



Working Paper 32/04

**OLDER WORKERS AND PENSIONERS:
THE CHALLENGE OF AGEING ON THE ITALIAN
PUBLIC PENSION SYSTEM AND LABOUR MARKET**

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Older workers and pensioners: the challenge of ageing on the Italian public pension system and labour market

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January 2004

Abstract

We review the main challenges related to ageing in Italy. Given the key role that working longer may have in order to tackle those challenges, from both a financial sustainability and pension adequacy perspectives, we focus upon the several issues which are relevant in order to increase elderly employment. The paper starts describing the demographic ageing process, then reviews the current labour market situation of older workers and the rules of the Italian pension system, fully documenting the changes already enacted and the current reform proposals made public by the Italian Government.

The main purpose of the paper is that of providing a concise but detailed description of the Italian system. Taking account of the complex timing of the different pensions regimes existing over the forthcoming decades and of the evolution of the Italian labour market, however we also discuss the main policy challenges to an increase in elderly employment. These appear to differ very much across the relevant pension regimes, with a yet relevant role of the minimum pension access thresholds related to age and seniority in the forthcoming two decades.

Older workers and pensioners: the challenge of ageing on the Italian public pension system and labour market*

1. The ageing challenges in a nutshell

Among the OECD countries, Italy stands out for the relevance of its forthcoming ageing process. Ageing is the result of three distinct factors: an increasingly longer life expectancy, the age structure of the current working age population, as produced by the baby-boom-baby-bust of 40 years ago, and a subdued fertility rate. Besides a massive increase in the demographic dependency ratio of old people (ratio between the population aged 65 and over and the population aged 15-64), Italy is going to experience, during the next decades, a shrinking of the working age population at first, and of the overall population later on.

By itself, the lengthening of life expectancy has permanent effects on the age structure of the population. On top of that, the baby boom¹ that peaked during the early '60s is going to produce sizable effects over the next 25 years retirement flows. The working age population (here identified by the 15-64 years population²) is already ageing (see section 2). Gradually, the pressure on the public pensions expenditures is rising as well, a peak being forecasted around 2030 (see below and sections 3 and 4).

These processes could only partly and temporarily be damped in case of more sustained immigration flows. While important in contrasting the underlying trends over the next 25 years, in the longer run it is likely that immigrants will adapt their fertility and mortality patterns to those prevailing in the host country. Furthermore, the underlying trends could not be avoided even in case of a complete recovery of fertility to a level guarantying the stability of the population (only a limited recovery, insufficient to stabilize the population, is forecasted in the data later on presented): the implications over the demographic dependency ratio of the massive retirement flows going to occur over the next 25 years would be mostly unaffected, as the working age population would react to fertility only with a substantial time-lag, while the implications of the lengthening of life expectancy would remain operating even in the longer run.

* The opinions expressed are those of the authors and cannot be attributed to the institutions they belongs to. Although the two authors worked together at each part, Angelo Marano (an.marano@palazzoehigi.it) concentrated particularly on sections 1 and 3.1, while Paolo Sestito (psestito@welfare.gov.it) on sections 2 and 3.2. Both authors bear responsibility for the conclusions in section 4. In the last few years we discussed several of the points we deal with in the paper with Raffaele Tangorra, who we want to sincerely thank for its contribution; Rocco Aprile and Gianna Barbieri helped us respectively in understanding the many features of the Italian pension system and in handling the statistical information.

¹ New births averaged 950 thousands per year during 1960-69, after having been 880 thousands during 1955-59 and decreased to 890 thousands during 1970-74. In the most recent years (the 1998-2002 period) they averaged 530 thousands per year, with a slight recovery over the previous years.

² The picture would be the same using the age bracket 20-64 instead.

The basic facts are illustrated in **Tables 1 and 2**, taken from the *Statistical Appendix* to the 2002 “National Strategy Report on Pensions” (Ministry of Labour and Social Policies 2002). They show the demographic dependency ratio of old people (ratio between the population aged 65 and over and the population aged 15-64) and some data regarding life expectancy at birth and at retirement underlying the national (ISTAT) and Eurostat demographic forecasts in the “central scenario” developed by each of the two statistical institutes.

The ISTAT scenario assumes an increase in life expectancy at birth of 5.2 years for males and 5.5 years for females between 2000 and 2050, a net flow of immigrants of 110-120 thousand units per year and a slight recovery in the fertility rate from 1.26 in 2000 to 1.41 in 2020 and thereafter. A large part of the expected rise in life expectancy is forecasted at later ages³ and over the 2000-2030 period, later on the forecast assuming a stabilization at the 2030 levels. As for fertility, the forecasted rise is mostly “technical”: the above referred 1.26 current fertility rate is assessed transversally, cumulating different age-specific fertility rates, and is therefore negatively – although transitorily – affected by the shift in the age of first birth of subsequent cohorts⁴. When this effect will die out (the timing of this being forecasted around 2020), the aggregate fertility rate would *naturally* rise to a level of 1.41. With respect to the ISTAT scenario, the Eurostat scenario involves a slightly higher fertility rate, but also a slightly lower life expectancy at birth – above all for females –, a flow of immigrants of just 80 thousand units and an increase of life expectancy distributed during the entire period. This leads to an overall population that is expected to fall from 57.7 millions to 52.2 and 48.1 millions between 2000 and 2050 in the two scenarios respectively. Life expectancy at 60, which is now around 20 years for males and 24 years for females, should increase of about 4 years by 2050.

The demographic dependency ratio increases considerably in both scenarios, the current rate more than doubling by 2040: the ratio between the elderly and the working age population – which was around 1/4 in 2000 – is expected to approach 2/3 in 2050, as against a value around 1/2 in the EU average.

By itself, such an increase, larger than that forecasted in most of the other EU countries (see **Graph. 1**), would imply an increase of public pension expenditure by 9.5 points of GDP between 2000 and 2050, the second highest increase in the EU (see **Table 3**)⁵. However, taking account of

³ I. e. it is the life expectancy of people at 60-65 years which rises, rather than diminishing the mortality at lower ages.

⁴ For more details on past fertility patterns see Charts 0.2a and 0.2b in Ministry of Labour and Social Policies, *Statistical Annex* to the “Social Inclusion Plan”, September 2003 (also available on the Ministry web-site). In the same document chart 0.2c shows that the decline in fertility is also associated to a reduction in the share of females having multiple births: the share of them having 3 or plus kids halved from 40% to 20% passing from the women 1920 cohort to the 1960 cohort.

⁵ The forecasts here mentioned are based upon the now existing legislation (better described in section 3). In that section it is also briefly described what would be the changes to the rules envisaged for by the Government in the

the reforms already enacted during the last decade, such potential increase would be almost fully absorbed by the forecasted employment gains (reducing expenditure by 3.1 points), by stricter eligibility requirements (amounting to 1.4 points) and, more importantly, by a decrease in average benefits (amounting to 4.9 points).

Indeed, in the EU Italy is characterized by the second lowest increase in pension expenditure, both with respect to the period 2000-2050 and to the period 2000-peak of expenditure (see **Graph 2**), a peak which is expected in Italy around 2030, as by-product of both the phasing in of the pension reforms enacted during the last decade and the timing of the ageing process itself. The increase of two percentage points would nevertheless be non negligible, particularly as it would add up to the relatively high current levels (**Table 4**).

While the above mentioned forecasts represent a baseline scenario in which no (positive) employment “regime change” is envisaged for⁶, they show the crucial role of employment growth (and in particular of elderly employment growth). Indeed, engineering a positive regime change as far as employment (and more particularly elderly employment) is concerned would allow to transform Italy’s present weaknesses – its low employment, particularly among females, elderly people and across the board in the South – into opportunities of employment rises. Moreover, postponing actual retirement among elderly people would contribute, taking account of the rules which are gradually phased in determining pension entitlements (see section 3), to improve the adequacy of pension entitlements.

This justifies the focus of this paper upon elderly employment and the challenges posed by the goal of increasing it, which include those related to the functioning of the pension system. Section 2 discusses the situation of the elderly in the labour market, while section 3.1 presents the Italian pension system and the reforms of the ‘90s. The current reform proposals and some issues related to the associated debate are discussed in section 3.2. Section 4 concludes.

reform plan presented in October 2003, showing what they would imply in terms of expenditure (as a % of GDP) with respect to the current legislation baseline forecasts. To be more precise however it has to be noticed that Tables 3 and 4 make reference to the forecasts made available within a EU wide exercise (see the references cited in the tables themselves) and marginally differ from the most updated baseline scenario currently made available by the Ministry of Economy, Department of General Accounts.

⁶ The scenario is characterised by an increase in the employment rate among women and elderly people which is however simply due to “demographic” mechanisms: among females because of the progressive rise in the cohort specific participation patterns, among the elderly (see section 2) because of the postponed entry in the labour market and the reduced accumulation of seniority rights of the cohorts which will be 50 years old in the next decades.

Table 1 - Demographic indicators – ISTAT central scenario

	2000	2010	2020	2030	2040	2050
Demographic dependency ratio (65+/15 64)	26.6	31.5	37.2	46.4	60.1	63.5
Life expectancy at birth						
Male	76.2	77.9	79.6	81.4	81.4	81.4
Female	82.6	84.4	86.2	88.1	88.1	88.1
Life expectancy at retirement						
Male						
Aged 65	16.2	17.	18.3	19.6	19.6	19.6
Aged 60	19.9	21.	22.3	23.7	23.7	23.7
Female						
Aged 65	20.2	21.5	22.9	24.5	24.5	24.5
Aged 60	24.6	25.9	27.5	29.1	29.1	29.1

Source: ISTAT and Department of the General Accounts.

Notes: The figures regarding life expectancy at birth and the population - by age and sex - used to calculate the dependency ratio of old people directly came from ISTAT and Eurostat, whereas the figures regarding the life expectancy of males and females at retirement (aged 60 and 65) were calculated by the Department of the General Accounts according to the probability of survival underlying the demographic forecasts and using the following

formula: $spe_x = 0,5 + \sum_{i=x+1}^{\omega} \frac{l_i}{l_x}$, whereby, spe_x is life expectancy at the age x , while l_x indicates the number of subjects

in a given generation that lived beyond the age of x . The values for l_x were calculated using the probability of survival, per age and forecast year, provided by ISTAT and Eurostat. However, as the probability of survival over the age of 90 is expressed as an aggregate for the “90 and over” age group, a distribution per individual age coherent with the group value had to be calculated.

Table 2 - Demographic indicators – Eurostat central scenario

	2000	2010	2020	2030	2040	2050
Demographic dependency ratio (65+/15 64)	26.6	31.3	36.7	45.6	59.0	61.3
Life expectancy at birth						
Male	75.5	77.4	79.0	80.1	80.7	81.0
Female	82.0	83.4	84.5	85.3	85.8	86.0
Life expectancy at retirement						
Male						
Aged 65	15.7	16.9	17.9	18.6	19.0	19.2
Aged 60	19.4	20.8	21.9	22.6	23.1	23.3
Female						
Aged 65	19.6	20.6	21.4	21.9	22.3	22.5
Aged 60	23.9	25.0	25.9	26.5	26.8	27.1

Source: Eurostat and Department of the General Accounts.

Notes: see note to Table 1.

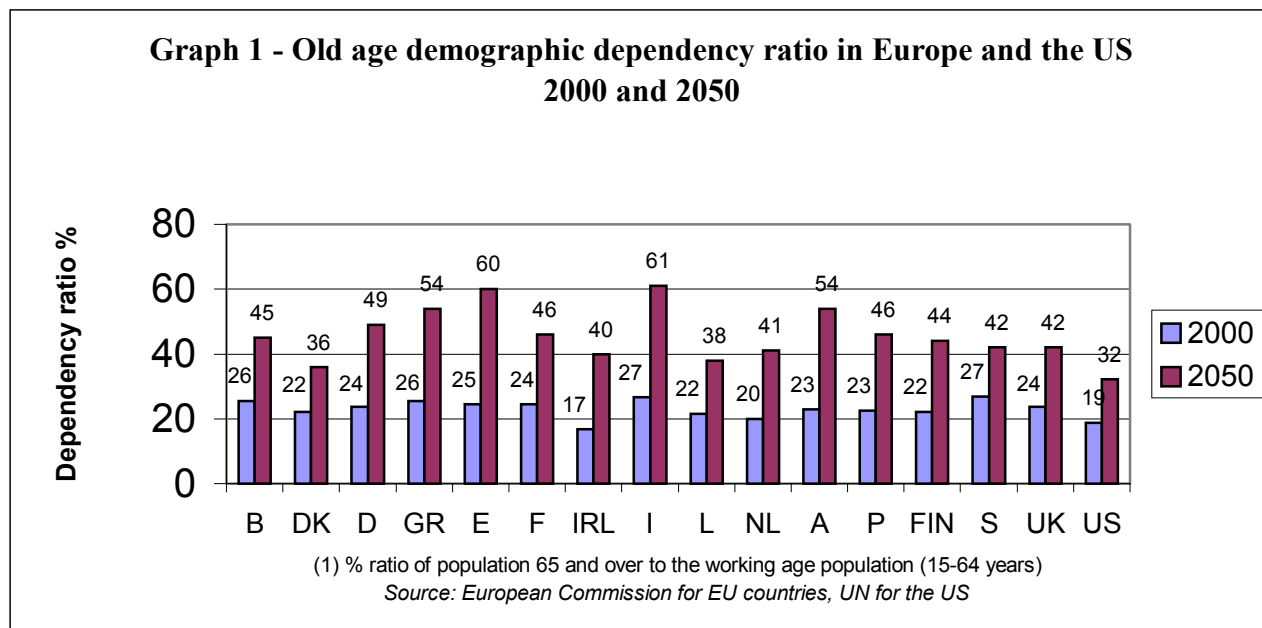


Table 3 – The four factors driving the change in public pension spending between 2000 to 2050⁷

	Dependency	Employment	Eligibility	Benefit	Total	Residual
B	5,2	-0,9	0,9	-2,0	3,3	0,0
DK	4,1	-0,2	0,9	-1,7	2,7	0,1
D	6,2	-0,7	2,0	-2,7	4,8	0,2
GR	9,9	-3,6	1,4	4,0	11,7	0,5
E	8,2	-2,4	2,0	-0,3	7,5	0,5
F	7,7	-0,9	0,7	-3,6	3,9	-0,1
IRL	4,5	-0,9	1,4	-0,7	4,3	0,1
I	9,5	-3,1	-1,4	-4,9	0,2	0,0
L						
NL	5,4	-0,6	0,5	0,2	5,5	0,2
A	10,5	-2,2	-3,0	-2,9	2,4	0,1
P	6,7	-1,1	-2,4	0,1	3,5	0,1
FIN	6,6	-0,1	-1,3	-0,1	5,0	-0,3
S	3,9	-0,5	0,8	-2,6	1,7	0,0
UK	2,4	0,0	-0,1	-3,4	-1,0	-0,1
EU	6,4	-1,1	0,6	-2,8	3,1	-0,2

Notes: The figure for the EU is the weighted average for countries reporting results.

Source: Commission calculations based on projections by the EPC working group on ageing populations.

Economic Policy Committee (2001), "Budgetary challenges posed by ageing populations: the impact on public spending on pensions, health and long-term care for the elderly and possible indicators of the long-term sustainability of public finances", Economic Policy Committee/ECFIN/655/01-EN final.

⁷ The decomposition is based on the following identity:

$$\frac{Pens\ exp}{GDP} \equiv \frac{over\ 55}{pop\ 15 - 64} * \frac{pop\ 15 - 64}{employment} * \frac{\# \ pensions}{over\ 55} * \frac{ave\ pension}{ave\ lab\ productivity}$$

The growth rate till 2050 of the l.h.s. is roughly (due to the discrete time approximation) equal to the sum of the growth rate of the four component of the r.h.s. Multiplying the growth rates by the pension expenditure to GDP ratio in 2000 one obtains the data in the table.

Table 4 – Public pension expenditure (including most public replacement incomes to people aged 55 or over), before taxes, as a % of GDP (EPC projections in 2001, not taking into account legislation introduced after 2000¹)

	2000	2010	2020	2030	2040	2050	Peak change
B	10	9,9	11,4	13,3	13,7	13,3	3,7
DK²⁾	10,5	12,5	13,8	14,5	14	13,3	4,1
D³⁾	11,8	11,2	12,6	15,5	16,6	16,9	5
GR	12,6	12,6	15,4	19,6	23,8	24,8	12,2
E	9,4	8,9	9,9	12,6	16	17,3	7,9
F	12,1	13,1	15	16	15,8		4
IRL⁴⁾	4,6	5	6,7	7,6	8,3	9	4,4
I	13,8	13,9	14,8	15,7	15,7	14,1	2,1
L	7,4	7,5	8,2	9,2	9,5	9,3	2,2
NL⁵⁾	7,9	9,1	11,1	13,1	14,1	13,6	6,2
A	14,5	14,9	16	18,1	18,3	17	4,2
P	9,8	11,8	13,1	13,6	13,8	13,2	4,1
FIN	11,3	11,6	12,9	14,9	16	15,9	4,7
S	9	9,6	10,7	11,4	11,4	10,7	2,6
UK	5,5	5,1	4,9	5,2	5	4,4	-1,1
EU15	10,4	10,4	11,5	13	13,6	13,3	3,2

Source: Economic Policy Committee (2001), “Budgetary challenges posed by ageing populations: the impact on public spending on pensions, health and long-term care for the elderly and possible indicators of the long-term sustainability of public finances”, Economic Policy Committee/ECFIN/655/01-EN final.

1) A number of countries introduced important reforms after 2000, or generated new national demographic projections which the EPC could not assess in detail. Caution must therefore be exercised when interpreting those figures and comparing them with the results for other countries.

2) For Denmark, the results include the statutory labour market supplementary pension schemes (ATP, SAP and SP);

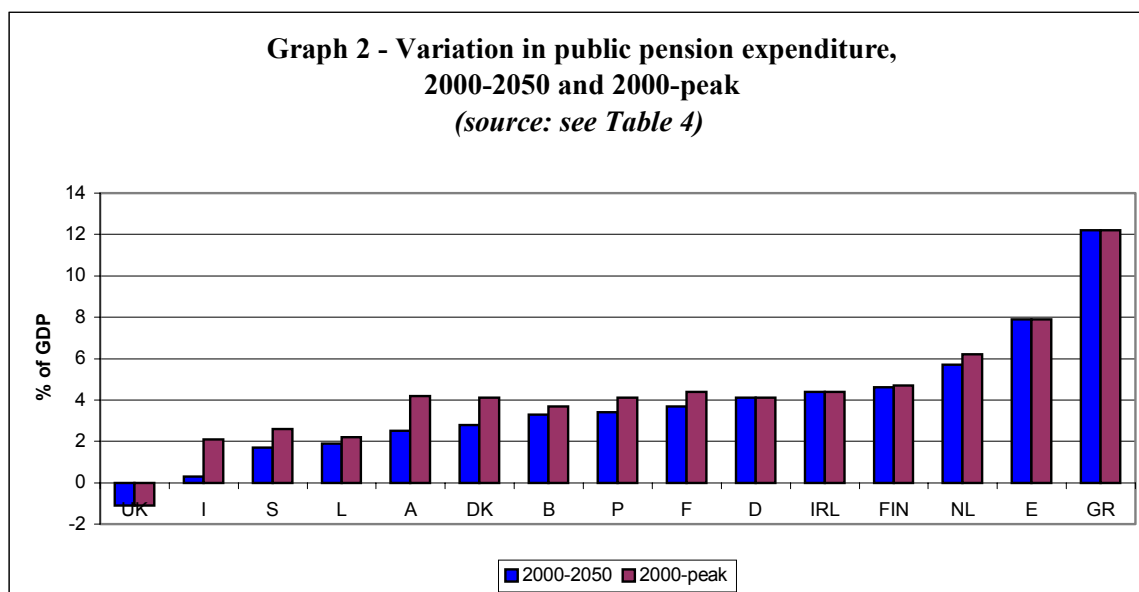
3) Updated German national results based on the common EPC assumptions would show the following evolution of pension expenditure:

	2000	2010	2020	2030	2040	2050	Peak change
	10,8	11,1	12,1	13,8	14,4	14,9	4,1

4) For Ireland, the results are expressed as a % of GNP.

5) In the Netherlands, the second pillar is well developed. This has a direct positive impact on the public pension scheme by reducing the burden of ageing populations on the first pillar. However, there is also an important indirect implication: taxes on future pension benefits (which are drawn from the private funds) are expected to be quite high and may partially counterbalance the rise in public pension benefits.

Graph 2 - Variation in public pension expenditure, 2000-2050 and 2000-peak
(source: see Table 4)



2. The elderly in the Italian labour market

The above mentioned demographic trends have already begun to affect the internal composition of the Italian working age population. During the '90s, the 15-24 year old age group has decreased from the 22.5% to the 17.5% of an approximately stable 15-64 years total population, being overcome, in quantitative terms by the 55-64 year old group. The current decade will exacerbate this trend: a substantial decrease is forecasted also for the 25-34 year, so that in 2010 two thirds of the working age population will be made by individuals older than 35 years and one fifth of the working age population will be accounted by people at least 55 years old⁸.

With constant age-specific employment rates, such an evolution, which significantly contributed during the second half of the '90s to the positive performance of the employment rate for the overall 15-64 year group, would start affecting negatively the overall employment rate⁹.

Besides being demographically on the rise, elderly workers (from now on identified as those over 50 years of age) have experienced during the '90s an acceleration in the more secular decline in their employment rate. Only over the most recent years such negative trend has halted.

Both the previous sharp fall and the most recent timid rise are more marked among males and in the Centre-North (**Chart 1**)¹⁰. Among females, a positive trend has prevailed along the whole decade, such a positive trend being larger in the Centre-North and up to 60 year of age. The recent gains are actually most significant in the 50-54 year age bracket, being still limited in the 55-60 year bracket, while in the 60-64 year bracket there is not yet any positive signal. So, among the 55-64 year group Italy remains very far apart from the 50% excellence target for 2010 established in the 2001 Stockholm EU summit, having just started to experience a slight rise (from 27.7% in 2000 to around 30% in 2003).

Interpreting the factors behind these trends is not easy. Besides the use of specifically designed early retirement schemes – quite widespread during the '80s and the first half of the '90s – the large employment fall occurred during the first half of the '90s massively affected the elderly through the use of seniority pension schemes, schemes for which a reduced age threshold and a seniority requirement apply. Furthermore, it must be noticed on one side the low educational attainment of the people then aged 50 years or more, people that had entered the labour market during the economic boom of the late '50s and had thus accumulated enough seniority rights, on the

⁸ The peak in the relative weight of the 55-64 year group will be actually reached later on, as the baby boom experienced after WWII peaked around mid '60s.

⁹ For more details see Ministry of Labour and Social Policies, *Rapporto di Monitoraggio sulle politiche occupazionali e del lavoro* (from now on "Rapporto di Monitoraggio") no 1-2001 (in particular *Scheda n. 1*).

¹⁰ Most of the decrease occurred before 1993, which is the first year considered in the chart for availability of detailed and continuous data. Among 50-59 year old people employment rate fell by 4 percentage points (to 46.7%) between 1990 and 1995, after a decline from 51.4 to 50.7% in the previous five year period. The corresponding figures among males in the Centre-North were 10 points of fall in the 1990-1995 period (to 65.6%) and two points (from 77.8 to 75.5%) in the previous period. For more on the overall picture of the Italian labour market see Sestito (2002).

other the exodus elicited by the fears of the increases of the minimum age and seniority thresholds subsequently introduced by the pension reforms during the '90s. The latest more positive trend may to some extent be explained by the positive overall employment performance (quite resilient to the 2002-03 cyclical downturn). However, as later shown, also elderly unemployment is, although relatively low, on the rise in relative terms. So it is very likely that the interaction of demographic factors and pensions access rules is the most relevant factor: the cohorts now in their fifties have entered the labour market at a later stage of their life cycle (partly because they stayed longer in the schooling system) than the previous cohorts, so having accumulated less years of work seniority, and are gradually facing more stringent retirement rules (see later on)¹¹. As such this will imply a positive legacy for the years to come, as the trend above mentioned is becoming more pronounced (the sharpest rises in the participation to the schooling system happened from the mid '50s to the mid '70s and youth unemployment was particularly high during the '70s and the '80s, both factors reducing the accumulated seniority rights of the cohorts progressively ageing).

Focusing upon the current pattern, it is apparent that elderly employment is particularly low among less educated females and in the South. To a large extent, however, this is related to factors different from age itself (the overall low females' participation rate, particularly in the depressed South), as shown by the fact that employment is pretty low even among the 50-54 year old age group. To the extent that the low employment of females is an inheritance of past habits, elderly females, even the less educated, are actually experiencing a gradual rise in their employment rate over all age groups¹²; as for the South, broader regional development issues are at stake.

In any case, low education attainments are always associated with low employment rates, even among males. Even in the Centre-North, only four fifths of the 50-54 year old less educated males are employed (vis-à-vis a 92% employment rate of the most educated). Moreover, the gap between most and least educated people increases (in absolute terms) when considering people at a later stage of their life cycle.

Focusing upon the age profile of the employment rate, it appears that, while there are groups who are characterised by low employment across the board (females, the Mezzogiorno regions and least educated people), there are groups with high employment when 50 year old but retiring

¹¹ So the target envisaged for by the Italian government for the 55-64 year old group in 2005 – a 40% rate, from the 30% of 2003 – is to a large extent an anticipation to 2005 of the baseline scenario forecasted for 2010. For more details upon the target itself see Ministry of Labour and Social Policies, *2002 Employment National Action Plan* and Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, February 2003. The baseline for 2010 is also depicted in the *Statistical Appendix* to the 2002 “National Strategy Report on Pensions” (Ministry of Labour and Social Policies 2002).

¹² This is more evident in the Centre-North than in the South, where the positive trend of females participation has remained more subdued.

relatively soon (males in the Centre-North, particularly, but not only, those least educated). **Chart 2a** shows that among males the South overcomes the Centre-North at around 53 years of age¹³.

Such a picture brings also some implications for a couple of well known policy targets recently stressed in the (Italian and) EU context: the target employment rate for 55-64 year people and the 5 year postponement of the average effective retirement age. Italy appears as a clear example of the fact that the two targets do not perfectly coincide¹⁴. They do *coincide* among males in the Centre-North, who start from relatively satisfactory employment in their late forties, so that increasing the employment rate among the 55-64 year group mostly implies postponing the retirement age. For females and the Mezzogiorno regions, even employment levels in the late forties (and earlier) need to be increased in order to progressively produce an higher employment rate among the 55-64 year group; specularly, a rise in the 55-64 years employment rate might be to some extent engineered with an unchanged age pattern of retirement.

Given the complex interaction between the two indicators, there is something to be learnt from focusing more specifically upon retirement age. **Chart 3** reproduces the exit rate from employment (the probability of exit at date $t+1$ conditional on being in employment at date t) as a function of age in year 2000, while **Table 5** presents some synthetic indicators concerning the distribution of the age of retirement for several years.

Chart 3 shows a well know pattern of the Italian case: the relatively low relevance of the statutory age of retirement of 65 for males and 60 for females (see Box 2 in section 3 below). The yearly probability of retirement¹⁵ of a male worker in the Centre-North has already a peak around 15% at 59 years of age; such a pattern is clearly related to the presence of seniority pensions, a scheme allowing people to retire before the 65 age threshold (see section 3). Providing a mirror image of what already noticed with respect to the age pattern of the employment rate, the chart also shows how the males exit rate is higher in the Centre-North than in the South, precisely because the possibility for Southern workers to access to such scheme is much lower having them generally accumulated less seniority rights granting access to that scheme.

¹³ Notice that in the 30-49 year age bracket 82 males out of 100 are employed in the South vis-à-vis 94 out of 100 in the Centre-North.

¹⁴ In a steady state the non coincidence relates to the fact that there may be few (many) employed persons retiring rather late (early). The picture is even more complex in the transition to a new steady state as an overall positive trend in employment (for instance that experienced among females) may only gradually impinge upon elderly individuals if it occurs through a cohort mechanism.

¹⁵ The retirement probability is computed using a pseudo-panel approach within the LFS sample. So it refers to the exit from employment and not necessarily to the access to a pension scheme. In other words, the exit rate for age x is computed comparing the employment rate of age x in that year with the employment rate of age $x-1$ in the previous year. The use of the employment rate, instead of the absolute number of employed person, corrects for the mortality pattern upon the assumption that employed and not employed person of a given age have the same mortality risk. While such an assumption is unlikely to be true, the absence of information on the subject (over several years of age) compels to use it.

Table 5 is worth noticing because it shows that some positive trend in the retirement pattern is already developing, as the 50% cumulated probability retirement age (of a 50 year old individual in employment) increased between 1994 and 2002 from 57.6 to 59.8 years. The likely reasons of this trend are those already discussed: the interaction of demographic factors and pension rules is the most relevant factor, the cohorts now in their fifties having increasingly accumulated less years of work seniority and gradually facing more stringent retirement rules. The table also shows that much of the shift towards a postponement in the retirement pattern has happened at relatively younger ages. This is probably linked to the fact that the uplift in the pension access rules was more binding over that age window, i.e. among people contemplating to use the seniority pensions' exit route¹⁶.

The low employment of elderly people in Italy does not translate into high open unemployment. The unemployment rate remains around 4% among 55-64 year old people – vis-à-vis the 8% overall rate – and less than 4% of the overall pool of job-seekers is accounted for by them (the share of the elderly in the job-seekers pool is less than 12% adding up the 45-54 year old people). The weight of elderly people in the total pool of the unemployed is a bit more relevant in the Centre-North (more than 9 percentage points and less than 5 percentage points respectively the 45-54 and 54-64 years groups), where however open unemployment is rather low in absolute terms. Nevertheless, it should be noticed that elderly unemployment, when measured relatively to the total, has been increasing over time. The unemployment rate, traditionally a strictly decreasing function of age, now appears to have a slight blip passing from ages in the forties to the fifties (see Sestito (2002), chapter 4, Tab 4.5). Particularly over the latest years, when elderly employment has been on the rise, also elderly unemployment has been rising (in relative terms), confirming what said about the importance of the interaction between demographic compositional factors and pensions access rules in explaining those employment trends. Actually jobless elderly people appear to suffer particularly in finding a new job: at least in the Centre-North, when unemployed elderly people are more often long-term unemployed.

A disadvantage factor clearly relates to human capital endowment. Italy is a country which has experienced relatively late the expansion of its schooling system, this implying large age differentials in the educational attainment: Sestito (2002) estimated that in 1999 the 55-64 year age

¹⁶ More details about the construction of the data in Table 5 may be found in the Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, December 2003. Here it has to be noticed that the indicators considered represent a summary measure of the age pattern of the yearly probability of exit as measured, for year 2000, in Chart 3. The focus is upon those age points in which the cumulative probability of exit of an hypothetical individual employed at 50 years of age and replicating over the future the current yearly exit rates of the individuals at later ages would reach the 25%, 50% and 75%. So it differs from the average age of the actual exits, for comparison also reported in the mentioned *Rapporto di Monitoraggio*, as such affected by the actual age composition of employment as produced by demographic factors and the retirement patterns during the previous years. The use of 3 points of the distribution differs from the use of the "average" made in the EU context in order to measure the progress towards the postponement of the retirement age as it provides a much richer characterization of the underlying age pattern of the retirement exit rates as depicted in Chart 3.

group averaged only 6.8 years of completed schooling, against the 10.9 years averaged by the 25-34 year old group. Also the Italian low participation to post-schooling learning activities does not help; in any case, training activities appear to be very much concentrated among younger age cohorts and the most educated individuals.

An additional crucial factor relates to the characteristics of active labour market policies in Italy, as they have been focusing upon financial incentives favouring new hires, with little relevance of activation and other service-oriented schemes. These financial incentives are relatively untargeted for, as they favour broad groups; if any, youths are traditionally considered a policy target to whom some schemes are applied (universalistically). As a consequence, while practically all new hires of youths (under 25 years of age) tend to be covered by some financial incentives, only one over seven new hires of people over 50 are so. Some more recent interventions have somehow changed the picture, although still to a very limited extent. The so called “Biagi law” (the Legislative Decree n. 276 of 2003) has introduced financially incentivised employment schemes for elderly persons attempting to re-enter into the labour market (the “reinsertion contracts”), at the same time, however, extending the coverage of apprenticeship schemes to youths up to 29 years of age, so confirming the traditional youth orientation of the overall policy package¹⁷. Moreover, the employment fiscal bonus applicable to persons with no permanent employment over the previous 2 years, originally introduced in 2000 (and later extended to year 2006) has seen the recent introduction of an age differentiation, with a bonus supplement in case of elderly workers¹⁸.

Even irrespective of the presence of financial incentives (and the absence of service-oriented policies focused upon individuals who have lost a job), it has to be stressed that many of the regulatory and contractual arrangements introduced in Italy to favour the access to a job have mostly applied to youths. So, while the traditional stringency of the Italian regulatory framework has been eased for youths, the picture has remained broadly the same for the elderly. As a matter of fact, for instance, part time is very infrequent among elderly people; over time, the positive trend which appears for both males and females in the other age groups – even if within a clear female feature of part time – is significant, among 55-64 years old people, only in the female component¹⁹. A positive note can be found in that among elderly people the voluntary part time (i.e. those cases in which the respondent declares to work part time for personal or familiar reasons and not because of the inability to find a full time chance) prevails in a neater way than in other age groups.

¹⁷ For more details on the financial implications of the “legge Biagi”, see Sestito (2003).

¹⁸ For a complete picture of the (several changes) in the fiscal bonus and its actual use see Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, February 2003.

¹⁹ See on this Sestito (2002) and Ministry of Labour and Social Policies, *Rapporto di Monitoraggio* no. 2-2000.

More generally, the age pattern of wages shows a sizable and, according to Contini and Fornero (2003), increasing over time, age premium. The age profile of wages actually does not show the decline after 50 years of age often manifest in other OECD countries, such a feature being possibly also related to institutional factors and to the fact that in the past pension entitlements were generally linked to the last wages (even among people currently contemplating whether retiring or not pension entitlements are based upon the last 10 years' wages).

However, this apparent "high quality" of employment among elderly is not evidence of a strong market position of this age group. It is very likely that selection mechanisms play a big role, as the least employable among the elderly are simply pushed out of the labour market and attracted into retirement, such a process being eased by the current level of pension provision.

Whether in this process supply (the attractiveness of pensions vis-à-vis work income) or demand factors prevail is difficult to say. As a matter of fact, the still low open unemployment among elderly people does not mean that the retirement process is made uniquely by abrupt transitions from employment to pension. Whatever the features of these transitions, it is also difficult to say to what extent workers' decisions are the essential ingredient.

According to Contini and Fornero (2003), only the workers employed in large firms are characterised by a stable employment relationship followed by an abrupt transition to retirement. In small and medium firms, only one half of the job separations interesting elderly people (defined as those over 50) lead to an immediate entry into pension; the remaining people pass through non-employment and unemployment spells as well as short employment spells in other firms before final retirement. Moreover, there are striking regional differences as the abrupt employment-pension process is more important in the Northern regions (it represents one half of the total flows) where only 10% of the flows involve an unemployment spell; the corresponding shares in the South – where workers have often accumulated less years of contributions allowing access to a pension – are 30% and 20%.

Even taking account of this, Italy stands out as a country in which pension schemes are often used at relatively young ages in order to solve redundancy problems, not as a country in which unemployment or invalidity schemes are disproportionately and for long intervals used by elderly people. This is basically due to the regulatory framework. Unemployment benefits are underdeveloped and the universal basic scheme pays just 40% of the previous wage and lasts only 6 months, a prolongement to 9 months for individuals more than 50 years old having been enacted since 2001²⁰. More generous and long lasting benefits (up to 3 years for people over 50 year of age) apply only to firms (with more than 15 employees) in the industrial sector; in some cases these

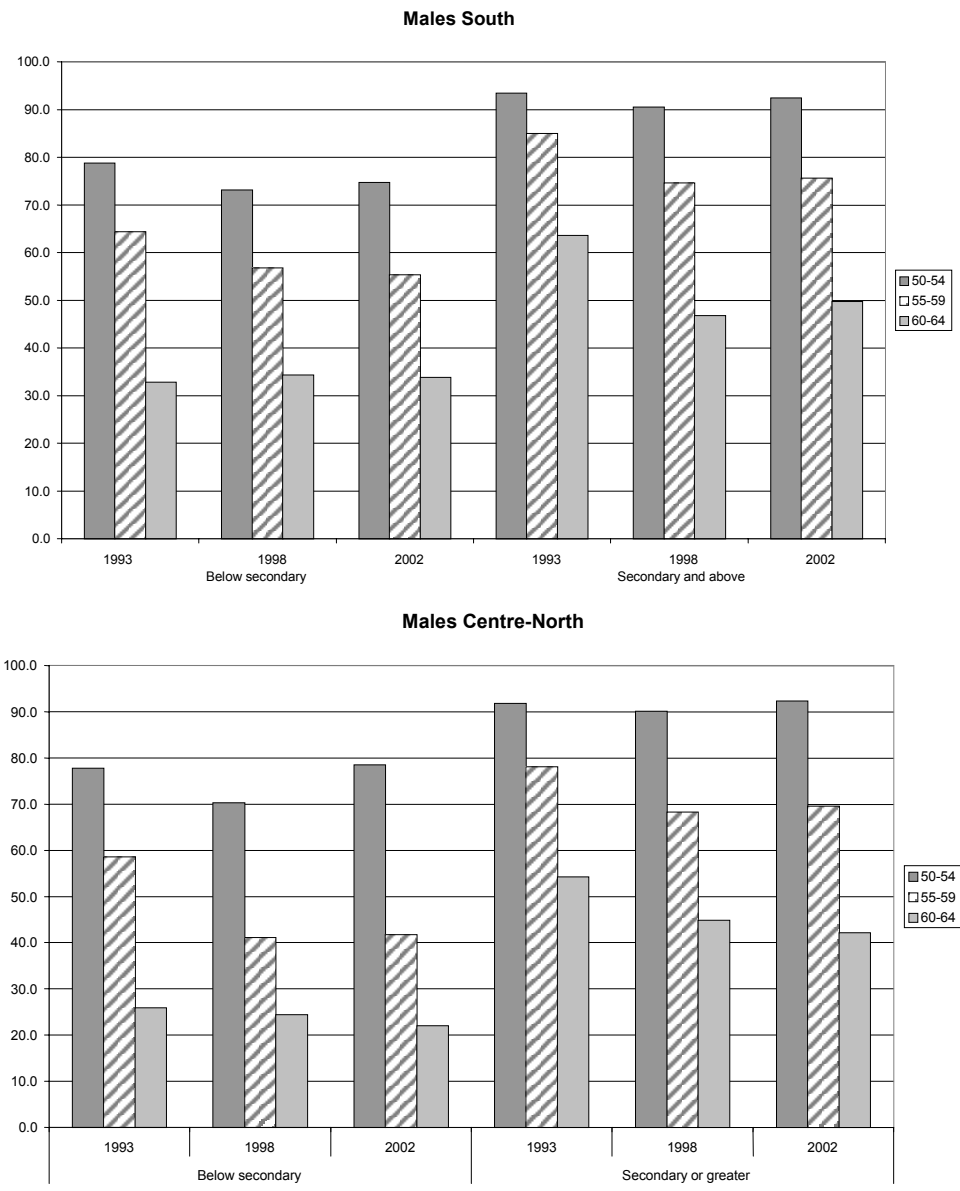
²⁰ For details on the effects of such a prolongement (and the increase from 30 to 40% of the replacement rate) see Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, February 2003 and December 2003.

schemes may be allowed to accompany the dismissed worker up to retirement (so extending beyond the 3 years maximum even if with a special contribution paid by the firm). While being disproportionately used for elderly people – particularly the more generous mobility scheme now described, in which people over 50 years of age account for two thirds of the beneficiaries – unemployment benefits remain rather underdeveloped in the Italian case: including the early retirement schemes, less and less used over the last decade, the expenditure for passive labour market policies now represents just 0.6% of GDP (one third of the EU average). Also regarding invalidity benefits the Italian case stands out as one of the few EU countries in which no increase has been experienced during the last decade as the restrictive measures undertaken since the mid ‘80s had put an halt to the previous widespread use of those benefits in the depressed South²¹.

In conclusion, the low level of unemployment benefits and the underdevelopment of targeted labour market policies have made the rules of the pension system, and in particular the “seniority pension” scheme, a crucial element explaining the relatively early withdrawal from the labour market. Already in the near future, however, as will be shown in the next two sections, the phasing in of the new rules will allow the first opportunity for retirement at 57 years. And it could also be brought if the new Government proposal, penalizing and then forbidding the retirement before the age of 65 for males and 60 for females, will pass the Parliament scrutiny.

²¹ In real terms, in Italy the expenditure for invalidity benefits has been constant over the 1990-2000 period, vis-à-vis a rise of approximately one half of the EU average.

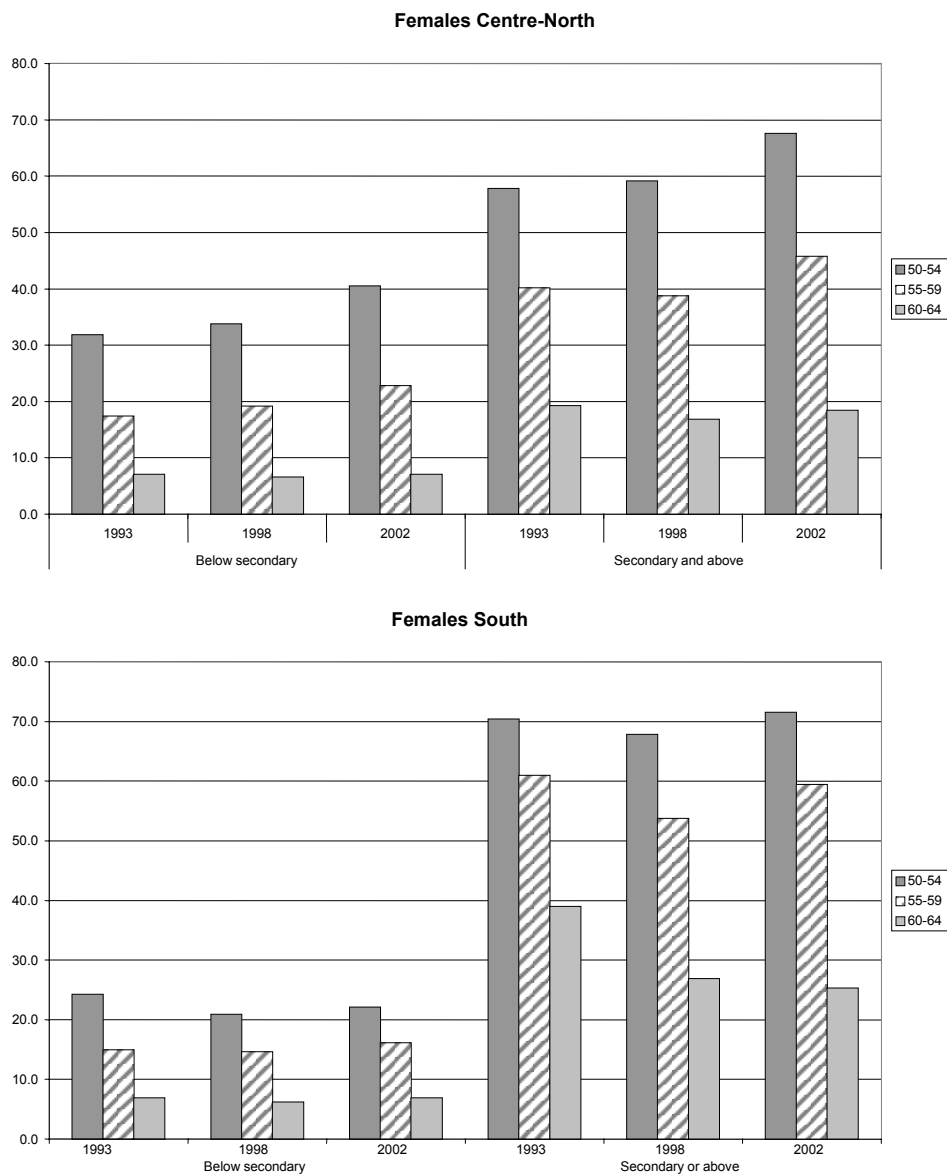
Chart 1a – Employment rate in 1993, 1998, 2002 by sex, area age group and educational



attainment: males

Source: Ministry of Labour and Social Policies, Rapporto di Monitoraggio, February 2003, based upon ISTAT LFS data.

Chart 1b – Employment rate in 1993, 1998, 2000 by sex, area age group and educational attainment: females



Source: Ministry of Labour and Social Policies, Rapporto di Monitoraggio, February 2003, based upon ISTAT LFS data.

Chart 2a – Elderly employment rate in 2000: males

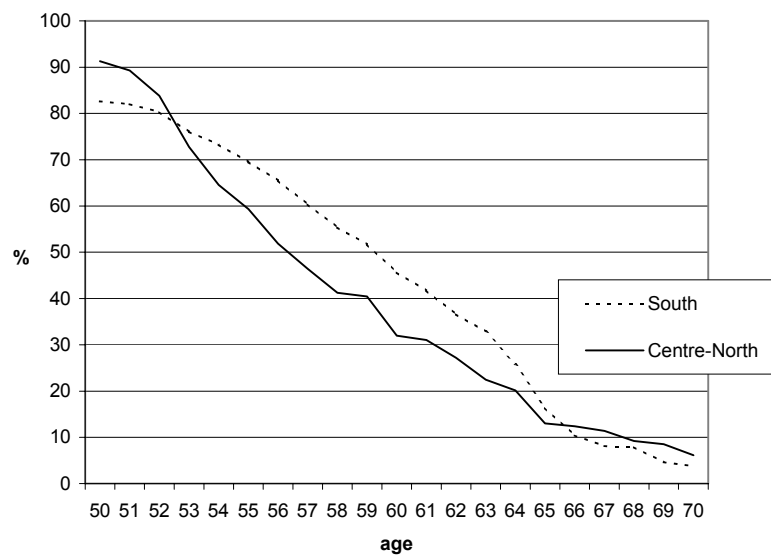
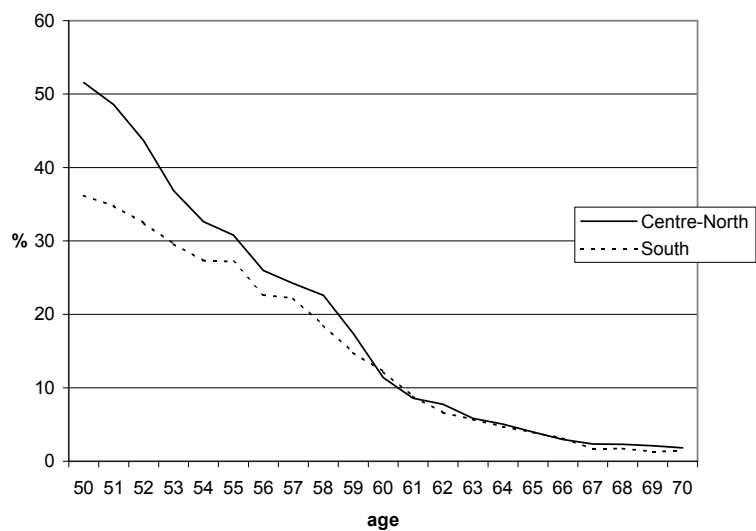


Chart 2b – Elderly employment rate in 2000: females



Source: Sestito (2002), based upon ISTAT LFS data.

Chart 3a - Exit rate from employment - 2000: males



Chart 3b - Exit rate from employment - 2000: females



Source: Sestito (2002), based upon ISTAT, LFS data.

Table 5 – Different quartiles of the age of retirement from employment (Distribution by year*)

	Total		
	25% cumulated probability	50% cumulated probability	75% cumulated probability
1994	53,9	57,6	61,0
1995	53,5	57,2	60,9
1996	54,3	58,7	62,8
1997	53,5	56,7	61,0
1998	54,5	58,6	62,7
1999	55,3	59,5	63,4
2000	55,8	59,3	63,9
2001	55,9	59,5	64,2
2002	55,8	59,8	64,6

Note: * Each point x represents the age at which a 50 year old hypothetical employed individual would retire from employment with probability x when his or her yearly exit behaviour would be dictated by the age specific yearly exit rates on average currently (i.e. in that year) experienced.

Source: Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, December 2003, based upon ISTAT LFS data.

3. The pension reforms of the '90s, the most recent interventions and the current debate

3.1 The reforms of the '90s and the new Notional Defined Contribution system

The Italian social security pension system is composed by a compulsory pay-as-you-go public system for all workers and by a defined-contribution voluntary private second pillar, fully-funded, organised and managed on an individual or collective basis. Means tested social assistance pensions (*assegni sociali* and *pensioni sociali*) and supplements to the social security pensions (*integrazioni al minimo*) guarantee a minimum income level beyond 65 years of age.

Total expenditure amounts, according to the Eurostat (SESSPROS) definition, to 14.7% of GDP, with the most part attributed to public expenditure for old-age pensions, non means tested²². However, the supplements to the social security pensions are not classified as means tested, as, although they do, the pensions to whom they add-up are not means tested. Including such means tested top-ups, the overall “means tested” expenditure in the pensions domain would climb up by 1.3% of GDP (one tenth of the total), showing a quite unnoticed feature of the Italian welfare system: the little use of means testing within the non-pension-related schemes and a sizable means tested safety net above 65 years of age²³.

For what concerns the first pillar, although there remain many different schemes along job-category lines, most of them are administered by the social security institution for the private sector (INPS) which accounts for 2/3 of the expenditure and insures the majority of private sector employees and the self-employed. Public sector pensions are administered by a separate institution (INPDAP). Some categories of professionals have their own institutions dealing with first pillar pensions, in any case supervised by the Ministry of Labour and Social Policies and classified as part of the public administration under the ESA95 accounting standard.

Compulsory pension expenditure is monitored by the Nucleo di Valutazione della Spesa Previdenziale, which publishes an *Annual Report*, while medium and long term projections of pension expenditure are updated every year by the Department of General Accounting of the Ministry of the Economy²⁴. Statistical accounts of pensioners and of pensions are published jointly

²² We refer here to the aggregate “expenditure on pensions” which includes “disability pensions, early-retirement benefits due to reduced capacity to work, old-age pensions, partial pensions, survivors’ pensions and early-retirement benefits for labour market reasons” (Eurostat: *Statistic in Focus*, Theme 3 – 11/2003). It must be noticed, that such aggregate is different with respect to the Eurostat definition of “expenditure for old-age” (and survivors) in that it includes benefits not considered in the old-age function, while excluding non-pension related items in the old-age function. Accordingly, the TFR treatments (see Box 2) is not considered in the pension expenditure, although it is considered (as “other cash benefits”) in the old-age expenditure.

²³ See on this Ministry of Labour and Social Policies, *Rapporto di Monitoraggio* February 2003, chapter 7.

²⁴ The yearly updates are routinely included in the Documento di Programmazione Economica e Finanziaria (DPEF) released by the Government each July and take account of the official macroeconomic and financial scenario fixed in

by ISTAT and INPS²⁵. Private pension funds are supervised by COVIP, an independent authority-like who also publishes, on a regular base, data on membership and performances, while MEFOP, a private venture controlled by the Ministry of Economy, aims at supporting private funds with studies focused on the normative, economic and managing problems they face.

The present system has been deeply reformed by three major reforms that took place in 1992 (Amato Reform), 1995 (Dini Reform) and 1997 (Prodi Reform). In the following period there have been minor interventions, while a new enabling act is currently under discussion in the Parliament. While we will come back in Section 3.2 on the current proposals, it is useful here to start from a summary description of the last decade changes, some already operational and others providing for a new system to be yet gradually phased in.

Before 1992, the Italian pension system was highly fragmented and based upon a defined benefit (**DB**) (or “earnings-related”) rule. Generally pension entitlements were computed on the basis of a $(2\%) * (\text{pensionable earnings}) * (\text{contribution years})$ formula, the latter up to a maximum of 40 years. While the precise definition of “pensionable earnings” was very different among job categories and schemes, reference was generally made to the average of the individual’s last years’ earnings. This created a systematic incentive for people to improve their work position and earnings during (the latest years of) their career and typically favored non-manual and high-skill workers; at the same time, the least employable among the elderly, provided they had accumulated enough seniority rights, could find withdrawing from the labour market financially more profitable than accepting a low wage job²⁶.

Access to pensions was conditional upon either age – in the case of the standard old-age pensions (*pensioni di vecchiaia*) for whom the minimum age was 60 years (55 years for females) –

such document (and covering the next 3-4 years) while the longer run horizon freezes the current legislation with some technical adjustments (so that, for instance, the above referred to social safety net for people beyond 65 years of age, whose real changes are discretionary, being indexed only to prices, is linked to the GDP per capita evolution in order to take account of its long run endogeneity). For the most recent description of the model and its underlying data see: *Le tendenze di medio-lungo periodo del sistema pensionistico e sanitario*, December 2002, Quaderno n. 4 of the Department of the General Accounting of the Ministry of Economy, available on the Ministry website. Data on pension expenditure can also be found in a 2001 report on pension expenditure (*Verifica del sistema previdenziale al sensi della legge 335/95* – known as “Rapporto Brambilla”) and in the *Statistical Appendix* to the 2002 “National Strategy Report on Pensions”, both available on the Ministry of Labour and Social Policies website; the latter also presents some analysis of the sensitivity of forecasts to various macroeconomic assumptions.

²⁵ There are two joint periodical publications, based on INPS statistical archives, which contain data on 25 millions individual positions and 15.2 millions current pensions: *I beneficiari delle prestazioni pensionistiche* and *Le prestazioni pensionistiche*, both to be found on the ISTAT website. Some detailed data, with geographical as well as on length of contributions and the level and type of benefits disaggregations, can be found on the INPS website. Further data can also be found in the annual *Relazione Generale sulla Situazione Economica del Paese* published by the Ministry of the Economy, while data on the public sector employee pensions can be found in the *Annual Report* of INPDAP; both are found on the respective websites.

²⁶ Accepting a wage cut after a job displacement could imply a long run pension entitlement cost for an elderly worker even greater than the short run wage income decline. Given that some of the changes in both the old DB rule and the new notional defined contribution rule are not fully relevant for the cohorts now contemplating whether to retire, these elements still have some practical relevance.

or years of contributions – for the seniority pensions (*pensioni di anzianità*). While **Box 1** provides for more details (particularly for what concerns the changes made since then), it has to be said that there were widespread differences across job categories in the eligibility rules (and the exact computation of the contribution years, which often were defined in a very lax way and including many non employment spells). Pensions benefits also enjoyed from real wage indexation as their amount, after retirement, was indexed to both consumer prices and real wage rises (of the corresponding job category).

In 1992, the difficult public finance conditions brought to a pension reform of a parametric nature. The age requirement for old age pension was progressively increased (to 65 years for males, 60 years for females), the definition of pensionable earnings modified to take into account a longer working period and gradually the entire working life, the indexation of pensions to real wages was abolished and even the indexation to prices was limited above an income threshold of three times the minimum.

In 1995, the Dini reform brought a change of the structure itself of the pension system. The new system, while remaining financed pay-as-you-go, shifted from a DB to a Defined Contribution (DC) rule. More precisely, a “notional defined contribution” (NDC) method of calculation, uniform (and neutral) across the different job categories, was introduced. Pensions are computed as the product of total pension contributions, capitalized at the (five-years moving average of the) annual GDP growth rate, and age-of-retirement specific coefficients, calculated on the basis of the (average across sexes) life expectancy at retirement and actuarially adjusted every 10 years²⁷. The reform dating 1995, the first updating of the coefficients is legally due to take place in 2005. Although the adjustment is not conditional on social partners’ agreement, nevertheless a social dialogue procedure should be activated according to the law, which may make more socially acceptable the cost of a procedure that could produce some turmoil as it is likely to reduce new pensioners’ entitlements and create sharp differences across generations retiring just before and after the adjustment dates (see later on).

When fully implemented, the new NDC system would feature *intrinsic financial sustainability* features, as expenditure would tend to evolve in line with contribution receipts, being insulated (even if with a lag) from demographic and macroeconomic shocks. More specifically, whatever trend in the average life span after retirement would not alter the expenditure path, as the increase in the number of pensions to be paid would be compensated by the cuts in unitary entitlements

²⁷ In practice, the age-of-retirement specific coefficients not only take into account pensioners’ life expectancy, but also the probability and life expectancy of survivors, as well as a positive internal return rate. Currently, for a retirement at 60 years of age the coefficient is 5.163%, while at 65 years it rises at 6.136%, regardless of the gender. For the exact calculation formula, see the Box 5 of the *Normative Appendix* to the 2002 “National Strategy Report on Pensions”.

(assuming a constant age of retirement). As mirror image of what just said, for given contribution rates the postponement of the effective age of retirement would increase unitary entitlements, the aggregate expenditure remaining relatively unaffected as the total number of retirees at each time t would decrease, so contributing more to the adequacy of pensions than to the containment of expenditure²⁸.

Another essential feature of the new NDC system, when fully implemented, is the *flexibility* it would allow as far as retirement is concerned. Individuals would be allowed to choose whether to retire at an earlier age (beyond a minimum of 57 years) with lower entitlements (as these are computed taking account of the average life expectancy at that age) or postponing retirement (up to 65 years of age) so incrementing future pension entitlements through both the accumulation of further contributions and the actuarial adjustment described above. As such, defined contribution schemes (funded or unfunded like the one here described), embedding actuarial adjustment rules, lead to a neutral incentives structure and allow flexibility at the individual level. Such flexibility includes the possibility to cumulate pension and work income without the need to introduce ad hoc measures – difficult to enforce and often leading to incentives for (formally retired) elderly people to operate in the hidden economy²⁹.

²⁸ Such claim is valid only as first approximation and assuming that the changes happen within the 57-65 age window, within which the actuarial adjustment operates (see later on). In the new contribution based system, if everybody worked for one further year unitary pensions would rise by 3-4%, depending on the exact age of retirement, because of the application of an higher age-specific coefficient and by about 3% because of the accumulation of higher total contributions; however, the stock of pensioners at each moment would fall, roughly of the same amount, each individual receiving a pension transfer for one year less and life expectancy at retirement being currently between 16.2 years (males aged 65) and 24.6 years (females aged 60) – see **Table 1** above – such data having to be corrected to take into account probability and life expectancy of survivors as well as the numerosity of different cohorts and the different mortality rates at each age. Notice also that total pension contribution revenues would rise, while the bettering of unitary pensions would be associated with an higher GDP, as employment would be (at least partly) increased by the enlarged labour supply pool.

²⁹ Routinely the neutrality of the incentives to postpone retirement is evaluated in terms of changes in pension wealth originated by one or more years of further work, or other related concepts. Defined contribution systems guarantee that the worker receive back her entire capital, including interests and further contributions.

This suggests some skepticism on the value of the finding of the OECD study *Increasing employment: the role of later retirement* published in the “OECD Economic Outlook” n. 72 (2002), where (Table V.3, p. 147), the Italian system appears to perform poorly with regards to incentives for working longer.

The results referring to the 61 and 63 years old workers are probably due to the non-consideration of the one-further-year return on the notional pension saving due for each year of postponement and to the parametric specification used in the calculations. In this framework, a crucial parameter is the rate of discount used in the computations. Clearly, assuming that the individual could have access in the financial markets to a rate of return which is higher than the notional rate applied in order to capitalize the further contributions paid while still working would suggest the presence of endemic disincentives in the new NDC system notwithstanding the actuarial adjustment rules: under this assumption the compulsory pay-as-you-go system would be always strictly dominated by a capitalization solution arranged by the individual through the capital markets. Whatever the merits and demerits of the latter vis-à-vis the former it is however unlikely that an elderly person would have access to an annuity market incorporating a (net of costs) rate of return upon his or her investments so significantly higher than the notional rate of return implicitly guaranteed upon his further work income related contributions.

As for the results in the 65 and 67 years old cases, these implicitly show a possible limit of the 65 years upper retirement age threshold embedded in the new NDC system, as the law does not provide for higher coefficients for those that retire later. Indeed, 65 years is currently the maximum retirement age for private employees, while, in any cases, to those that are allowed to work longer, like public employees (for which the age limit is 67), still the old

The new NDC system is not yet the one relevant for individuals now contemplating whether to retire, the Dini reform having contemplated a long transition period. For workers having at least 18 contribution years at the end of 1995 (i. e. retiring up to around 2015) pensions will continue to be calculated entirely using the old formula. A discontinuity, with a significant reduction in the entitlements vis-à-vis the previously mentioned group, will interest the subsequent cohorts, due to the application of the new formula: workers having some contribution prior to 1995 will have entitlements computed by a mix of the old and new formulas (the new formula is applied “*pro-rata*” i.e. only for the working life spent after 1995), while people which entered the labour market since 1995 will have the entire pension based on the new system. **Table 6** and **Graph 3** shows a constant pension replacement rate, for a given age and seniority at retirement, for the current decade, when retirees’ entitlements would be still fully governed by the previous DB system, and a sharp discontinuity in the 2010-2030 decades, while the following further reductions (for given age and seniority) will be to a large extent due to the adjustment of the coefficients used in the calculations to the lengthening of life expectancy³⁰.

The decline appears particularly important for the self-employed, whose entitlements will practically halve even in case of retirement at 65 with a 40-year seniority. This is the effect of the working of the new DC formula and of the lower pension contributions paid by the self-employed: while employees pay a contribution rate of 32.7% of payroll, of which 8.89% paid by the worker and the rest by the employer (the pension accrual rate being set slightly above, at 33%), for the self-employed the contribution rate is around 17%, gradually rising to 19% (with an accrual rate of 20%). Indeed, while in the DB system only seniority mattered, and pension entitlements were unaffected by the amount of lifetime contributions and by the age at retirement, in the DC system the opposite holds, seniority not playing a role and lifetime contributions and age-of retirement determining entitlements.

As far as the effects on the overall pensions expenditure are concerned, the full phasing in of the reforms would be even slower than that apparent from Table 6: still in 2050, the stock of pensions calculated (fully or partially) according to the old defined benefit rules will remain around 45% (**Table 7**). However, it is the decline in the pension replacement rate at retirement, coupled with the lack of real wage indexation, which explains the reduction in unitary pensions already depicted in Tables 3 and 4. Clearly, while the latter element apply to the whole stock of pensions –

formula, not considered in the OECD study, will apply for the next few years. Moreover, some of the pension institutions managing the first pillar pension of professionals, which are using the new formula and have not set a legal retirement age, have computed actuarial coefficients for all ages till 80.

³⁰ See the *Statistical Appendix* to the 2002 “National Strategy Report on Pensions” for more details. Note that, as shown in section 1, the ISTAT current demographic forecasts used in the computations do not assume further substantial improvements in life expectancy beyond 2030.

this being an element through which everybody will be participating to the adjustment process – the former element will apply only to the inflow of newly retirees³¹.

Incidentally, one has to notice that, besides the discontinuity described above, the Dini reform is characterized by other sources of discontinuity over time. In particular, as seen, the updating of the coefficients used in order to implement the actuarial adjustment is due at ten year intervals. Such a discontinuity may imply jumps in the entitlements granted to (otherwise) identical individuals happening to contemplate whether to retire immediately before or immediately after the updating itself. There may arise inequities and incentives to anticipate the retirement in order to avoid a drastic change in entitlements, and for this reason an issue that is likely to be debated in the near future concerns the opportunity to have more frequent datings.

While the “structural character” of the Dini reform shows its effect only in the medium and long term, some of the measures introduced in 1995 also intervened on more short term issues, further reinforcing what already introduced by the 1992 interventions. Along the same lines operated the interventions defined in 1997 (the Prodi reform). In particular, it was defined a tightening of the requirements for the seniority pensions, these being also extended to public employees (whose conditions of access were more generous before). As result, after a transition period ending in 2008 (see **Table 8** and **Box 1**), the access requirements to seniority pension will be 40 years of contribution (at any age) or 35 years of contribution (upon reaching 57 years of age). It is to these measures, as well as to the non indexation of pensions to real wages, that may be ascribed the stabilization of expenditure as a % of GDP attained in the most recent years.

In the period following the Prodi reform, three lines of interventions have been pursued. Firstly, in the past six years there have been several increases of the minimum values of social security and social assistance pensions. A second type of intervention relates to the introduction of incentives to postpone retirement for those workers who have reached the seniority pension access minimum threshold, a scheme however so far rather unused and which should be reshaped according to the enabling act currently under scrutiny by the Parliament (see next section)³². A third

³¹ The intergenerational balance of the burden associated with the long transition is not easy to assess. As shown by Table 6, the financial burden of the reforms is very much borne by future generations, with no contributions from the people already retired and the new retirees and a sharp discontinuity around 2015. However, the absence of real wage indexation – an element often criticized as source of inequalities between cohorts of retirees on the basis of the year of retirement – would act in the opposite direction, tending to produce a decline in the relative value of the existing pensions. Another potential inequity aspect relates to the fact that the system is designed having only a limited amount of redistribution mechanisms, while the use of a unique actuarial adjustment coefficient, for a given cohort of retirees, generally produces a redistribution of resources from those with an higher mortality risk to those healthier who happen to live longer, the latter on average being the wealthiest ones. Again the assessment of the resulting picture is blurred by the fact that pensions are not indexed to real wages so that the longer one survives the lower is the relative value of the pensions actually accrued.

³² For more details on the scheme and its empirical relevance see Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, December 2003, chapter 3.

issue, interacting with the definition of incentives to postpone the seniority retirement, relates to the gradual easing of the norms allowing to cumulate work and pension earnings. After the changes enacted in 2000 and in 2002, pensioners may cumulate their pension with work income if they retired after 58 years of age and with a contribution period of at least 37 years, such a possibility, on one hand providing an incentive to postpone retirement beyond the current minimum requirements (35 years of contributions and an age of 55, 57 or 58, respectively for public employees and manual workers, other private employees, self-employed; see Table 8), on the other hand displacing any incentive to postpone the collection of seniority pensions beyond the new thresholds so introduced.

One final point concerns the role of private pension funds. One of the main goals of both the past reforms and the new reform proposal that will be discussed in the next section is to boost the development of private pension funds. Indeed, the idea generally shared in the Italian debate since the early '90s is that the shortfall of unitary benefits the pension reforms were producing had to be tackled by the insurgence of a mixed system, in which elderly people get their income from both a pay-as-you-go public system (with the intrinsic financial stability features before described) and a fully-funded supplementary pillar. Also the graduality of the reforms concerning the first pillar reforms, besides being driven by socio-political feasibility considerations, was meant to distinguish between the current cohorts of elderly, who had not the time to accumulate such funded schemes, and the youths, who had such possibility.

The first regulatory intervention on private pension funds dates therefore back to 1993, when, to the *pre-existing* (and of little relevance) pension funds, two new types were added: the first based on collective agreements (*contractual*, or *closed-end funds*), mostly targeted on employees, and the second (*open pension funds*) aimed at supplying supplementary pensions to the self-employed and to employees working in sectors where no contractual funds have been set. Both are based on the DC principle. Other normative interventions followed the first, setting a framework that brought the first pension funds to become operative in 1997. Pension fund contributions receive a fiscal advantage, and overall the fiscal system is an hybrid ETT, where, to avoid double taxation, only part of the pension is subject to personal income taxation, so that the system roughly approaches an EET. In 2001 also some individual pension plans managed by insurance companies (*Piani Individuali Pensionistici* – PIPs) have been recognized the fiscal advantage of pension funds, so that the second and third pillars now comprise four types of funds: the pre-existing pension funds, the contractual ones, the open ones and the PIPs.

Notwithstanding this, partly also because of the delays in setting up the funds, notably in the public sector (see **Box 2**), only 2 millions people, about 10% of total employment, is currently member of a fund (see **Table 10**). Such poor results are indeed at the base of the principle, fixed in

the new draft enabling act, of making compulsory or almost-compulsory such a participation at least for the employees, through the diverting to supplementary pension funds of a form of deferred wage paid to the employees called *TFR* (**Box 2**).

3.2 The current reform proposals

Further interventions in the pension field are currently under way. An enabling-act has been approved by one branch of the Parliament and a redrafting, further strengthening it, has been presented by the Government to the Parliament in October 2003. In December 2003 a dialogue started with social partners to explore the possibility of an agreement on the overall package. The government main objectives are:

1. inducing a sizable postponement of retirement;
2. reducing the non-wage labour costs for standard contracts;
3. sustaining the development of the supplementary pension schemes.

More precisely the enabling act, as redrafted by the Government in October, dictates principles aimed at:

- further lightening the rules governing the accumulation of work income and pension;
- incentivating, in the period up to 2008, the prosecution of the work activity for those that mature the right to a seniority pension through:
 - the certification of pension access rights regardless of future changes, so as to avoid anticipated retirement flows induced by fears of future reforms;
 - the option, upon reaching the minimum requirements, for private employees of continuing to work without paying any pension contributions (as said, currently at 32.7% of the payroll), the saving being entirely cashed by the worker (on a tax exempt base), and with future pension entitlements frozen (in real terms) at the value the worker is entitled at the moment of the choice; the same option could be given to public employees too, although at a later stage;
- increasing, from 1st January 2008, to 40 years the seniority requirements needed to retire younger than 65 (60 for females), the previous 35 years threshold (together with the minimum age of 57 or 58 years, see Box 1) being maintained only for those workers opting for an integral application of the NDC formula and so accepting a large cut in their entitlements;
- increasing, from 1st January 2008, to 65 years (60 for females) the minimum retirement age in the new NDC system, with an exception holding only for those reaching

40 years of contribution (as said, the current law sets the minimum age at 57, provided a pension entitlement of at least 1.2 times the social assistance pension and a seniority of at least 5 years are reached);

➤ reducing the employer's pension contribution rate on newly-hired employees within a 0 – 5 points range, the exact amount having to be determined in the annual budget law; the pension accrual rate would however remain the current one (33%)³³. At the same time, the contribution rate on some non-standard contractual relationships (the “collaboratori coordinati e continuativi” and the labour partners), which is particularly low but due to converge by 2014 towards 19%, together with the contribution rates of the self-employed, will be increased in 2004 by more than what previously scheduled³⁴;

➤ the diverting (compulsory in the current proposal, but which could be transformed in a silence-consent in the final version) of employees' TFR, to private pension funds;

➤ harmonizing the regulation of collective and individual pension funds, increasing competition and leveling the playfield.

The last three interventions are not directly related to the bulk of this paper and we therefore limit ourselves to the few considerations in the footnotes and in Box 2. In the rest of this section, instead, we deal with the three measures³⁵, all contained in the October 2003 Government redrafting proposal, directly dealing with the retirement age: the strengthening of incentives to postpone retirement, the lift up to 40 years of the seniority threshold and the rising to 65 (60 for females) years of the minimum retirement age in the new DC system.

³³ Due to the pay-as-you-go financing of pension expenditure, the reduction of pension contributions (*decontribuzione*) could produce the need to find alternative sources of financing of a size progressively increasing over time as more and more cohorts would be subject to the lower contribution rates. In part, such needs would be damped by the possible (once and for all) increase of full time employment due to the reduction in labour cost; in part however, the measure needs to be financed through the public budget: the *technical annex* to the draft law estimates that a 3-5 points reduction would require the need to finance the measure up to a maximum of 0.5-0.8 points of GDP, becoming 0.3-0.6 points net of the fiscal components. In the longer run, the maintaining of a 33% notional contribution rate in spite of the actual reduction, while avoiding further reductions of the replacement rates, would nevertheless require a certain amount of transfers from the public budget, somehow weakening the NDC systems characteristic feature of balancing contribution revenues and pension expenditure. In any case the overall effect of the measure should be evaluated taking into account the possible rebalancing between standard contracts – now paying a contribution rate of 32.7% and interested by the *decontribuzione* – and the atypical work-contracts paying sub-standard rates (and possibly leading to entitlements so low that many people with no other sources of income would need to receive social assistance supplements to their pensions to reach the minimum income level beyond 65 years of age).

³⁴ Such measure has been already enacted, having been inserted in another bill approved by the Parliament in November 2003.

³⁵ The new pension reform being implemented through an enabling act which requires the Government to translate the general principles in actual norms during the months following the approval, some details of the proposals have yet to be defined. Furthermore, the Government has stated to be ready to modify some of the measures if social partners agree upon alternatives capable to fulfill the financial savings envisaged for in the current proposal.

The most uncertain part of these interventions is the efficacy (and efficiency, from a public purse point of view) of the **incentives to postpone retirement** which should operate up to 2008³⁶. As said, the incentives would allow employees, upon reaching the minimum requirement for seniority pensions, to continue working without paying social contributions, the saving being entirely cashed by the worker and tax exempt, while, on the other side, future pension entitlements would be frozen at the level matured at the moment of the choice. As far as the individual's current net income is concerned, the effects of the incentives are substantial: as shown in **Table 11**, net income could rise by more than 50%, depending on the individual's tax rate and earnings level. This is not enough, however, to conclude that they will be a success.

As a matter of fact, currently about 50-60% of people³⁷ retire having just reached the requirements for seniority pensions. Precise estimates are difficult to produce also because of the lags created by the exit windows (on average constraining individuals to retire a few months after the theoretical right to retire) and the fact that many people discover the presence, in their social security contributions history, of some minor contribution periods just after having applied for retirement. All in all it appears that between 3/4 and 4/5 of the population retires within a couple of years from the minimum threshold. The remaining ones retire gradually later on, with a new peak in the retirement flows at 40 years of seniority, accounted for by those individuals who, possibly because of personal circumstances, strictly prefer the work option. This means that already now some postponement happens. So the efficacy of the planned incentives has to consider the occurrence of people shifting from retirement to postponement and that of people simply opting to use the new incentives, but who would have opted for postponement any way.

This is also relevant to evaluate the effects of the incentives on the public budget. The current savings for the public purse include only the reduced pension flows due to those that would not have postponed retirement otherwise, while both groups would contribute to reduce the contribution flow and must be taken into account on the cost side. Given the relative size of pension entitlements upon reaching the seniority threshold and the contribution rates, the incentives would finance themselves if the former group accounts for approximately one half of the population actually using the incentives³⁸. The net position for the public purse is even more complex as, when using the

³⁶ For a more detailed analysis of the effects on the incentives proposed by the Government see Box 1 in Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, December 2003.

³⁷ Reference is made to private employees. For the self-employed the situation is somehow different as it has been relatively easy for them to continue working (in the shadow economy) even in cases where the law did not allow to cumulate pension and work earnings. Given that the option to cumulate clearly dominates all alternatives, most self-employed tend to immediately cash their pensions entitlements. Some change on their behavior could be induced by the new norms on cumulation described in section 3.1, but it is still too early to assess the effects.

³⁸ Two individuals with work earnings w and using the incentives will imply lower contribution revenues amounting to $(2 \cdot 32.7\% \cdot w)$. The resulting $(65.4\% \cdot w)$ is quite close to the typical replacement rate of an individual facing such option. For sake of simplicity we are here neglecting the tax implications. The fact that the current pension payments

incentives, people would be freezing their pensions entitlements at the current level. Taking into account this intertemporal factor, also the second group of people – the ones adhering to the incentive, and which would have in any case postponed the retirement – would contribute to some savings, as they would be accumulating less pension entitlements.

In order to understand the net effects of the incentive scheme it is important to examine: a) who are the persons who already in the current environment, i.e. with no incentive scheme³⁹, are more likely to postpone the retirement and who are those that tend to retire as soon as possible; b) how the incentive scheme is affecting them.

In the current environment, the postponement choice may happen, for a given degree of work disutility, in the case of individuals with very low discount rates (not discounting at all the gains implied by the standard postponement option in terms of future pension entitlements⁴⁰), or having much room for further increasing their future pension entitlements (because they are going to experience sharp wage increases or because they are far away from the maximum pensions ceiling). On the contrary, people heavily discounting the future or with no much room to increase their future pension entitlements (because they are already close to the pension payment ceiling or because they could experience a wage cut) are the ones who, for a given degree of work disutility, are choosing the immediate retirement option.

Clearly the picture here presented is a streamlining of the relevant factors, in which we are assuming that work disutility may be simply expressed in money terms and we are neglecting factors like the presence of the TFR stock (to be cashed when dismissed and possibly also inducing to opt for the retirement individuals with liquidity problems and a large inherited TFR⁴¹); more importantly, we are assuming that the postponement option is freely available to the worker, so not taking explicitly into account the “employability” and demand-side factors mentioned in section 2. While we are not proposing a fully articulated model of the retirement option, some of these factors may be somehow taken into account into the reasoning now presented. So the demand-side considerations might be considered as a determinant of the future wage developments, a worker at

would pay the standard income tax would reduce the amount of the savings, while the tax exemption of the contributions cashed in by the worker would leave unchanged the costs for the public purse. So the breakeven share would tend to rise. On the other hand, insofar as the people induced to postpone retirement from the presence of the incentive represent extra-employment at the aggregate level, this would add to public revenues, which would work in the opposite direction.

³⁹ Actually this is a simplification as the current environment is already characterised by the presence of a scheme incentivising the postponement of retirement, which is however not widely used.

⁴⁰ The discount rate may also take into account the role of the subjective probability of death, a parameter we may so avoid to explicitly deal with.

⁴¹ Upon the TFR see Box 2, where it is noticed that the TFR accumulated by people close to retirement typically is not the whole amount accumulated over the working life, which implies that such a case, while not being the norm, is clearly possible. Notice that the TFR could influence the choice of whether to use the incentive only for people that in the current situation were not already postponing the retirement.

risk of being dismissed and/or unlikely to find a new “good job” being possibly characterised by an expected wage cut and thus being induced to “choose” the retirement option also because of the induced reduction in his or her future pension entitlements.

Besides the rather obvious conclusion that the people opting for retirement are those with high work disutility – where the “taste” factor summarizes family and health related considerations beyond those related to pure preferences – one may therefore conclude that retirement is chosen by individuals with dismal work prospects and/or whose future pension entitlements may not rise because of institutional constraints (i.e. high income people).

How the new incentives will affect those who were currently choosing to retire early? In the individual’s convenience calculation the discount rate has a negligible role (as in both cases the future pension entitlements are the same) and the relevant factors are (for a given degree of work disutility) the current work income gross of taxes – to which social contributions and thus the incentive relate – and the net pension – the ratio between pension and work income being higher the steeper was the previous wage career, provided the pension itself is not constrained by a pension ceiling, something which may happen in case of high income persons. For both reasons, the persons for whom the new incentive scheme is dominating the retirement option are more likely to be those having a relatively high current work income.

Those induced to postpone retirement by the incentive scheme are individuals who in the current framework were opting for the retirement and for whom the new incentive scheme is strictly preferred to the retirement option. For what we said it is likely that both conditions will be satisfied in the case of either people expecting dismal wage prospects or people with high current work income. In any case, work disutility has to be not so high that the retirement option remains dominant. At the same time, there will be some people who would have in any case chosen to postpone – because of a low work disutility, a low discount rate and/or sufficient room for further increasing their future pension entitlements – and that, because of their relatively high current work income, appreciate very much the incentive and simply use it instead of the previously available postponement option.

Table 12 offers a partial picture of how such dimensions interact in determining individuals’ convenience to make or not to make use of the incentives. It considers the increase in pension wealth deriving from postponing retirement for two years in the case of use of the new incentives and in case of continuing to work under the current system. The dimensions taken into consideration are the work disutility (expressed in money terms as a % of current work income), the discount rate and the current work income level. It is shown that some people using the new scheme are people who would have postponed the retirement anyway – as the new scheme dominates the

retirement option by more than the postponement without use of the incentive was already dominating the retirement option. Only some of the people using the new scheme were individuals who were not already opting for the postponement option.

Such a brief description makes clear that identifying to what extent the incentives may be effective is quite uncertain. Ex-ante evaluations would require to know much more in detail the characteristics of who already postpones retirement and who retires as soon as possible. Furthermore, the picture is even more complex as whatever postponement option will be dominated by the possibility to cumulate work and pension income. Also, it is unclear what are the implications of granting the individual worker the right to postpone his or her retirement without the need of a formal consensus by the firm, who is not getting any labour cost rebate in a world in which retirements are often induced by firms pushing away their senior workers. In practice, exactly because of these caveats, the Government official forecasts are very prudent on this whole issue which is however the most relevant one as far as the evolution of the effective retirement age in the near future is concerned.

Beyond 2008, more substantial results, both on the retirement age and on the pension expenditure side, may be expected by the measures concerning the abrupt lift up in 2008 to 40 years of the minimum length of the contribution period to get seniority pensions and the increase to 60 years for females and 65 for males of the minimum retirement age in the already envisaged for NDC system previously described. **Graph 4** shows the official estimate of the combined effect of the two measures on aggregate pension expenditure as a % of GDP.

Until around 2025, most of the effect on expenditure will originate from the first intervention, regarding seniority pensions in the DB and the mixed systems, as only few of the individuals who will retire will be subject to the new NDC system. Since 2025-2030, however, and increasingly during the following decade, more and more people will be affected by the second measure, while the number of new pensioners affected by the first will soon drop to zero.

Considering the first measure more in detail, starting in 2008, the **strong and abrupt tightening of the conditions to access seniority pensions** would rapidly produce a 0.7% of GDP saving with respect to the scenario based upon the existing legislative frame. The abruptness of the change would very rapidly reach its climax upon the stock of pensioners, its empirical relevance being strengthened over the following years by demographic factors, as the cohorts interested by the change would progressively be those of the *baby boom* experienced in the mid '60s of the previous century. However, after a few years, the effect upon the overall expenditure of the reduced retirees inflow would be counterbalanced by the fact that the people obliged to postpone retirement would accumulate higher pension entitlements. As over time individuals would be increasingly subject to

the new NDC system and thus less and less affected by such measure, this effect would be more and more relevant, while the demographic wave of the cohorts born around the mid '60s of the previous century would gradually fade away. As an implication, the peak in the savings attributable to the proposal made by the Government would reach its 0.7% of GDP peak relatively early, in approximately 10 years time.

Later on the expenditure savings due to such a measure *per se* would gradually fade away. The reason is simply that the rise in the seniority pension access rules would gradually end up affecting nobody among the new retirees, while most of the individuals affected during the previous years would be still alive and, as said, receiving higher pensions because of the higher seniority they would have had been forced to mature⁴².

Two related aspects are worth noticing. To start with, the size and timing of the effects on pension expenditure depend to some extent upon the actual use of the very penalizing escape clause, i.e. the possibility for who wants to retire before the newly envisaged 40 years seniority threshold (but always above the 35 years threshold) to do that but with entitlements fully computed according to the NDC formula, so experiencing a sharp loss with respect to what they would have gotten according to the DB rules still to be fully applied over the next ten years or so⁴³. Actually the more people choose this escape option the less pronounced, but also more long-lived, would be the path of the savings vis-à-vis the baseline scenario⁴⁴; at the other side of the spectrum, as long as nobody would opt for the application of the new NDC formula, the intervention would end up producing an aggregate pension expenditure exceeding in 2033 the peak level currently expected.

A second aspect worth noticing is that a more gradual increase in the seniority requirements would delay the savings path but, provided the gradualism does not nullify the effectiveness of the new thresholds upon the baby-boom cohorts, in whose case the intervention would be heavily emasculated, the savings path would tend to become more pronounced in a period closer to the peak

⁴² The point has been already noticed, for instance by the IMF, stating that: "However, *increases in the minimum effective retirement age* for workers in the transition period also tend to imply higher pension expenditures at the time when expenditure peak. (...) Thus, some measures that yield short-term savings by changing the benefits in the transition phase also generate increases in long-term expenditure and tend to exacerbate the problems with the expenditure "hump". (...) An *increase in the minimum retirement age of workers under the defined contribution system* (...) would significantly reduce the "hump" in pension expenditure" (International Monetary Fund 2003, pp. 81-82).

⁴³ Due to the size of the loss that the new formula implies, estimated in 30% of the pension for employees retiring in the 2008-2012 period (much more for the self-employed), the official estimate is that only about 12% of people that will have such opportunity will use it (i.e. about 30,000 individuals per year – see the Technical annex to the October 2003 Government amendment to the pension reform law proposal).

⁴⁴ This is because the savings would be postponed by the presence of larger retirees flows during the next decade, but the unitary pensions of those individuals, destined to be paid over a long time horizon, would be much lower than those of the similar individuals "accepting" the forced postponement.

of overall expenditure. The reason is again that, while the action upon the retirees flows would happen later on, there would be less persons constrained to get higher unitary pensions⁴⁵.

Whatever the precise timing over the next 20-25 years of the effects on expenditure of the intervention on seniority pensions, in the longer term the efficacy of the measure on seniority pensions towards both the goals of increasing the retirement age and of containing the pension expenditure crucially depends upon the second intervention, which extends the **age thresholds currently established for the DB system to the NDC system**, which would therefore pass from a 57-65 window to a unique threshold point, equal to 65 years for males and 60 for females.

The relevance of this second intervention upon aggregate expenditure is quite obvious according to what already noticed about the fact that unitary pensions of the individuals still alive and who will have retired from 2008 onwards according to the DB system would be higher than in the current legislation baseline. As for the retirement age, it has to be further noticed that the current law gives every worker the possibility of opting for the integral application of the new NDC formula and pension rules, which would still allow to side-step the 40 years seniority threshold.

Such a possibility would be chosen with an increasing probability over time, as in the mixed system – that applies to workers that had less than 18 years of seniority in 1995 – the penalty of opting for the new NDC formula (and consequently using the new NDC pension access rules in which seniority per se is quite irrelevant) would be decreasing over time. It could therefore happen that more and more people ask to enter the new system, which would allow them to continue retiring as early as 57, neutralizing the effect of the first measure on the retirement age, although lowering pension entitlements.

The second intervention, the increase of the retirement age threshold in the NDC system, somehow “solves” both problems. It eliminates the convenience to opt for a system allowing the possibility to retire earlier. By avoiding such an increase in the retirement flows it counterbalances the expenditure rise originated by the intervention upon seniority pensions during the previous years, thus contributing to soften that “hump” of pension expenditure around 2030, that, otherwise, would have been accentuated.

As for the first measure, also the intervention on the retirement age threshold in the NDC system would be characterized by a differentiated impact upon number of pensions – which would decrease with respect to the current legislation baseline – and their unitary amounts – which would start rising. At a certain moment, as shown in Graph 4, total expenditure would become higher than

⁴⁵ Clearly the tendencies here depicted are qualitative ones. In order to define what a more gradual intervention or a mix of interventions with a larger role for penalties for the individuals covered by the DB system would imply, one should fix the relevant parameters more precisely.

currently projected⁴⁶. Such a reversal, differently from the one previously described and concerning the effects of the intervention upon the seniority pension access rules, would however happen when the overall pension expenditure would already be on a downward path. More importantly, Tab. 6 reminds us that the “forced” increase in unitary pensions during the first period previously described would operate upon cohorts of retirees whose pensions would have been relatively high any way, while the “forced” increase later on operating would act upon cohorts for whom pension adequacy would have become the key issue.

Whatever the precise arithmetic of the two interventions envisaged for upon aggregate pension expenditure, numerous are the policy issues raised by them. The second one – the uplift in the age access requirements in the new NDC system – raises an issue of coherence with that system, in which the flexibility of choices – with the possibility to postpone retirement gaining from an actuarially fair mechanism for computing pension entitlements – was a key feature. The intervention upon seniority access rules, given its delayed and abrupt enactment, may be problematic because of its implications upon the equity across generations. On top of these social (and political) acceptability considerations, the current hypothesis of inducing those affected to accept a pension either consistently higher – as implied by the 5 additional seniority years – or much lower – as implied by the full use of the new NDC formula in case they opt for retiring – should be assessed also on the base of welfare considerations (for given desired effects in terms of aggregate expenditure). Finally, given a policy goal of postponing retirement, an increasingly relevant issue is the capability of the labour market to handle an increased supply of elderly people. While it is not our goal to provide an overall assessment of the current proposal, we will briefly come back upon these policy issues, focusing upon the lengthening of the working life target, in the next and final section.

⁴⁶ As far as we know, the estimates produced by the RGS - upon which current projections and the evaluation of the changes envisaged for are based – do not fully endogenize the GDP dynamics with respect to the increase in labour supply due to the reduction in the number of pensioners. To the extent that aggregate employment and GDP react to the increased labour supply the rise in the volume of pension expenditure could be counterbalanced as far as the pension expenditure as % of GDP is concerned. To a more limited extent, given the shorter time frame in which GDP could react to the increased labour supply, similar considerations also apply to the first intervention before described, that concerning the seniority pension access rules.

Box 1. The legal age of retirement

3 different sets of retirement ages have to be considered in the Italian case. Two refer to the old system – which allows for both old-age (*pensione di vecchiaia*) and seniority pensions (*pensione di anzianità*) and one to the new system, which only allows for old-age pension.

The 1992 Amato reform raised the age for old-age pension from 60 to 65 years for men and from 55 to 60 years for women, along with a minimum contribution period of 20 years. These are also ages of compulsory retirement for the employees, meaning that employers are not required to maintain the work relationship any longer. However, females have been recognized the right to continue working until the reaching of the limits that apply to males, while since 1992 public employees have the option to work until 67.

The reforms of the '90s also increased the age and the contribution requirements for seniority pensions⁴⁷: gradually, the contribution requirement will reach 40 years (regardless of the age) or 35 years (upon the reaching of 57 years of age for employees and 58 for self-employed). **Table 8** shows the tightening of such requirements from 2001 to 2008.

The age of retirement in the new contribution based system introduced by the Dini reform ranges from 57 to 65, but to retire before 65 workers need to have a contribution period of at least 5 years and contributions such that the pension is at least 1.2 times the minimum old age allowance (*assegno sociale*). As said in the text, the flexibility of the retirement age is allowed by the actuarial neutrality of the pension formula, that is neutral with respect to the retirement choices: younger pensioners will spread the same capital on a higher number of years, thus receiving a proportionally lower pension.

The new government proposal intervenes both on the age and seniority requirements for the seniority pensions and on the minimum age of retirement in the new system.

For what is concerned with seniority pensions, since 2008, only the access upon the reaching of a 40-year-seniority will be maintained, while the other (57 or 58 years with at least 35 years of contributions) will be maintained only for those opting to have a pension entirely calculated using the defined contribution formula – which would imply a substantial reduction of the entitlements – and only up to 2015.

For what is concerned with the new system, the government proposal aims at substituting the current range 57-65 years with a standard minimum retirement age of 60 years for females and 65 years for males.

In 2001 the effective retirement age (retirement from the labour force, calculated following the EU methodology) in Italy was 59.7 years (against a EU average of 59.9), which rose to 59.9 years in 2002 (see the Box 2 in the Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, December 2003 for a detailed analysis of the different calculation methods).

⁴⁷ Seniority pensions need not to be confused with early retirements (*pensionamenti anticipati*), which refers to situations in which retirement before the reaching of the legal requirement is allowed in force of norms specifically designed to smooth a firm' or sector' restructuring, avoiding layoffs. Early retirements are much less important now that they were in the past, and the current situation is shown in Tables PS23 and PS24 of volume III of the annual *Relazione sulla Situazione Economica del Paese*, published by the Ministry of the Economy; overall, at the end of 2000, 378,107 pensions were classified as early retirements, the beneficiaries not having reached yet the age for old-age pension; in that year the associated expenditure amounted to euro 970 millions. Mostly, such pensions referred to early retirements granted during 1983-1989 or 1992 (a number of ranging from 22,500 to 42,600 for each year), while only 1147 and 2582 early retirements were granted in 1999 and 2000 respectively.

Box 2. The “Trattamento di Fine Rapporto” (TFR) and its devolution to private pension funds

The TFR is a kind of deferred wage that applies to private employees. Each year, firms accumulate as book reserves about a month worth of salary for each worker (6.91% of payroll on average), that is restituted to workers at the end of the work relationship (because of retirement, resignation or layoff) but may be anticipated in case of need of funding some unusual expenses (most often buying a house). On the TFR funds the employer pays a rather low return (1.5% per year plus three fourths of the inflation rate). Often TFR is considered as a severance pay, but it is not in the strict sense, because it is not a compensation for layoff, although in such case it constitutes for the worker a useful cushion during the period of unemployment (in the Italian system unemployment benefits being particularly low).

At present, although only about 1 millions private employees participate to complementary pension funds, more than 7 millions, i.e. more than 50% of the total, would have the right to divert towards such funds their yearly TFR flow, while both employers and employees would receive fiscal bonuses if they integrate such with further contribution.

The idea behind the diverting of the TFR (not the entire stock, but rather the annual flow) to pension funds is that in this way workers would benefit of a (hopefully) higher interest rate, while firms, although renouncing to a source of cheap finance, would get some compensation and benefit from thicker financial markets. Furthermore, the diverting of the TFR to pension funds, while increasing the pension contribution rate, constitutes the second key element (the first being increasing the age of retirement and the career length) to maintain in the future the adequacy of pensions in terms of replacement rates, which, as shown in **Table 6**, are expected to gradually drop with the entrance in force of the new contribution-based pension formula. According to the simulations of the Italian Government, pension funds should add to the replacement rates shown in **Table 6** 16.7 (18.7) points for a retirement at 60 (65) with 35 years of contribution to a pension funds, a contribution rate of 9.17% (6.91% due to the TFR, the rest to supplementary employees and employers contributions) and an annual return to workers of 2.5% net of all expenses.

The pension enabling act under discussion in the Parliament states that the flow of new TFR should compulsorily be diverted towards private pension funds, although with some exceptions, while discussions with social partners are currently under way to examine the opportunity of giving workers the option of maintaining the TFR in the current form and the opportunity of designing low risk portfolios to be used as default when the worker does not spell any choice.

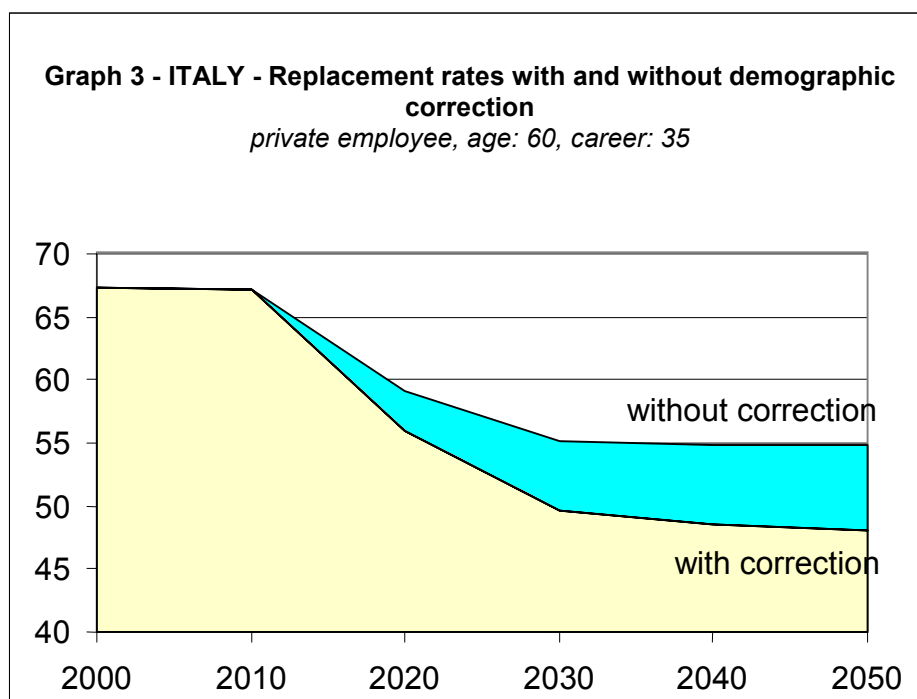
It must be stressed that at present, many workers receiving at least part of their TFR below the retirement age, only part of it constitutes a lump sum payment received at retirement. As shown in **Table 9**, even older workers employed in big factories do not have in average more than 15 years of TFR worth.

Public employees had a kind of deferred wage similar (but not identical) to the TFR and financed pay-as-you-go. In such situation it has been difficult to find ways of diverting resources to pension funds – which would have increased the current public deficit – and this has delayed the building of second pillar pensions for public employees. Finally, the DPCM 20/12/1999 has built a framework that can allow for such funds to start, designing a system in which the part of contribution that originate from such deferred wage – now transformed in a true TFR – is only diverted virtually to pension funds, which means that INPDAP – as said in the text, the social security institution managing public employees’ pensions – will transfer the resources to the pension funds only at the moment of retirement, although capitalized accordingly to their real performances. The supplementary contribution paid by the employee and the employer will instead be transferred immediately, as in the case of private employees. The framework for the development of pension funds for the public employees being finally build, one expect that pension funds for such category will start operating in the near future. (On this matter see sect. 1.2.1 and Box 8 of the *Normative Appendix* to the 2002 “National Strategy Report on Pensions”).

Table 6 - ITALY - Gross replacement rate of the public pension system

Case 1: Private employees						
Year of retirement	2000	2010	2020	2030	2040	2050
Retirement at 60 with 35 years of contributions	67.3	67.1	56.0	49.6	48.5	48.1
Retirement at 65 with 40 years of contributions	76.9	76.7	72.4	66.8	64	63.4
Case 2: Self-employed						
Year of retirement	2000	2010	2020	2030	2040	2050
Retirement at 60 with 35 years of contributions	64.4	64.7	41.2	30.7	29.4	29.2
Retirement at 65 with 40 years of contributions	73.6	73.8	54.7	44.4	38.8	38.4

Source: Ministry of Labour and Social Policies (2002), Statistical Appendix to the *National Strategy Report on Pensions*.



Source: Ministry of Labour and Social Policies (2002), *National Strategy Report on Pensions*.

Table 7 – Distribution of the stock of pensions at the end of the year on the basis of the formula used (at retirement) to calculate the pension

Year	Formula used to calculate pensions			
	Old (earning based) formula	Mix system	New (contribution based) formula	Total
2002	98.4%	1.6%	0.0%	100%
2005	96.6%	3.4%	0.0%	100%
2010	92.0%	7.7%	0.3%	100%
2020	71.1%	27.2%	1.7%	100%
2030	40.0%	51.9%	8.1%	100%
2040	17.9%	54.4%	27.7%	100%
2050	4.9%	41.4%	53.7%	100%

Source: Ministry of Labour and Social Policies (2002), Statistical Appendix to the *National Strategy Report on Pensions*.

Table 8: The gradual increase of the requirements for seniority pensions (requirements in terms of minimum contribution period only – regardless of age – or joint minimum contribution period and minimum age)

	2001		2002		2003		2004	
	Only contributions	Age and contribution	Only contributions	Age and contribution	Only contributions	Age and contribution	Only contributions	Age and contribution
Private employees	37	56,35	37	57,35	37	57,35	38	57,35
Public employees	37	55,35	37	55,35	37	56,35	38	57,35
Manual workers	37	54,35	37	55,35	37	55,35	38	56,35
Self-employed	40	58,35	40	58,35	40	58,35	40	58,35
	2005		2006		2007		from 2008	
	Only contributions	Age and contribution	Only contributions	Age and contribution	Only contributions	Age and contribution	Only contributions	Age and contribution
Private employees	38	57,35	39	57,35	39	57,35	40	57,35
Public employees	38	57,35	39	57,35	39	57,35	40	57,35
Manual workers	38	56,35	39	57,35	39	57,35	40	57,35
Self-employed	40	58,35	40	58,35	40	58,35	40	58,35

Table 9 – TFR for employees in the non-agricultural private sector: relationship between accumulated and yearly TFR ⁽¹⁾

Company size	Age group								
	14-19	20-24	25-29	30-39	40-49	50-59	60-64	65+	Total
1 - 5	2.0	2.9	4.1	5.6	6.8	7.1	7.1	9.0	5.1
6 - 9	2.1	3.0	4.2	5.5	6.8	7.3	7.4	9.1	5.3
10 - 19	2.2	3.1	4.2	5.5	7.0	7.7	8.0	9.6	5.5
20 - 49	2.2	2.8	4.0	5.5	7.3	8.3	8.8	9.5	5.8
50 - 99	2.1	2.7	4.0	5.6	7.8	8.9	9.4	9.6	6.2
100 - 199	1.9	2.6	4.0	5.9	8.4	9.7	10.4	10.9	6.7
200 - 499	1.8	2.5	4.1	6.2	9.1	10.8	12.0	9.9	7.4
500 - 999	1.6	2.4	4.1	6.3	9.5	11.3	11.9	13.5	7.8
1.000 +	1.6	2.3	4.1	6.9	10.7	13.3	15.1	12.2	9.4
Total	2.1	2.8	4.1	6.0	8.9	10.7	11.1	10.0	7.0

Source: Ministry of Labour and Social Policies (2002), Statistical Appendix to the *National Strategy Report on Pensions*, Table 2.2.e. Statistics produced by INPS using the databank for employees.

Notes: (1) This indicates the average number of years that TFR is accumulated. Accumulated TFR excludes any advance payments received by employees. Annual TFR is estimated by applying the rate of 6.91% to the overall wage.

Table 10 – Membership of private pension funds – 2001

Type of worker	Members (thousands)			Average contribution (thousands €)
	Males	Female	Total	
Employees	1313	410	1722	
Contractual	758	236	994	1.3
Open	29	10	39	2.3
Pre-existing	526	164	690	3.5
Self-employed	195	70	265	
Contractual	10	6	16	2.1
Open	185	63	249	1.0
Pre-existing	0	0	0	
Total (escl PIP)	1508	479	1987	
Individual pension plans (PIP)	162	58	219	

Source: Ministry of Labour and Social Policies (2002), Statistical Appendix to the *National Strategy Report on Pensions*, Table 9.2.a. (data from Covip).

Table 11 – The effect of the incentive on the payroll

Gross earnings (€)	Personal tax rates		Increase % of net earnings with tax exemption of the incentive
	Average	Marginal	
12.500	11,9%	23%	40,7%
25.000	22,6%	29%	46,4%
50.000	30,8%	39%	51,9%
75.000	33,9%	45%	54,3%

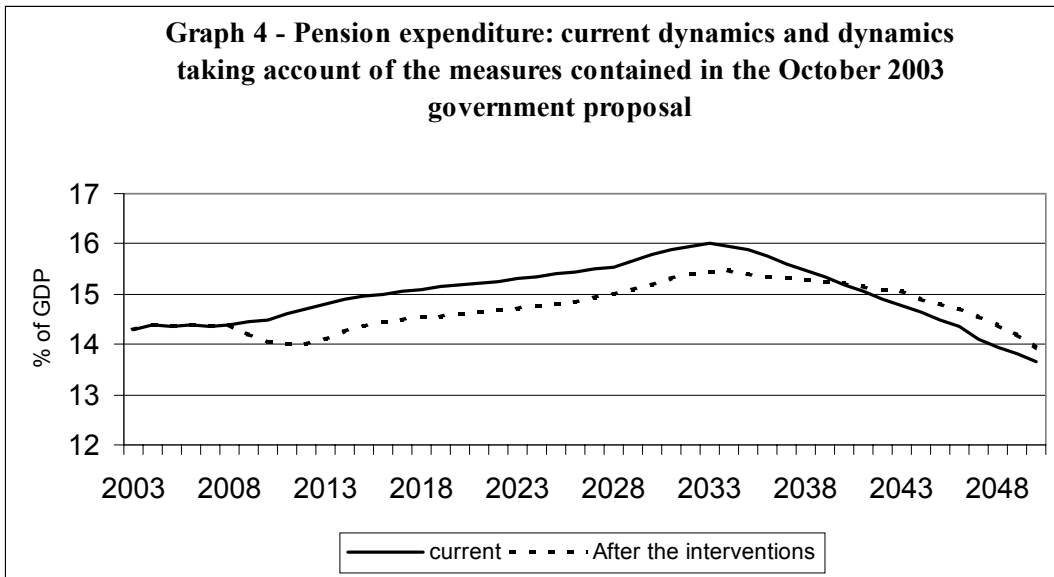
Source: Our elaboration (see also Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, December 2003).

Table 12: The effects of incentives as function of the discount rate and the disutility of labour
(Increments are expressed in % of earnings in the last year of work (1))

Seniority 35 years, individual income yearly growth rate 0,55%		Discount rate	Replacement rate (3)	Disutility of labour (4)			
				0%	33%	67%	100%
With incentives	Work income = 25.000 (2)	1,0%	70%	92,1%	44,5%	-3,2%	-50,9%
		3,0%		89,4%	43,2%	-3,1%	-49,4%
		5,0%		86,9%	41,9%	-3,0%	-48,0%
	Work income = 50.000 (2)	1,0%	64%	96,6%	54,4%	12,1%	-30,1%
		3,0%		93,8%	52,8%	11,8%	-29,2%
		5,0%		91,2%	51,3%	11,4%	-28,4%
With the current system	Work income = 25.000 (2)	1,0%	70%	96,9%	49,2%	1,5%	-46,1%
		3,0%		81,2%	34,9%	-11,4%	-57,7%
		5,0%		69,5%	24,5%	-20,5%	-65,5%
	Work income = 50.000 (2)	1,0%	64%	88,9%	46,7%	4,4%	-37,8%
		3,0%		75,7%	34,7%	-6,3%	-47,3%
		5,0%		65,9%	26,0%	-13,8%	-53,7%

Notes: (1) One considers an individual with 35 years of seniority and 57 years of age. The year the choice of whether prolonging the working activity or not is 2004. (2) Work income refers to the last year of work before the choice. (3) The replacement rate refers to the moment of the choice. (4) Expressed in % of net work income.

Source: Our elaboration (see also Ministry of Labour and Social Policies, *Rapporto di Monitoraggio*, December 2003).



Source: Technical annex to the October 2003 Government amendment to the pension reform law proposal.

4. A policy summing up

The ageing process is particularly sizable in the Italian case, as a rather subdued fertility pattern adds up to the lengthening of life expectancy and to the legacy of the *baby boom*. Its effects are already visible in the labour market, as an increasing share of the working age population is accounted for by elderly people. Assuming a constant age pattern of labour market participation, this would negatively affect labour supply growth and would in any case pose sizable problems of adjusting institutions and policies.

During the past, the pension expenditure in Italy has substituted for other components of the welfare system. Consequently, the current level of pension expenditure stands quite high and the associated financing burden, together with the general conditions of the public purse, has inhibited the development of other components of the welfare system. While this has contributed to limit the incidence of welfare traps due to unemployment and other non-work benefits, the access to pensions for people in their fifties has induced relatively important retirement traps and no much policy efforts to ease finding new jobs for the people involved. Moreover, while poverty relief is quite pervasive among elderly people, the poverty risk being significant only among the eldest ones leaving alone and with self-sufficiency problems, the social safety net in the non-working age population, particularly among households with several kids, is still underdeveloped. Even within the retirees population, as said, the pension system, while having a social assistance safety net within it, is not accompanied by measures addressing the peculiar needs of the eldest ones with self-sufficiency problems, who are forecasted to become an increasingly relevant issue.

In this framework, the pension reforms of the '90s have significantly curbed the effect of ageing on pension expenditure. In the current legislative frame this would increase by 2 percentage points of GDP in the next 30 years, an amount much less sizable than that automatically implied by ageing itself, reverting towards lower levels later on. Demographic effects are actually tackled by the gradual decrease in unitary benefits implied by the reforms enacted during the '90s, such a decline being in part due to the non real-wage indexation of pensions and in part a feature of the application of the new NDC method and of the link, established within such a system, between pension entitlements and life expectancy at retirement. While the relatively infrequent nature of the updates of such a link, at ten year intervals, may let arise disturbing discontinuities over time in the entitlements – a sizable discontinuity being also embedded into the delayed phasing in of the reforms of the last decade –, the link by itself guarantees the financial sustainability of the system vis-à-vis the demographic evolution.

However, the internal composition of the financial achievements granted by the past reforms is, to a large extent, unsatisfactory. Among the three main routes through which the financial

soundness of a generic pay-as-you-go system may be pursued in face of a strong ageing process – cutting unitary entitlements, increasing contribution rates or lengthening working life – there appears an excessive bias towards the first solution.

Under these respects, two (non alternative) routes have been generally identified in the Italian debate in order to avoid that all the burden of the adjustments needed in order to preserve the financial sustainability would fall upon unitary entitlements, so jeopardising the adequacy of the system.

Firstly, integrating the public component of the system with a supplementary fully-funded private pillar, which should provide for additional resources to future retirees, while, at the same time, providing fuel for the development of ticker and (hopefully) more efficient financial markets. Whatever the doubts such an option can fuel⁴⁸, the wide support it receives from all relevant actors (both past and current governments and both employers and trade unions) is a peculiar characteristic of the Italian framework.

The second route pertains to increasing elderly employment and the effective age of retirement, so that a lengthening of working life would accompany the lengthening of life expectancy. In the long run, when the new NDC will be fully phased in, this would allow to preserve unitary pension entitlements while providing for further economic growth chances and for an active participation of elderly people to social and economic life. In the near term horizon, when the old BD system will remain the relevant one, boosting elderly employment would contribute to ease the pressures upon expenditure deriving from ageing and the gradual phasing in of the new system.

Reaching these 2 goals is not an easy task, also because of the complexities and discontinuities already created by the overlapping of two different systems, the old DB and the new NDC ones. Indeed, the issues at stake and the possible policy levers may differ across the two systems. Furthermore, considerations related to both the logic of each system and to the labour market functioning and to demographic factors matter. This is true for both goals, as, for instance, the passage through the retirement decision period of the baby boom cohorts in the next decades strongly impinge upon the possibility to divert resources for the establishment of a second pillar as well as upon the need and possibility to handle a significant postponement of the retirement. Being interested more in the connections between pension rules and labour market behavior we however focus upon the second goal, that dealing with the retirement postponement, reviewing some of the main points discussed above, firstly concerning the rules of the old and the new pension systems and then the functioning of the labour market.

⁴⁸ One of us has actually expressed strong reservations about such a reliance on pensions funds: see Marano (2002).

For what concerns the rules of the pension system:

- In the near future, insofar as the old DB system applies, both the relatively high pension replacement rate matured by workers that can claim high seniority and the weakness of the marginal incentives to postpone retirement (because of the lack of actuarial adjustment factors) tend to negatively impact upon workers' willingness to postpone retirement. The possibility, strengthened in the past years, to cumulate work and pension incomes even for some seniority pension retirees, the increasing recourse to some peculiar contractual relationships paying a reduced amount of contributions and also allowed to be cumulated to pension income (the so called *collaborazioni coordinate e continuative*) and the still pervasive presence of the hidden economy further weaken whatever gain – as embedded in the DB formula or as eventually introduced through ad hoc measures – of retirement's postponement⁴⁹. So, the positive trend in the average age of exit from the labour market which seems materializing anyway is due to the combined effects of the gradual tightening of the seniority thresholds and of the gradual decline in the actual seniority rights accumulated by the new cohorts of elderly people, increasingly made by those affected by the rise in schooling participation occurred since the '50s (and the corresponding later entrance into the labour market) and by the widespread youth unemployment of the '70s and the '80s.

- In the longer run – as the new NDC system will apply – both the lower generosity of pensions (for given age and seniority) and the marginal incentives to postponement embedded into the actuarial adjustment of the benefit formula should provide for stronger incentives. This should compensate for the fact that in the NDC system the seniority requirement accompanying the age requirement of 57 years is just 5 years, against the 35 required in the old DB system; indeed, the supplementary constraint dictating that in order to retire early than 65 one needs to have pension entitlements at least equal to 1.2 times the minimum old age allowance (the *assegno sociale* to which each citizen is allowed to start from 65 years of age) is expected to be very binding for many low income people.

As already argued, these different pension rules interplay with the labour market functioning. In the past, and still now, demand side factors were pushing out of the labour forces and towards early or seniority retirement cohorts of elderly workers characterized by a substantial human capital gap. The traditional lack of attention to elderly people by active labour market policies has been, if any, worsened by the fact that many of the lately undertaken flexibility enhancing measures were tilted towards easing the access to the market of youths, and by the virtual absence of life-long-

⁴⁹ Clearly all the elements now mentioned would be compatible with a high employment rate of the elderly as these would simply add up work and pension incomes. To the extent that this does not happen in the hidden economy, it would be regular work with positive tax revenues effects.

learning and retraining programs targeted on elderly workers. In the future, a better functioning labour market and a reduced human capital gap across generations – as implied by the reduced pace of human capital accumulation across generations⁵⁰ – should improve elderly workers' chances. Nevertheless, it seems fair to say that further discretionary changes in the policies, paying specific attention to elderly workers' needs and supporting changes in the traditional human resources practices, are needed for.

All in all, taking account of both the labour market functioning and the pension rules features it appears that it would result extremely difficult to increase the actual retirement at least in line with the expected increase in life-expectancy. Actually, shifting upwards by 5 years the actual age of retirement would imply positioning it at the very limit of the 57-65 window envisaged for the NDC system, the incentives embedded in the NDC system only applying up to 65 years of age.

Against such a picture, the proposal recently made by the Government focuses upon a single instrument, a sharp (although delayed) increase in the seniority and age access requirements, such thresholds being reinserted as a relevant feature also in the future NDC system. While not irrelevant, the incentives to postpone retirement are in any case limited to the period up to 2008 and have effects quite uncertain, so that here we will mostly discuss the strengthened role of seniority requirements in the picture above described.

The previous section has already shown what are the quantitative, in terms of overall expenditure, and qualitative, in terms of balance between unitary pensions and number of retirees, features of the proposal made. Here, we briefly come back upon a few possible drawbacks. A first issue relates to the *abruptness*, *timing* and *size* of the change in the seniority requirement. The second issue relates to the choice of the *seniority parameter* itself given the prospective application of the NDC system.

The sharpness of the uplift from 35 to 40 years in the seniority requirements would produce further inequalities across cohorts into a system in which the old reforms, while generally leading to a more equitable system across job categories, have already produced sharp differences across cohorts. For this same reason, within the cohort of those abruptly impacted by the change, those postponing by 5 years their retirement would end up having quite rich pension entitlements, while those who would opt out, accepting the anticipated application of the NDC system, would end up with much poorer entitlements. The sharpness of the (constrained and unplanned for) decision to be made and of the income differential so generated might produce over time some pressure towards relief of the poorest ones. In any case, as the intervention would be very much concentrated upon workers relatively close to their planned retirement age and who have no many opportunities to

⁵⁰ Clearly this may be a problem at the aggregate level. From the peculiar point of view of elderly workers' chances this will reduce elderly workers' disadvantage.

adjust their choices and behaviour, the welfare effect upon them – as they would clearly end up being off-equilibrium (either too rich in income and poor in leisure or viceversa rich in leisure and poor in income) – may be substantial. Furthermore, the sharpness of the change would imply a sizable, even if somehow announced and therefore expected, labour supply shock to be accommodated into the labour market.

Even from a purely financial point of view, the fact that, apart from those opting for an anticipated application of the NDC system, the interventions towards the forthcoming cohorts of retirees would not imply a reduction in pension entitlements, which on the contrary would be increased because of the lengthier working period, would limit the financial impact of the interventions precisely when the expenditure is expected to peak.

At the same time, the timing chosen has some clear advantages. It is most effective as it starts binding when the baby boom cohorts enter into their retirement decision period. Given that the baby boom-baby bust timing is going to produce precisely from the next years onwards a reduction in the working age population, also the capability of the labour market to handle an increase in labour supply (more precisely a less pronounced reduction in labour supply), would be greater than today: in the forthcoming years, it is likely that firms will be gradually forced to change their human resources practices because of the increasing paucity of youths and new entrants into the labour market.

All in all, while the concentration of the effort around the envisaged period is quite sensible, the sharpness *per se* appears quite problematic⁵¹. Indeed, also other inequalities embedded into the last decade reforms would merit some fine tuning.

In the perspective here presented, a key issue is also that concerning the appropriateness of the parameter chosen, the age and the seniority requirements. Here the major problems derive from the lack of coherence with the NDC system and the loss of some of its positive features. The problems derive from the reinsertion (into the new NDC system) of a seniority threshold – practically irrelevant in the currently established scenario for that system – and from the practical disappearance of the age window which was a peculiar feature of the new NDC system. *Per se* the increase in the seniority and age requirements would insure that significant increase in the age of retirement over a longer run horizon which could not be taken for granted in the NDC system as fixed by the current legislation. However, many of the flexible features of that system would be lost⁵².

⁵¹ Within the same approach focused upon uplifting of the seniority threshold, some more gradualism over time and the introduction of some flexibility vis-à-vis individuals' choices could possibly enhance both efficiency and equity.

⁵² Again within the same approach, it is debated whether it would be better to shift up the age window currently established in the new NDC system.

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