had been working for 18 years or longer[20] continued to be included in the Defined Benefit scheme. Those with lower seniorities would calculate their benefits employing the DB rules for the *quota* relating to contribution years up to 1995 and the NDC rules from 1996 forth (the so-called *pro rata* scheme). Only individuals who have started accumulating contributions from 1996 will receive a benefit entirely calculated according to the new formula (2). Some have expressed criticism concerning the supposed excessive gradualness of the transition (Patriarca, 2014), and the unfairness of the rigid limit of 18 years in seniority accrued by 1995, especially in relation to the way the same process has been dealt with in Sweden (Gronchi, 2003).

19 One third of the NDC pension is not computed in the means test for the *assegno sociale*. Hence people without other sources of income receive part of the means-tested social assistance benefit if their pension does not exceed 1.5 times the *assegno sociale*.

20 The same category protected by the 'Amato reform'.

2. The reforms introduced in the 2000-2010 decade

At the beginning of the new century pension reform remained on top of the political agenda, as policy makers aimed at elevating retirement age and reduce pension spending during the long transitional period towards the phasing in of the NDC scheme. As discussed in section 4, measures promoting the participation to supplementary private schemes were also introduced.

The 2004 'Maroni reform' raised the age requirement for seniority retirement, setting an increase from 57 to 60 years of age, starting from 2008, with an abrupt 3-years rise (the so called 'big step', *scalone*). Contextually, the flexibility in pensionable age for workers enrolled in the NDC scheme was removed, as they went subject to the same requirements for old-age and seniority retirement as workers enrolled in the DB and *pro rata* schemes.

The following Government, issuing the so-called 'Protocol on Welfare' (l. 247/2007), annulled the 'big step' introduced in 2004, setting new criteria for seniority pensions based on the so-called 'quotas', composed of the sum of age and seniority requirements (table 1). The possibility to retire regardless of age, having accrued 40 years of contributions, was confirmed.

The flexibility in pensionable age for workers enrolled in the NDC scheme, suppressed by the 2004 reform, was not restored.

TAB. 1: ELIGIBILITY REQUIREMENTS FOR SENIORITY PENSIONS SET BY L. 247/2007

	Employees	Self-employed
From 1/1/2008	Age: 58. Seniority: 35	Age: 59. Seniority: 35
From 1/7/2009	Age: 59. Seniority: 35. Quota: 95 (i.e. 59+36 or 60+35)	Age: 60. Seniority: 35. Quota: 96 (i.e. 60+36 or 61+35)
From 1/1/2011	Age: 60. Seniority: 35. Quota: 96 (i.e. 60+36 or 61+35)	Age: 61. Seniority: 35. Quota: 97 (i.e. 61+36 or 62+35)
From 1/1/2013	Age: 61. Seniority: 35. Quota: 97 (i.e. 61+36 or 62+35)	Age: 62. Seniority: 35. Quota: 98 (i.e. 62+36 or 63+35)

Further increases in retirement age were introduced later in the decade. Following a judgement of the European Court of Justice, in the 2010 Budget Law Italy took the first step towards the equalization of the (rigid) age requirement for old-age retirement for both men and women, raising it to 65 for female employees in the public sector, starting from January 2012[21]. The same Budget Law introduced the so-called 'mobile window', fixing a time window of 1 year between the achievement of the eligibility requirements for old-age and seniority pensions and the actual possibility to retire, thus increasing the effective age requirement by one year.

Moreover, l. 122/2010 has linked pensionable age to increases in life expectancy: starting from 2013, statutory age requirements to access old-age pensions, seniority pensions and social assistance benefits are set to be automatically adjusted once every three years, in line with the variation in life expectancy at age 65 as measured by ISTAT with reference to the previous three-year period.

21 In the summer of 2011 two different decrees were passed concerning pensionable age for all female workers: d.l. 98/2011, conv. in l. 111/2011, and d.l. 138/2011, conv. in l. 148/2011. Both were abrogated by d.l. 201/2011, conv. in l. 214/2011 (see section 3).

3. The 'Fornero reform' and the most recent adjustments

In order to regain credibility on the sustainability of public finances severely hit by the impact of the financial crisis, after a month from its designation, the Monti Government introduced a new comprehensive pension reform (d.l. 201/2011, conv. in l. 214/2011), with the main aim to obtain immediate savings on pension spending through a significant increase of the effective retirement age.

On the one hand, the reform has established a quick raise of pensionable ages, with a gradual increase for women in the private sector to meet the age requirement of all other workers by 2018 at 66[22].

On the other hand, stricter limits to early retirement have been introduced: the 'quota system' has been abrogated and since 2012 early retirement is only possible to those who have accrued 41 years and 1 month of seniority, for women, and 42 years and 1 month, for men (both requirements have been increased by 1 additional month in 2013 and again in 2014). Art. 20 co. 10, d.l. 201/2011, conv. in l. 214/2011, also set a penalization on the portion of benefit computed according to the DB formula for workers retiring before their 62nd birthday, amounting to 1 point percentage for each year if they retire at 61 or 60, and of 2 points percentage for each year if they retire earlier.

For example, retiring at 58, one would compute his/her benefit as:

$$P=(100\%-1\%-1\%-2\%-2\%)\times \text{DB quota}+\text{NDC quota}$$

Said penalizations have however been nullified until 2018 by later measures (art. 6 co. 2-*quarter*, d.l. 216/2011, conv. in l. 14/2012; art. 4-*bis*, d.l. 101/2013, conv. in l. 125/2013; art. 1 co. 493, l. 147/2014) under growingly loose conditions, until art. 1 co. 113, l. 190/2014 excluded their effectiveness under any circumstances from 2015 to 2018.As another short-term measure, the 'Fornero reform' set a halt to indexation for benefits worth over 3 times the *trattamento minimo* (see above) – approximately 1450 Euros a month – for 2012 and 2013.

Regarding measures that impact the medium-long term, in order to speed up the transition to the Notional Defined Contribution scheme, it has been established that, starting from 2012, benefit computation for all workers will employ the NDC rules, at least *pro rata*.

Therefore, depending on calculation rules, present participants to the pension system can be divided into two categories:

- 'NDC' or 'pure NDC' (*contributivo puro*), for workers with no seniority prior to 1996, for whom benefits are entirely calculated according to the NDC rules.
- 'Mixed' (*misto*):
  - workers with less than 18 years of seniority in 1995, for whom benefits are calculated according to the NDC rules *pro rata* for all years of seniority following 1995.
  - workers with at least 18 years of seniority in 1995, for whom benefits are calculated according to the NDC rules *pro rata* for all years of seniority following 2011.
  - Individuals enrolled in the NDC scheme will be characterized by much tighter rules than those originally introduced by l. 335/1995: the 'Fornero reform' has indeed reinstated some degree of flexibility in pensionable age, but at much higher ages and with stricter seniority and 'amount' requirements than before. Table 2 sums up the requirements introduced by the most recent reform; four modalities are observable.

22 The mechanism of the "windows" has been abrogated by the 2011 reform.

TAB. 2: ELIGIBILITY REQUIREMENTS SET BY D.L. 201/2011, CONV. IN L. 214/2011.

Modality	Regime	Requirements		2012	2015
1st modality	NDC	age		63 years	63 years, 3 months
		seniority		20 years	20 years
		amount		2.8 * *assegno sociale*	2.8 * *assegno sociale*
2nd modality	NDC, mixed	age	female public employees, males	66 years	66 years, 3 months
			female private employees	62 years	63 years, 9 months
			self-employed females	63 years, 6 months	64 years, 9 months
		seniority		20 years	20 years
	NDC	amount		1.5 * *assegno sociale*	1.5 * *assegno sociale*
3rd modality	NDC, mixed	age		70 years	70 years, 3 months
		seniority	NDC	5 years	5 years
			mixed	20 years	20 years
4th modality	NDC, mixed	seniority	males	42 years, 1 month	42 years, 6 month
			females	41 years, 1 month	41 years, 6 month

As previously mentioned, the age requirement for all female workers will align to that of the male counterparts by 2018[23]. In line with previous measures (l. 122/2010), the reform also confirmed that all age requirements and seniority requirements for early retirement ('4th modality' in table 2) will be periodically updated according to variations in life expectancy. The updating process has been aligned with the review of conversion coefficients (every 3 years until 2019 and every 2 years afterwards). The first update, which increased said requirements by 3 months, took place in 2013 and its implications are visible in table 2. Starting from 2016, said requirements will be further increased by 4 months[24].

Short of sufficient income sources, any individual will be entitled to the *assegno sociale* at 65 years and 3 months, in 2015. The age requirement for the social assistance benefit is also updated according to l. 122/2010, and art. 24 co. 8 of the 'Fornero reform' established that it would be increased by one year in 2018, by so aligning it to the age requirement of the '2nd modality'.

23 Starting from 2018, the only difference will concern the seniority requirement for the 4th modality

24 See: INPS, Circ. 63/2015 (http://www.inps.it/bussola/VisualizzaDoc.aspx?sVirtualURL=/Circolari/Circolare%20numero%2063%20del%2020-03-2015.htm&iIDDalPortale=&iIDLink=-1).

Basing calculations on the European Population Projections (base year 2013), around 2040 individuals will retire according to the following conditions:

- '1st modality': 66 years of age if he/she has at least 20 years of seniority and a pension benefit amounting to at least 2.8 times the *assegno sociale*.
- '2nd modality': 69 years of age if he/she has at least 20 years of seniority and a pension benefit amounting to at least 1.5 times the *assegno sociale*.
- '3rd modality': 73 years of age if he/she has at least 5 years of seniority, regardless of the amount of the benefit accrued.
- '4th modality': 44 years of seniority if female, 45 if male, regardless of any other condition.

Short of sufficient income sources, any individual will be entitled to the *assegno sociale* at 69 (age requirement for the '2nd modality').

D.l. 101/2013, conv. in l. 125/2013 introduced an important differentiation in terms of access to retirement for public employees, clarifying doubts originated by art. 24 co. 4, d.l. 201/2011, conv. in l. 214/2011. When they reach the 'age legal limit' (*limite d'età ordinamentale*) of their category (for most public employees, said limit is set at 65), public employees can only keep working until they reach the minimum (age, seniority, amount) requirements for retirement (old-age or seniority), but not further. Unlike age requirements for retirement, 'age legal limits' are not updated according to the variations in life expectancy.

The intent of the norm is obviously to manage the present surplus in public employment, though at the expense of the uniformity of retirement conditions for all workers, that are generally incentivized to keep their job beyond the attainment of minimum requirements for retirement, since the NDC rules will grant higher benefits.

4. The architecture of the private pillar

As previously mentioned, since the early '90s Italian policy makers have favoured the development of funded supplementary pillars in order to compensate retrenchment interventions in the public pension system (the first pillar).

Supplementary pillars operate on a voluntary basis, they are fully funded and provide benefits computed according to Defined Contributions (DC) rules[25]. Following the 1993 reform (d.lgs 124/1993) and subsequent revisions, the supplementary pillars are organized into three different types of pension institutions: closed (collective occupational) funds (CPFs), open funds (OPFs), and personal pension plans (*Piani Pensionistici Individuali*, PIPs).

CPFs, not-for-profit institutions, are set up within the frame of collective bargaining between employers and trade unions. They can be created at several levels: companies or groups of companies, industrial or economic sectors, geographical areas; associations of self-employed workers can also set up a closed fund. The regulatory framework does not allow CPFs to manage assets, thus they have to make agreements with financial institutions.

OPFs are promoted and managed by banks, insurance and investment companies. They can offer both personal and occupational (i.e. based on a collective enrolment) plans: the difference between occupational and personal schemes (i.e. second and third pillar) does not depend on the type of pension fund (closed or open), but on affiliation modalities (collective or individual).

Since 2000, personal pension plans can be offered also through life insurance contracts (PIPs), under the condition that benefits have to be paid according to the same rules applying to pension funds; the same tax regulation of pension funds are applied. The 2005 reform (d.lgs. 252/2005) has introduced a number of new rules for PIPs, mainly concerning the administrative costs they can impose on buyers.

Aimed at fostering the development of supplementary pillars through the devolution of the TFR[26], the 2005 reform (in force since 2007), introduced the 'silent consent' formula for the transfer of the latter to supplementary funds: if a worker does not explicitly disagree, his/her TFR flows (not the stock already accrued by firms) are transferred from firms to pension funds. The previous logic is thus inverted (before 2007, the default choice was assumed in favour of the firm). Since 2003, based on the 'implicit consent' procedure, about 231,000 workers have devolved their TFR funds to private pension schemes, 8% of new employees in the private sector (COVIP, 2014). The reform has stated that the TFR can be transferred to any kind of fund (CPFs, OPFs or PIPs). However, if workers do not explicitly declare to which fund it should

25 Only pre-existent funds (established *ante* d.lgs. 124/1993) may provide benefits calculated according to Defined Benefit formulas.

26 The TFR (*Trattamento di Fine Rapporto* or, in the public sector, *Indennità di Buonuscita*) is a sort of mandatory severance payment for public and private employees, financed by a deferred portion of wages: every year, 6.91% of gross wage is retained by firms and a fixed return (1.5% plus 3/4 of the inflation rate) is granted on the amount accrued, which is then paid as a lump sum when the job relationship ends (because of termination, resignation or retirement). Employees with at least 8 years of seniority in the same firm may receive 70% of the accrued TFR in order to sustain certain extraordinary expenses (e.g. medical expenses). Due to the different phases in which it can be 'withdrawn', the average length of TFR accumulation does not exceed 10 years. Given its features, TFR cannot be considered as a mere mandatory occupational plan because it is addressed to solve liquidity constraints in specific phases of life, rather than to correct individual myopia and ensure the payment of an annuity during old age (Cozzolino et al. 2006).

Being the rate of return guaranteed by firms on TFR – 1.5% plus 3/4 of the inflation rate – usually much lower than the interest rate on debt (especially for small and medium size enterprises, that are often credit constrained) TFR has traditionally been considered by firms as a very cheap financing source.

be paid to, the TFR is automatically transferred to the closed fund of their occupational category[27]. In case said fund is not specified by any collective agreement, the TFR is devolved to a residual fund administered by INPS (FONDINPS).

L. 190/2014 has recently introduced an additional option for the period March 2015 – June 2018: private employees with a firm-specific seniority of at least 6 months have the possibility to ask the employer to receive the quota of TFR relating to each month together with their salary. Even workers that have chosen to devolve their TFR to pension funds in the past can ask to now receive it as part of their monthly wage. Once the request is made, workers will not be able to modify their choice earlier than June 2018.

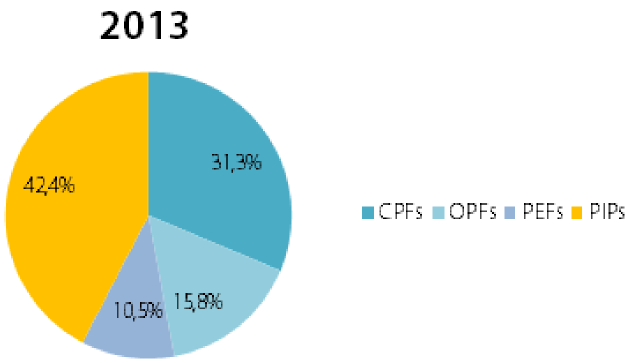
The TFR received as part of the salary is subject to the usual taxation on income ('*IRPEF*' rates), while the stock of TFR kept within the firm, once dispensed (at the end of the employment relation), is taxed according to more favorable rules. The sums perceived as benefits from pension funds are subject to an even more favorable set of rates.

Following the mentioned reforms, the architecture of the Italian pension system as a whole presents a public NDC pillar and a complex system of private pension schemes, though the latter are still underdeveloped in terms of actual coverage and take up rates[28]. It has to be noted that parasubordinate workers are not entitled to pay contributions as TFR and no specific closed fund based on a collective agreement is provided for them. Hence, compared to employees, their chance to participate to supplementary pensions is strongly weakened.

According to the most recent data the take-up rate in private supplementary schemes is still limited: in 2013, about 2,935,000 individuals were members of closed and open pension funds and the enrolment growth rate in both types of funds has been almost null since 2007: the number of workers enrolled in CPFs has actually decreased by 4.5% in the 2008-2013 period.

Personal plans based on life insurance contracts (PIPs) seem more appealing: in 2013, about 2,640,000 individuals had subscribed a plan, with a growth rate of 92% in the 2008-2013 period (COVIP, 2014).

FIG. 1: ENROLMENT IN PRIVATE PENSION PLANS BY TYPOLOGY (2003, 2013)[29].



Source: COVIP (2003, 2013); own elaborations.

27 Confirming the system's favor for CPFs, additional employers' and employees' contribution set in collective agreements can only be paid to collective funds.

28 For a detailed appraisal of the Italian private pillar development see Pizzuti and Raitano (2009) and Jessoula (2011).

29 PEFs: pre-existent funds (see above).

In 2013, the total number of individuals enrolled in supplementary schemes, including pre-existent funds, amounted to about 6.2 millions, 27.6% of all workers.

TAB. 3: INDIVIDUALS ENROLLED IN PRIVATE PENSION PLANS BY TYPOLOGY OF WORK (END OF 2013).

Type of worker	Enrolled	In work	Participation rate
Private employees	4,335,970	13,543,000	32.0%
Public employees	160,263	3,335,000	4.8%
Self-employed	1,687,530	5,542,000	30.4%
Total	**6,183,763**	**22,420,000**	**27.6%**

Source: COVIP (2014)

The enrolment rate targeted by policy makers (40% among private employees) is still far from being reached[30].

Although their future replacement rates have been reduced by the introduction of the NDC rules, the enrolment rate is still low among young generations, probably due to binding liquidity constraints and high discount rates on future pension benefits. The average age of pension funds' members is rather high (45.2) in comparison to that of the working population (42.1), and only 15% of workers under 35 are enrolled.

The tax regime for all private schemes (CPFs, OPFs and PIPs) is sort of a hybrid: contributions are exempted until a threshold of 5,165 Euros each year; investment returns are taxed by a 20% proportional rate[31]; benefits are taxed by a proportional rate between 9% and 15%, depending on the duration of the membership in the fund[32], exempting the share for which taxes on investment returns have already been paid.

These fiscal rules have raised controversies, especially on the grounds of fairness: a deep incoherence emerges between a public scheme that taxes benefits progressively and a private one that taxes them proportionally. In effect, said fiscal rules operate regressively, because the proportional rate applies to a system whose enrolment probability increases with income.

The literature in favour of the development of private funded schemes[33] argues that in the long run market returns are usually higher than the GDP growth rate, that is, approximately, the return rate that a pay-as-you-go system can guarantee in steady state (see above). However, international empirical evidence on the long term relation between GDP growth rates and bond returns does not confirm the superiority of private sources, whereas the comparison between GDP growth rates and equity returns highlights the much wider volatility of the latter (Jorion and Goetzmann, 2000; Burtless, 2000).

30 Several reasons may explain why the enrolment rate has been much lower than expected: i) TFR and pension funds are not perfect substitutes in terms of returns, risks and liquidity (Cozzolino et al. 2006); ii) financial markets' performances have been rather poor in recent years; iii) the choice in favour of pension funds is irreversible, whereas in every moment the worker can choose to devolve TFR to funds, thus making it rational to postpone the choice between the two alternative investments, especially in times of crisis; iv) the peculiarity of the Italian economy, based on a large share of small and medium size firms with low unionization rates (Jessoula, 2009 and 2011).

31 Said rate was until recently set at 11%, but was modified by l. 190/2014, which also elevated the tax rate on TFR returns from 11% to 17%.

32 The tax rate is reduced yearly by 0.3% for every enrolment year after the 15th, till a minimum rate of 9% is reached. Prior to 2007, benefits were taxed by the progressive tax rates on personal income (*IRPEF*).

33 See Feldstein (1997).

In order to assess performances, it is crucial to compare the interest rates virtually accrued on Notional accounts in the public NDC scheme with the returns earned by pension funds and with those granted by firms on TFR (see table 4).

TAB. 4: NET RATES OF RETURN: 1ST PILLAR, CPFS, OPFS AND TFR (2000-2013)[34].

Year	1st pillar	CPFs	OPFs	TFR
2000	5.2%	3.5%	2.9%	3.5%
2001	4.8%	-0.5%	-5.6%	2.9%
2002	4.4%	-3.4%	-13.1%	3.1%
2003	4.2%	5.0%	5.7%	2.8%
2004	3.9%	4.6%	4.3%	2.5%
2005	4.1%	7.5%	11.5%	2.6%
2006	3.5%	3.8%	2.4%	2.4%
2007	3.4%	2.1%	-4.0%	3.1%
2008	3.5%	-6.3%	-14.0%	2.7%
2009	3.3%	8.5%	11.3%	2.0%
2010	1.8%	3.0%	4.2%	2.6%
2011	1.6%	0.1%	-2.4%	3.5%
2012	1.1%	8.2%	9.1%	2.9%
2013	0.2%	5.4%	8.1%	1.7%
Standard deviation	1.5%	4.3%	8.2%	0.5%
Cumulative return	55.4%	48.8%	17.1%	45.9%

Source: COVIP (2014), INPS; own elaborations.

After years of weak performances (ever since 2007, with the exception of 2009), pension funds showed signs of recovering in 2012 and 2013. As expected, returns on TFR are much steadier, though lower (and decreasing in the past few years due to low inflation).

In the overall span 2000-2013, the 1st pillar (where returns in period *t* correspond to the average growth rate of nominal GDP from *t-5* to *t-1*) has offered steadier and cumulatively higher returns than those provided by private plans. Also, starting from 2015, returns coming from pension funds are subject to a considerable increase in tax rates (from 11% to 20%). Applying said increase on the 2000-2013 series, cumulative returns would be reduced from 48.8% to 42.6% for CPFs and from 17.1% to 15.6% for open funds.

34 The introduction of private schemes is relatively recent in Italy, therefore a long time series (30 years or more) – normally needed to assess performances of financial markets – is not available.

TAB. 5: NET RATES OF RETURN: 1ST PILLAR, CPFS, OPFS, PIPS AND TFR (2008-2013).

Year	1st pillar	CPFs	OPFs	PIPs*	TFR
2008	3.5%	-6.3%	-14.0%	3.5%	2.7%
2009	3.3%	8.5%	11.3%	3.5%	2.0%
2010	1.8%	3.0%	4.2%	3.8%	2.6%
2011	1.6%	0.1%	-2.4%	3.5%	3.5%
2012	1.1%	8.2%	9.1%	3.8%	2.9%
2013	0.2%	5.4%	8.1%	3.6%	1.7%
Standard deviation	1.3%	5.6%	9.5%	0.1%	0.6%
Cumulative return	12.0%	19.5%	14.8%	23.8%	16.4%

* Data refer to 'first branch' PIPs (life insurances not indexed nor linked to investment funds).

Source: COVIP (2014), INPS; own elaborations.

Adding life insurances to the analysis and isolating results for the 2008-2013 period[35] (table 5) the underperformance of the 1st pillar – due to the impact of the economic crisis on GDP growth rates – is evident. In latest years, PIPs have experienced the highest and steadiest returns of the bunch.

It has to be stressed that, apart from financial markets' performances, returns on pension funds investments depend on the level of administrative costs (Murthi et al., 1999; Whitehouse, 2000) and literature on the matter finds that occupational plans usually have much lower costs than personal ones; these stylized facts are confirmed observing administrative costs of Italian pension funds (table 6). In line with their not-for-profit nature, the returns to scale deriving from the greater size of assets managed and the lower marketing costs[36], the administrative costs of CPFs are significantly lower than those imposed by OPFs and PIPs (the most expensive plans), even if a wide dispersion of funds' performances emerges. For all kinds of funds, the ISC decreases when the membership to the fund lengthens.

TAB. 6: SYNTHETIC INDICATOR OF COST (ISC) OF PENSION FUNDS BY LENGTH OF MEMBERSHIP TO THE FUND

	2 years	5 years	10 years	35 years
CPFs	0.9	0.5	0.4	0.2
OPFs	2.1	1.4	1.2	1.1
PIPs*	3.5	2.3	1.8	1.5

* The statistics refer to 'new PIPs', conforming to regulations set by d.lgs. 252/2005.

Source: COVIP (2014).

35 Only comparable data available.

36 Where the enrolment into a fund is constrained by ties to a specific firm or category, competition is almost non-existent and this significantly reduces marketing expenses.

5. The main challenges for the Italian public pension system

Concerning the two main objectives of sustainability and adequacy to be pursued by pension systems, the current pension debate in Italy mostly focuses on the former. Suggestions to reduce pension spending come from two different perspectives: i) the need to improve public finances in the short term, reducing one of the major items of public expenditure, usually considered too high in international comparison; ii) the worry that the fast ageing process in Italy will make public pensions financially unsustainable in the long run.

In international comparisons, the Italian pension expenditure generally stands out as an anomaly: in 2011 (latest comparable data available) the gross public pension expenditure amounted to 16.1% of GDP, the highest value in Europe, as opposed to a 13% EU27 average (Eurostat). However, such comparisons are often misleading due to several reasons (Pizzuti, 2011). First, pension expenditure in Italy includes social assistance benefits, considered as different items of spending in other countries. Second, the 'anomaly' greatly reduces when the spending is considered net of taxes: in Italy pension benefits are burdened with the normal tax rates on income, whereas in other countries (e.g. France and Germany), lower tax rates are levied on pensions. Third, data do not compute the cost for public finances coming from the tax expenditures engendered by the fiscal incentives benefited by people enrolled in private schemes; these costs are currently low in Italy and much higher elsewhere, particularly in Nordic and Anglo-Saxon countries (Adema and Ladaique, 2009). Finally, Eurostat considers the TFR as part of the Italian pension spending, even though, as previously noted, the TFR is not a mere pension tool, but a 'deferred wage' provided to workers each time the job relationship ends or when they have to sustain certain expenses.

Taking into consideration the ratio between social protection expenditure[37] and GDP, Italy is only seventh in Europe, and in the very last placings in the sections 'Sickness/healthcare', 'Disability', 'Family/children', 'Unemployment', 'Housing', 'Social exclusion not elsewhere classified'. Only for old age and survivors' benefits does Italy register a high level of spending, the highest in Europe: 61.3% of all social protection expenditure is destined to this branch, against a 45.7% average in EU-27 (Eurostat, 2011).

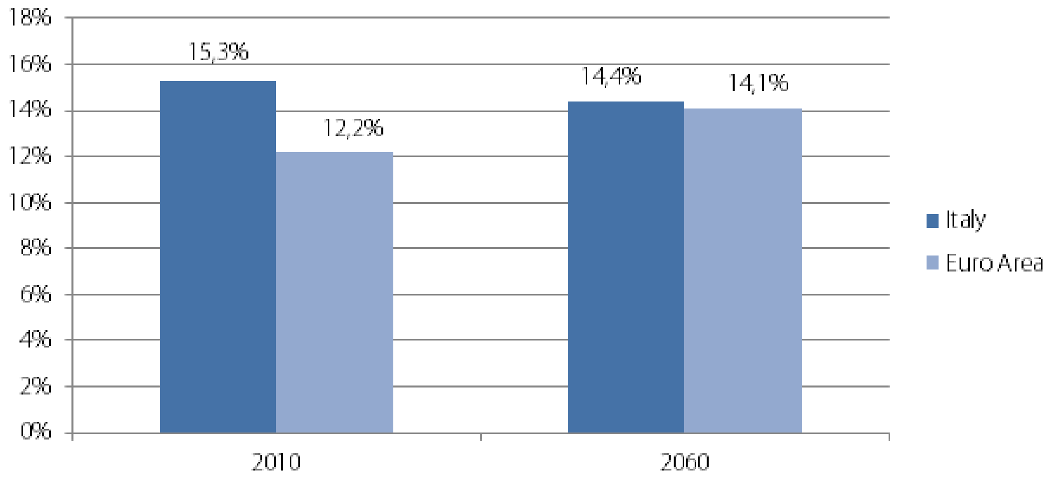
Due to the specific characteristics of NDC schemes, when the new system is fully phased in (around 2035) the share of GDP transferred to new pensioners will be stable 'by definition'. This computation method is based, as noted, on a strict actuarial link between the contributions paid during the entire career and the benefits received when elderly. Pensions are computed by multiplying the accumulation of contributions (on which a rate of return tied to the growth rate of GDP is guaranteed every year) for the so-called conversion coefficients, which convert said amount into an annuity according to life expectancy at retirement. The periodic update of conversion coefficients makes sure that when life expectancy increases the annuity is proportionally reduced, thus offsetting the impact of an ageing population on aggregate spending[38].

In the long term the sustainability of public spending on pensions should not constitute a major challenge, as also confirmed by the long run projections on age-related expenditures carried out by the Ageing Working Group (Economic Policy Committee, 2012), which show that Italy is one of the few countries that will experience a decrease in the ratio between pension spending and GDP in the 2010-2060 period, aligning to the predicted average value for the Euro Area (fig. 2).

37 The generic term 'social protection' includes benefits for: 'Old age and survivors', 'Sickness/healthcare', 'Disability', 'Family/children', 'Unemployment', 'Housing', 'Social exclusion not elsewhere classified'. Source: Eurostat.

38 Gronchi (2003) has expressed criticism over the characteristics of the updating process for conversion coefficients in Italy, as opposed to the method implemented in Sweden: by reassigning conversion coefficients to all cohorts of workers – and not just to the one about to enter pensionable age – different life expectancies are 'applied' to workers born in the same year. Not only does it hardly seem fair, such procedure also engenders an incentive to retire right before the new coefficients come out, which contradicts the system's basic intent to keep people in work until conditions for the '4th modality' (see table 2) are met (see art. 24 co. 4 d.l. 201/2011, conv. in l. 214/2011).

FIG. 2: PENSION EXPENDITURE ON GDP, 2010-2060.



In order to understand the effective criticalities related to the phasing in of the new NDC scheme, let us first point out that in such schemes pension benefits depend on determinants both at macro (GDP growth rate, variations in life expectancy) and micro level (length and success of the working career). The risk of adverse events happening on both levels are burdened by individuals. Apart from the provision of a means tested social assistance benefit for the very poor elderly (the *assegno sociale*), when the NDC rules fully phase in, pension benefits will depend on contributions paid during the working life. In other terms, the NDC scheme acts as a 'mirror' of labour market outcomes, therefore the capacity of the Italian labour market to guarantee long and profitable careers becomes a crucial issue in order to assess the challenges in terms of adequacy originating from the new architecture of the public pension system.

Let us simulate pension prospects for individuals entering the labor market in 1996 at 24 years of age[39]. We will consider 3 typologies of worker: blue-collar, white-collar and manager. The blue-collar's wage in 2015 is equaled to 3 times the *assegno sociale* in the same year, and the wage growth is equaled to the GDP growth rate minus 0.5%. The white-collar's wage in 2015 is equaled to 4 times the *assegno sociale*, and the wage growth is equaled to the GDP growth rate. The manager's wage in 2015 is equaled to 7 times the *assegno sociale*, and the wage growth is equaled to the GDP growth rate plus 0.5%. GDP growth rates are historical up to 2014, then assumed constant at 1.5%[40]. Inflation rates are similarly historical up to 2014, then assumed constant at 2%. Pensionable ages and conversion coefficients are calculated according to AWG mortality projections[41]. Following art. 24 co. 7 of the 'Fornero reform', the future dynamic of the *assegno sociale* is linked to the rate of return on contributions (average GDP growth rate in the previous 5 years).

39 Employment rate for the age-group 20-29 went from 53.4% in 2008 to 41% in 2013; it is not unconceivable that – especially highly skilled – individuals will start accumulating contributions later than at 24.

40 In accordance with the average growth rate forecasted by the Italian Stage General Accounting Department. See: MEF, 2014.

41 Parameters regarding survivors' pensions are assumed equal to those of 2008 (Istat, 2012).

TAB. 7: EXPECTED PENSION BENEFITS FOR REPRESENTATIVE EMPLOYEES. CONTINUOUS CAREERS.

a. Benefit on *assegno sociale* ratios

		Worker		
		Blue collar	White collar	Manager
Age	66	2.27	**3.04**	**5.36**
	67	2.40	**3.23**	**5.71**
	68	2.55	**3.43**	**6.08**
	69	**2.71**	**3.65**	**6.50**

b. Replacement rates

		Worker		
		Blue-collar	White-collar	Manager
Age	66	75.8%	68.4%	62.1%
	67	80.6%	72.7%	65.7%
	68	86.0%	77.3%	69.7%
	69	91.8%	82.3%	74.1%

Table 7.a shows that, despite a very long career (42 to 44 years of seniority), the blue-collar worker cannot retire according to '1st modality' criteria (see table 2), because of the relatively low wages earned, about 18,000 Euros in 2015 (gross), that don't allow for the 'amount requirement' to be met.

All workers can however retire according to '2nd modality' criteria at 69 years of age (45 years of seniority): they all earn benefits richer than 1.5 times the *assegno sociale*.

Table 7.b shows that the workers who experience a slower wage growth during their careers earn higher replacement rates: rates of return accrued on contributions are all neutrally equaled to GDP growth rates, so that for the blue-collar (manager) contribution accumulation 'grows' more (less) than his/her salary throughout the working life, and that shows once benefits are computed.

In general, the main issues on pension adequacy concern individuals who are unable to spend a long career as employee, due to the lower contribution rates characterizing self-employed and parasubordinate workers (currently at 30% and set to reach 33% by 2018, but at 10% in the mid-'90s and below 20% up to 2007), due to the weak coverage of unemployment benefits (which pay figurative contributions) for individuals with intermittent careers and due to low wages, often paid to atypical workers (including part-time employees) and to new entrants in the working population.

Due to such adverse events (and the positive correlation amongst them), even individuals who have been active for a long span of their lives could receive modest benefits in retirement[42].

42 On this topic, see Raitano (2011), who assesses possible measures for increasing pension prospects of individuals characterized by unsuccessful working histories.

TAB. 8: EXPECTED PENSION BENEFITS FOR REPRESENTATIVE VULNERABLE WORKERS

a. Blue-collar employee; discontinuous career[43].

		B/AS[1]	RR[2]
Age	66	1.70	67.6%
	67	1.80	72.1%
	68	1.87	77.5%
	69	**1.99**	83.0%

b. White-collar parasubordinate worker; continuous career.

		B/AS[1]	RR[2]
Age	66	2.44	54.9%
	67	2.60	58.6%
	68	2.78	62.7%
	69	**2.98**	67.1%

c. White-collar part-time employee; discontinuous career44.

		B/AS[1]	RR[2]
Age	66	1.19	62.5%
	67	1.27	66.5%
	68	1.32	71.5%
	69	1.41	76.3%

[1] Benefit on *assegno sociale* ratios

[2] Replacemente rates

It is important to highlight how the position of the white-collar worker varies as a consequence of contractual typologies: a white-collar parasubordinate worker (table 8.b) will note be able to access early retirement according to the '1st modality', because he/she does not meet the amount criteria[45].

In the last case (table 8.c), the white-collar part-time employee does not even meet the amount requirements for the '2nd modality', and is therefore forced to keep working beyond 69 years of age. The amount criteria will only be disregarded when he/she meets the age requirement for the '3rd modality', which according to the Europop 2013 mortality predictions should be set at 73[46].

Obviously, the risk of modest pensions is not merely caused by the NDC scheme, rather by the coexistence of strict actuarial rules, low growth rates and the inefficiencies and horizontal inequalities of the labour market.

43 The periods of unemployment are evenly distributed throughout active life (1 year of unemployment every 4-year period).

44 The periods of unemployment are evenly distributed throughout active life (1 year of unemployment every 4-year period). The part-time wage is computed as 60% the salary of the white-collar full-time worker.

45 It is however assumable that the amount of wage that is not paid as contributions between 1996 and 2018 (contribution rates for parasubordinate workers have been lower than those applied to employees) has been otherwise saved (e.g. invested in private pension schemes). Because the 'amount requirement' only takes into account the potential amount of the public pension benefit, the white-collar parasubordinate worker is forced to stay active for a longer period of time than its employed counterpart, even if he/she may be able to provide for his/her needs in old age just as well.

46 However, once 69, if the worker meets the income criteria set by the means test, he/she is entitled to the *assegno sociale*.

Some authors (Patriarca 2011) see the recently legislated automatic increase of retirement age, together with the (limited) flexibility in the access to retirement reintroduced by the 'Fornero reform' as a viable option to improve future pensioners' prospects, since in the NDC scheme longer careers imply both a greater accumulation of contributions and a higher annuity due to the lower life expectancy at retirement.

However, one would have to assume that the Italian productive system will be able to ensure an adequate labour demand for older workers. This would require a rather profound transformation of the Italian productive structure: the employment rate of older workers (traditionally computed for the age group 55-64) has grown by over 12% from 2008 to 2014, but it is still far from the value registered for the 20-64 age group (46.2% to 59.9% in 2014), and the average effective retirement age registered by the OECD in Italy in 2012 (latest data available) was 61.1 for men and 60.5 for women.

Also, limiting retirement only to individuals who have earned a benefit equal to at least 2.8 times the *assegno sociale* at 63 years and 3 months (in 2015), and equal to at least 1.5 times the amount of the *assegno sociale* at 66 years and 3 months (in 2015)[47], the present scheme forces individuals characterized by the least successful careers – that will probably be more at risk of unemployment when elderly – to further postpone retirement.

47 See above table 2. The justifications of such limitations on flexibility in terms of sustainability are only valid in the short term. In the long term, NDC rules guarantee the equilibrium between revenues and expenditures within the system, regardless of individual retirement choices.

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