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A Pension System in Transition: the Case of Italy

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1. Overview

In recent years the Italian pension system has been undergoing a process of radical change. Two major reforms have been enacted in the 1990's: one in 1992 (the Amato reform) and one in 1995 (the Dini Reform[1]), while for over forty years the system had remained almost untouched in its original set up, with legislative innovations mainly aimed at extending and improving benefits. It would be fair to say that, in cross countries comparisons, the Italian pension system stood out as the typical example of a system on the verge of a crisis.

Three major aspects can be identified:

- An *extreme generosity* of benefit payments. In particular, almost every benefit outlay was characterised by relatively high replacement rates and pension indexation. The existence of an early retirement option, attracting no actuarial penalty further enhanced this trend.
- A pervasive (often perverse) *redistributive feature*. This was a consequence of the coexistence of many different schemes following markedly different, *ad hoc* rules. Policy makers made extensive use of differential treatments across funds to gain political consensus.
- A structural *financial unbalance*, clearly visible in the persistently high (present and projected) deficits between payroll taxes and expenditures. This applied for almost every public fund and it was clearly emerging from estimates of net pension liabilities and from projected equilibrium contribution rates.

The reforms aimed at tackling these anomalies. The Amato reform mainly targeted financial unsustainability in terms of pension cuts both immediate (i.e. through the abolition of pension indexation to real wages) and long term (i.e. through the lengthening of the period used for computing pensionable earnings and the gradual abolition of the extremely generous rules for public employees). The Dini reform was more timid in terms of further immediate cuts but changed the institutional design more profoundly, by switching from an earnings-related to a contribution based pension formula and by introducing *actuarial fairness* as the basic principle inspiring benefit computation for all workers. Both reforms, however, largely safeguarded the «acquired» pension rights of present workers, thus placing the main burden of adjustment onto the younger and future generations.

Finally, further benefit cuts - a mild version of a much more radical plan covering the whole welfare system - have been introduced by the present government[2]. The main feature of these provisions is the speeding up of the abolition of remaining differences between private and public employees regarding early retirement.

It is of course possible to view these overall developments either in terms of the many things that remain to be done or in the more optimistic terms of the big changes that have been achieved, particularly in the light of the strong social opposition to any benefit reduction. As a result of these changes, Italy is certainly now moving towards a less unbalanced, less distorting and more uniform pension system. However, an excessively long transition - the new system will be fully phased in only in the very distant future (around 2050) - coupled with a very unfavourable demographic dynamics, make further changes likely in the near future.

2. Basic features of income provisions for the elderly in Italy.

Public pension expenditure (including old-age benefits, disability and survivors' benefits plus an income maintenance provision for the very old) still absorbs a very large fraction of GDP so that Italy is second, among European Union countries, with a ratio of 17.6 per cent in 1994, surpassed only by the Netherlands, although it is below the European average in overall social protection expenditure (26,5 per cent, versus 28.4 per cent)[3]. It follows that pensions represent by far the largest item in social protection expenditure (61.5 per cent, versus 48.4 per cent in France, 51.1 per cent in Germany and 51.6 in the UK).

[1] Both reforms are named after the Prime Minister of the day.
[2] Under Mr. Prodi, in the budget law for 1998, approved by Parliament in December 1997.
[3] See EUROSTAT, *Social Protection Expenditure and Receipts*, 1980-1994 Luxembourg, 1996.

This figure shows the widespread use of public pensions for general welfare provisions in Italy, largely at the expense of other income provisions (particularly unemployment benefits and family tax allowances) and other forms of economic support for the elderly. Table 1 shows a summary of the various components of the Italian social expenditure for the elderly.

Table 1. ***Sources of state income available to pensioners*** (1996)

Payment (benefits)	*Type*	*Contribution rates* (% of gross earnings)*	*Expenditure in % of GDP*	*Number of pensions (x1000)* [percentage over population 60+][4]	*Criteria*
Old-age, seniority and survivors pensions	Contributory	*Public Employees: 32* *Private employees: 33 (23.91 + 8.89)* *Self-employed: 15.6*	12.19	13136* [106 %]	*At present*: Earnings related *In the future*: contributions related (See table 2)
Disability pensions	Contributory	(included in the above)	2.18*	3.830*	(partly) Means tested
Income support («pensione sociale» and integration to the minimum pension)[5]	Non contributory	-	1.21 **≈17%**	5610 [44.88%] (of which 740 are «social pensions»)	Means tested
Other payments (mainly TFR)	Contributory	7.41% of gross earnings	1.51	-	Capitalised value of contributions
Benefits in kind	Non contributory	0.6*		-	Means tested

*refers to 1994
Sources: Relazione Generale sulla situazione economica del Paese, 1996; Commissione per l'analisi delle compatibilità economiche della spesa sociale, 1997, Documento di base num 1 e All.2 al documento di base num. 3.
ISTAT, Statistiche sui Trattamenti pensionistici, 1996.

The reliance on public pensions as a «safety net» also emerges in the frequent use of *pre-pensioning schemes*, which improperly transfer the burden of industrial restructuring to the pension system, by allowing redundant workers to retire early on a full pension[6], and on the widespread practice of using the «*cassa integrazione*» scheme when workers approaching pensionable age are in danger of losing their jobs; the scheme guarantees 80-90 per cent of take home pay and preserves the worker's status, thereby allowing

[4] It must be recalled that the ratio of pensions over the population 60+ of age is rather ambiguous since the numerator includes some double counting (one person receiving more than one pension) while the denominator also includes active persons. The ratio is not given for disability pensions since they are not dependent on age.

[5] «Social pensions» are granted to people aged 65 or over with no other means; «integration» relates to all contributory pensions (first two rows) below a given floor (see footnote 11); their number overlaps therefore with the first two kind of pensions.

[6] This is not exactly as early retirement, as it only applies to employees in certain sectors. The use of *pre-pensioning* was particularly widespread during the Eighties and early Nineties, largely at the expense of unemployment benefits. A very recent example of this is the pre-pensioning of a consistent number of railway workers.

him/her to accumulate seniority while he/she is laid off[7]. On the other hand, options for gradual retirement are practically non existent, although some schemes are about to be introduced.

Reliance on generous public pensions is also the main reason for the very minor, complementary role of private pensions (see section 4.1).

As for health insurance, all individuals over 65 with household income not greater than 70 million lire (about double the 1995 average income) are entitled to almost free access to doctors, medicines and hospital care. Most elderly people also get considerable discounts both on railways and on local transport, while other provisions (especially nursing homes and home care) are mainly the responsibility of the local administrations and thus vary greatly among the various cities and regions[8].

It must finally be noted that the extent of irregular employment may somewhat lessen the importance of public pensions in the budget of the retired, for the considerable number of pensioners who are able to get a «black», sometimes part time, job[9].

3. **Public pension provision.**

3.1 *Recent developments and present situation*

Due to past *ad hoc* legislation and the long transition to the new regime, the Italian pension «system» is still a combination of different schemes, rather than a unified system. In terms of workers and pensioners involved the most important schemes are:

- the *private sector employees fund* (FPLD), covering some 11 million active workers and 10,2 million pensioners;
- the *public sector employees schemes*, with 4.3 million workers and 2.4 million pensioners;
- the *self-employed schemes* (4.3 million workers and 3.8 million pensioners)[10].

All schemes provide old age and disability pensions as well as benefits to survivors; participation is compulsory and pensions are (and will remain for many years) earnings-related (see table 2). Apart from these common features, there still are striking differences in payroll taxes as well as in benefits and in the state contribution to cover the schemes' deficits.

FPLD is by far the most important fund. It was established in 1919 with a mixed financing method, featuring aspects of both PAYG and funding; war and post-war inflation, however, almost nullified reserves - largely invested in long term Treasury bonds - and by 1952 the scheme had basically turned to pure PAYG. It was further transformed into a redistributive mechanism by successive benefit-improving innovations, mainly introduced during the Sixties and Seventies: seniority pensions, whereby old age benefits can be collected, irrespective of age, after 35 years of work; the adoption of a final wage formula to calculate benefits (see Table 2); automatic indexation of benefits to real wages. Redistribution took place not only across but even within the various cohorts, thus leading to very different implicit rates of return on contributions for different individuals[11].

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[7] A proposal for reform has however been advanced by the government (in August 1997), which envisages the gradual abolition of pre-pensioning and a complete revision of the «cassa integrazione», with the aim of limiting its duration and increasing its insurance (as opposed to assistance) character.

[8] The present government has recently undertaken the task of revising the whole subject (i.e. the various assistance programs), with the aim of reducing disparities and abuses and increasing efficiency through the introduction of a comprehensive and uniform test of the means («riccometro»).

[9] In order to understand the economic conditions of the elderly in Italy the great importance of family in Italian society must also be borne in mind: except for relatively small social groups in large cities, pensioners usually have families to fall back on and in which they integrate comparatively smoothly, often transferring within it some of the energies and activities they reserve to work and sometimes pooling their pension in the family finances. Recent years have also seen a large increase of charitable and voluntary work by younger pensioners. See, ISTAT, 1997, Anziani in Italia.

[10] Sources: for FPLD and the self-employed: «Relazione Generale sulla situazione economica del Paese», 1996. For the public employees: the figure for active workers is again taken from «Relazione Generale», while the number of pensioners is taken from ISTAT «Statistiche sui trattamenti pensionistici».

[11] This was originated by various features of the scheme: the introduction of ceilings and floors, both largely irrespective of contributions, implied a redistribution among income classes; the floor, in particular, has had a large impact since a great number of pensioners was below it. The earnings related pensions implied, other things being equal, higher implicit returns for steeper

The need to finance these innovations led to a steady increase in payroll tax rates; this however was insufficient to reduce the gap between present (and projected) expenses and contributions. Although the effective contribution rate reached, in 1992, the level of 27 per cent, high by international standards, the equilibrium rate was much higher, in the 45 to 55 per cent range.

Similar and even more generous developments took place for the other schemes; public employees in particular had the possibility to retire on a full pension after 20 years' service (15 years for married women) while, after 1990, the pension entitlements of self-employed workers were equalised to those of private employees in spite of their contribution rates having been (and still being) markedly lower.

Table 2 summarises, for the main schemes, the various eligibility criteria and pension formula.

Table 2. Pension determination formula

	Private employees	***Public employees***	***Self-employed***
	Before the Amato reform		
Pension formula	2 % of *last 5 years* average salary	2 % of *last monthly salary*	2 % of last *10 years* average earnings
Indexation	All pensions indexed to statutory minimum wage		
required age/seniority	*F* 55/35 *M* 60/35	*F* 65/15 *M* 65/20	*F* 60/35 *M* 65/35
	Amato reform long-run provisions		
Pension formula	2 % of the average of *whole working life* earnings, each earning adjusted for inflation, and further revalued by 1 % per year		
Indexation	all pensions adjusted for inflation		
required age/seniority	*F* 60/35 *M* 65/35	*F* 65/35 *M* 65/35	*F* 60/35 *M* 65/35
	Dini reform long-run provisions		
Pension formula:	contribution payments "virtually" capitalised at the GDP growth rate and transformed into a lifetime annuity according to *actuarial fairness* (taking into account the age of retirement); actuarial coefficients identical for both sexes		
Indexation	all pensions adjusted for inflation		
required age	*Minimum age: 57*		

Fig. 1 and fig. 2 show the effects of the various improvements introduced in the public pension system in terms of the ratio of mean pension to mean earning (fig. 1) and of the real average pension (fig. 2). For both indicators, the upward trend is particularly pronounced during the Fifties and from mid-Seventies till early Nineties.

earnings profiles. Finally, perhaps the greatest redistributive impact was caused by the seniority pension mechanism allowing workers to collect their pensions at markedly different ages without actuarial correction for age difference; a further advantage for seniority pensioners was the possibility to cumulate the pension with income deriving from a new, independent activity.

Figure 1. Trends in mean benefits over mean earnings [12]

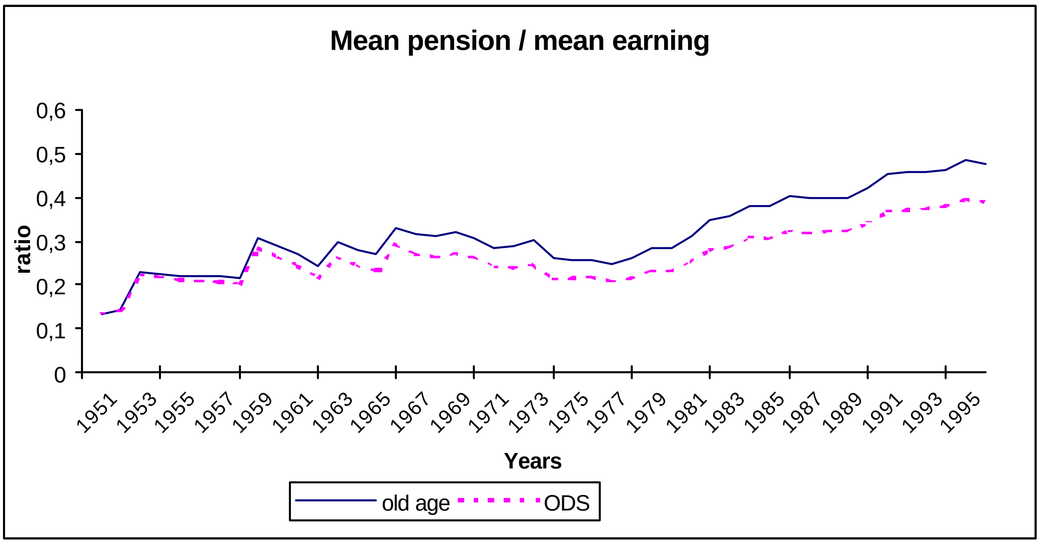
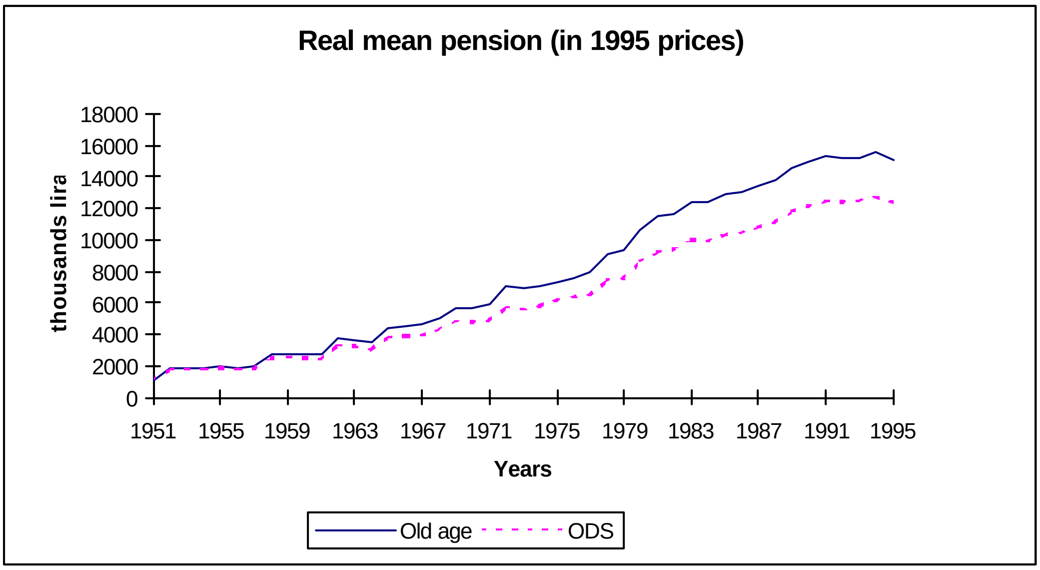


Figure 2. Trends in real average public pension



This is the situation that the two reforms set out to correct with the very considerable political constraint of maintaining social consensus. Such aim could be achieved only by establishing a demarcation line which largely safeguarded the acquired rights of the older cohorts of workers[13] and created the need for pro rata calculations, a situation with a very large variety of cases involving different cohorts and different personal working histories.

In order to illustrate how the present system operates we take the example of a single man retiring at the age of sixty-three in 1998 (January 1st), assuming he earned the *median* (in each year for both his cohort

[12] Figures are obtained as the ratio of mean benefit over mean earnings for each year. We distinguish old age benefits and old-age plus disability and survivors benefits (ODS). *Sources*: INPS, "Settant'anni dell'Istituto Nazionale della Previdenza Sociale" and "Cinquant'anni dell'assicurazione generale obbligatoria per l'invalidità e la vecchiaia", Roma, 1970; INPS: "FPLD. Indicazioni di carattere statistico", Roma, 1996. Ministero del Tesoro, "La spesa previdenziale e i suoi effetti sulla finanza pubblica", Roma 1981; ISTAT, Annuario Statistico Italiano, various issues.

[13] The line was drawn at 15 years of contributions by the Amato reform and to 18 years by Dini reform, three years later.

and gender)[14] full time wage since 1958 (hence working for 40 years) and paid contributions to the FPLD fund. As a variant of the base case (full career-median earner), we consider the same individual with a 5 years interruption in his working career, occurring between ages 49 and 54, thus leaving the last eight years prior to retirement with a full wage.

To these two benchmark cases we contrast two individuals earning the first 25% and the second three times median earnings; we have chosen these values because they allow us to explore cases where the minimum benefit tier and the upper pension tier (ceiling) apply.

We focus on two benefits: old age benefit (pension) received in the first year of his retirement and the one-off benefit obtained from his severance pay fund (TFR, a deferred integral part of workers' compensation)[15]. Old age benefits are computed according to the *pro rata* method devised by the Amato transition, as our retiree has 35 years of contributions under the pre-Amato regime and 5 years of contributions under the transition. Table 3 shows how these entitlements vary with lifetime earnings for both the continuous and the discontinuous career.

Table 3 - How the Italian Old Age Pension varies with lifetime earnings.
Males of the INPS-FPLD fund retiring in 1998 (1997 Italian Lira)

Annual earnings related to the median	¼		1		3	
Number of years without contributions	0	5^	0	5^	0	5^
Yearly gross pension	8874	8874	26878	23519	72506	65071
Yearly net pension	8567	8567	21972	19948	51416	47030
Gross pension as a % of current gross average earnings	*23.65**	*23.65**	*71.63**	*62.67**	*193.22**	*173.40**
Net pension as a % of current net average earnings	*32.04**	*32.04**	*82.18**	*76.61**	*192.30**	*175.90**
Gross replacement ratio (%)	***103.00***	***103.00***	***77.99***	***68.24***	***70.13***	***62.94***
Net Replacement ratio (%)	***103.08***	***103.08***	***90.41***	***80.32***	***84.61***	***77.39***
TFR (severance pay fund)	11539	8898	46154	35593	138464	106778
% of TFR on last yearly gross earnings	*133.92*	*103.27*	*133.92*	*103.27*	*133.92*	*103.27*

^ Refers to a 5 years interruption in working career
*The ratios are obtained with respect to the 1997 average earning in industry
(*gross* earning is 37.5 million Lira, while *net* earning is 26.7 million Lira).

Taking first the median earning- full career case, our retiree receives a pension of (approximately) 27 million Lira in his first year of retirement, plus a lump sum of 46 millions. The *net* benefit is substantially

[14] His cohort is defined as individuals born between 1927 and 1936. The choice of the age band is dictated by the survey data available. In the Data Appendix we describe the sample.

[15] Severance pay fund was originally devised as an insurance scheme against involuntary loss of employment, but it gradually evolved into a form of deferred compensation, no matter the specific cause of job termination. Under TFR regulations, 2/27th (7.41 per cent) of a year's gross salary must be set aside by each firm every year; workers are entitled to partial withdrawals only to finance house-purchase or to cover exceptional medical expenses. This means forced saving for the workers as well as availability of low cost finance for the firm. Until 1982 the fund was generally indexed to nominal earnings, while since 1982 it is indexed only to the cost of living, although imperfectly, the indexation formula being 0.015+0.75*consumer price index. The aggregate size of the fund is estimated in 180-200 thousand billion lire, i.e. slightly less than 10 per cent of GDP.

below the *gross* benefit due to a highly non linear income tax schedule. The gross replacement ratio is 0.7799, hence very close to the «theoretical» replacement ratio of 80%, while the net replacement rate is much higher. In fact, earnings attract both social security contributions (inclusive of the TFR contributions) and income tax. The latter is typically higher than the tax paid on old age benefits.

For retirees with low earnings a «minimum benefit provision» applies (described above) which brings the benefit level at a given pre-set level. Hence a low earner has on average a higher replacement rate.

For a high earner a ceiling on pensionable earnings operates. This breaks up pensionable earnings into different brackets and applies different rates of return to each bracket. The rate of return decreases as pensionable earnings cross higher and higher brackets. Hence the replacement rate in the third column of table 3 is below 80%.

Turning to the discontinuous career we see, first, that the gap in earnings histories does not greatly affect the results for the median earner (and for the high earner); this is due to the fact that the gap occurred before the average-salary calculation period, so that the slight reduction in old age benefits and in the replacement rate depends only on the reduction in the number of years entering the pension formula. Moreover, the low earnings retiree is not affected by the break, as his benefit level is in any case lower than the minimum guaranteed level and is therefore replaced by that value. The break in contributions obviously affects the results for the severance pay fund entitlement (TFR) as less contributions are accumulated over the working life[16].

Overall, our results confirm that the current transitional system still is extremely generous.

3.2 *Outlook for the future*

The 1995 Dini reform firmly reasserted the *centrality* of the public pension system in delivering economic support for the elderly. This is mostly evident in the high payroll tax rate envisaged non only for the near transition period, but also for the distant future. For private and public employees the contribution rate is now at the level of 32-33 per cent of gross earnings. As will be seen, this high participation rate only leaves a small room for private pensions (section 4)[17].

The future steady state rests on four principles.

The *first*, and most significant, is the contribution based method: lifetime payroll taxes will be (virtually) capitalised at the GDP real growth rate and converted into a lifetime annuity in accordance with actuarial fairness (see table 2). Pension age will therefore be a crucial element in determining the pension level. In particular, this will be a function of: a) actual wage profile (or earned income for the self-employed), b) actual length of working life, c) retirement age and d) the growth rate of the economy.

The *second* principle is flexibility of retirement age, in many ways a consequence of the first: since age, as well as length of working life, has become a determinant of the pension's level, retirement, giving rise to a pension of varying amount, will be allowed, at the worker's request, at any age between 57 and 65[18] irrespective of gender.

The *third* principle of the Dini reform is uniformity of rules (i.e. actuarial fairness will apply not only across generations, but also across different working groups), a striking change from the present maze of different schemes. In particular, privileged funds - such as the public sector employees funds, the self-employed funds, the special funds for journalists and banking employees - will gradually disappear[19].

Finally, the *fourth* principle is financial equilibrium. This will be determined by two factors, the first is the equality of the internal rate of return on contributions with the GDP growth rate, the second is that a

[16] Normally the severance pay fund lump sum benefit would be paid at the time of each job-separation. Hence our representative worker should have two TFR payments for the two different sub-periods. To keep things simple we assumed that the entire sum is paid at the time of retirement and that the fund keeps cumulating at the same rate in the interim period.

[17] For self employed workers, however, current contribution rates are much lower (15 per cent), implying lower replacement ratios (about two thirds) and potential greater reliance on private pensions.

[18] Retiring after 65 will be possible but with no actuarial gain.

[19] The differential treatment of the self-employed with respect to the employees will however last for some more years: the former currently pay a contribution rate of 15 per cent (to be gradually raised to 19 per cent in future years) while receiving credit for a 20 per cent contribution rate.

periodical revision of the «transformation coefficient» - used to calculate the annuity value of the capitalised fund of each employee – will be based on mortality tables[20].

Table 4 shows a comparison between the Amato and the Dini *regimes* for two crucial parameters: replacement rates and the ratio between average pension and average earning under various assumptions concerning the growth rate of the economy GDP (g) and the earnings growth rate (y). (Both parameters are assumed to be constant).

Comparing the two reforms, it can be seen that *neutrality* between the two regimes is achieved for a combination of age 62 and seniority 37, with an excess of the earning rate of increase over the GDP growth rate equal to half a percentage point; for higher seniority and retirement ages the Dini reform (i.e. the actuarial method on which pension calculation will rest) actually implies both a higher replacement ratio and a higher ratio of averages (last two columns); on the other hand, retiring at younger ages will carry a higher penalty.

Table 4. A comparison between the Amato and the Dini regimes*

Age	*Seniority*	*y*	*g*	*Replacement ratio (%)*		*Average pension/ Average earning (%)*	
				Amato	Dini	Amato	Dini
57	35	2	1.5	58.6	50.1	55.4	47.4
		3	2.5	54.4	50.2	46.7	43.1
60	37	2	1.5	61.3	57.8	57.9	54.6
		3	2.5	57.0	57.8	48.9	49.6
62	**37**	**2**	**1.5**	**61.3**	**61.7**	**57.9**	**58.3**
		3	2.5	57.0	61.8	48.9	53.0
65	40	2	1.5	65.9	73.7	62.3	69.6
		3	2.5	61.0	73.8	52.3	63.3

**Source:* Castellino, 1995; similar results are reported in Banca d'Italia, 1995 and in Antichi, 1997.

3.3 *Projections and sustainability*

In spite of the magnitude of the reform efforts, sustainability of the Italian pension system is however still a long way off. Financial equilibrium will be reached only at the end of a very long transition period, when not only the present pensioners - whose benefits have largely remained untouched - but also future pensioners whose benefits will be derived in accordance with the *pro rata* mechanism, will have passed away. 2050 is a realistic date for the new contributory regime being fully phased in; until then the yearly deficits of the system will have to be covered by state finance.

The main reason for the persisting unbalance is the inability of the *transition rules* to counterbalance the very unfavourable demographic evolution.

Looking first at the equilibrium payroll tax rates, the most recent official estimates[21] are presented in table 5.

[20] However, a weakness of the adjustment mechanism is that the coefficient revision will non be automatic, but will instead be subject to negotiations with the unions.

[21] The source of the more updated projections is the Treasury. The other official source of long term projections, INPS, has not yet published any figure taking the Dini reform into account.

Table 5 . Equilibrium Payroll Tax Rates (%) and Funds Imbalances as per cent of GDP[22]

Years	*Private employees (FPLD)*		*Public Employees*		*Self-employed (and Independent Farmers)*		*Overall deficit*
	Equil. Tax rates	*deficit*	*Equil. Tax rates*	*deficit*	*Equil. Tax rates*	*deficit*	
1995	47.3	0.95	45	2.27	15.5	0.70	**3.92**
2000	44.3	1.06	48	1.80	19.9	1.00	**3.86**
2010	42.6	1.05	45-50	1.54	27.5	2.50	**4.09**
2020	43.8	1.10	45-50	1.73	29.8	1.43	**4.26**
2030	47.9	1.15	45-50	2.36	28.4	1.15	**4.66**
2040	42.7		?		24.5		
2050	34.1		?		21.5		

The unfeasibility of the implied increases in the effective payroll tax rates is self-evident; this means either that further pension cuts will be inevitable or that the very considerable gap between expenditure and contributions (*over 3 per cent of GDP*) will have to be financed through general taxation or through an increase in public debt (this last option is hardly feasible under the Maastricht criteria).

Turning to *pension expenditure/GDP ratio* (a parameter whose constancy the government has recently adopted has a benchmark), projections published by the Treasury[23] show an increase under most demographic and economic scenarios until 2030-2035 followed by subsequent moderate decreases, largely determined by the phasing in of the recent reforms. In most scenarios, however, at the end of the simulation period (fifty years starting from 1995) the expenditure ratio will still be somewhat higher than the starting year's figure (13,63 per cent). Breaking down the ratio's future variations into their main determining factors, it is shown that, again under most scenarios, both the macroeconomic framework and the normative changes of the Nineties will have a depressive influence, but that these will be more than offset by the unfavourable effects of the demographic factor.

Clearly, however, the impact of recent normative changes is going to be severe on pensioners, particularly as only a price (and not a wage) indexation of benefits is envisaged.

4. Private pensions

4.1 *The present*

Pension funds play a negligible role in the Italian economy and this is not surprising, if the overall generosity of the public pension system is taken into account. Up to 1992, pension funds were not even regulated; they added up to over a thousand (some very small), covered about 7 per cent of the workers, largely concentrated in the traditionally «strong» sectors of banking, insurance and journalism, and in the North of the country. After a failed attempt by the Amato government to encourage the creation of a private

[22] Sources: for FPLD and the self-employed, Ministero del Tesoro-RGS 1995a, p. 86 and 1995b, p.105-107 (simple average between craftsmen and shopkeepers). Annuity values are supposed to be revised every ten years according to current life tables. For public employees, authors' calculations and projections on the basis of Monorchio, 1994, p. 36. Table 4 does not consider, apart from a few minor pension schemes, the scheme for self-employed farmers, by far the more unbalanced, with many more pensioners than active workers and equilibrium contribution rates well over 100 per cent. *See:* Castellino and Fornero, 1997

[23] See: Ministero del Tesoro-RGS, 1996 and Aprile R. et al., 1997.

pension system as a relevant «second pillar» of social security[24], the Dini reform took up the issue, apparently with more success[25]

4.2. *Likely future developments*

Present legislation envisages a path to build up a stronger private component of the Italian pension system. It is however a very gradual and narrow path, relying mainly on the change in the destination of financial flows now directed towards severance pay fund (TFR). On top of that, legislation encourages further employees' and employers' contributions, benefiting from tax incentives, although only within limited amounts and conditional on the parallel pension funds destination of TFR flows[26]. Private pensions will then mainly be «occupational», rather than «personal».

Participation in pension funds is voluntary, and will thus be mainly determined by negotiations between employees and firms and by the employee's advantages relative to alternative investment opportunities (coinciding with the status quo in the case of TFR). Various parameters[27] influence the implicit net-of-tax return rate and therefore the three choices open to an employee: joining a pension fund, maintaining the status quo for the TFR and choosing alternative saving instruments for any further contribution.

Simulation exercises (Fornero 1997) show that, in spite of incentives offered by the Dini reform, present legislation does not treat pension funds with particular favour: joining a pension fund is unambiguously convenient only for high marginal tax rates and, oddly enough, for short participation periods.

The implicit rate of return is not, however, the only relevant parameter in the decision to join a pension fund; other factors, not always easily quantifiable because of their subjective nature, must also be taken into account. Factors weighing against pension funds include the continuing - at least for private employees - high level of social security coverage, the limited interest traditionally shown by households towards annuities, the ceiling on lump sum withdrawals. Factors in favour of pension funds include the lively interest stimulated by their introduction as a new financial alternative and a new instrument in industrial relations, as well as fear of further cuts in social security.

The overall consideration of these elements makes it impossible to reach any definite conclusion on the future development of pension funds. Simulation exercises show that the *flows* will remain comparatively low in the near future. It is thus difficult to envisage scenarios, even when considering relatively high interest rates, in which the ratio of pension funds' assets over GDP will be more than a few percentage points (i.e. over 5 per cent) over the next 10 years.

5. Activity Rates

Activity rates play a crucial role in determining future developments of the pension system. While several studies have addressed the impact of demographic trends on the financial distress of the Italian Pensions Funds, very few have pointed out the importance of trends in labour force participation, particularly for the age group close to retirement age[28]. Activity rates have declined substantially in recent years: a

[24] Despite being the first government to introduce a regulation for pension funds (in 1992), the Amato government, with a financial crisis on its hands, adopted a very severe policy on tax benefits and indeed almost penalized this new financial product. It is no wonder that, contrary to the high expectations originated by the regulatory law, no new fund was started and the existing ones were frozen, i.e. suspended any new enrollment.

[25] Various occupational sectors (chemical, engineering, etc.) have recently set up their pension funds, which will be fully operative within a few months.

[26] Severance pay follow an EET taxation scheme, i.e. contributions and accruing interests are exempt, while the capital is separately taxed, at the liquidation date, at favorable rates. Further contributions to pension funds by employers and employees are deductible up to a limit (the lower between 2 per cent of gross yearly compensation and 2.5 million lire), on condition that the TFR flows are diverted (completely for new workers). Globally, then, the maximum contribution rate to pension funds fiscally encouraged is 10.91 per cent: the TFR rate, net of a deduction of 0.5 paid to INPS, plus 2 per cent from the employee, plus 2 per cent from the employer. Independent workers are allowed yearly deductions up to the lower between 6 per cent of their income and 5 million lire.

[27] The most important are: marginal tax rates for the work and pension periods respectively; length of pension fund participation; nominal and real interest rates; real wage growth rates.

[28] Livi Bacci (1995a and 1995b) has provided a careful study of future demographic patterns. Recent wok by the National

marked decline can be observed in labour force participation for men between 1958 and 1994 (Figure 3). As previously mentioned, at present, the statutory retirement age varies by gender, type of fund and number of contributions, hence workers could indeed retire at very different ages: the generosity of the early retirement option has encouraged many workers to leave the labour force at relatively young ages[29]. This is reflected in the time series data: participation rate drops substantially for the age group 60-65 (from 60% in 1958 to approximately 30% in 1987), and a non negligible decline can be observed for the age group 50-60. For women the drop in activity rates is contrasted by the increase in participation rates of younger cohorts (Figure 4).

Figure 3 . Male activity rates, 1958-1994

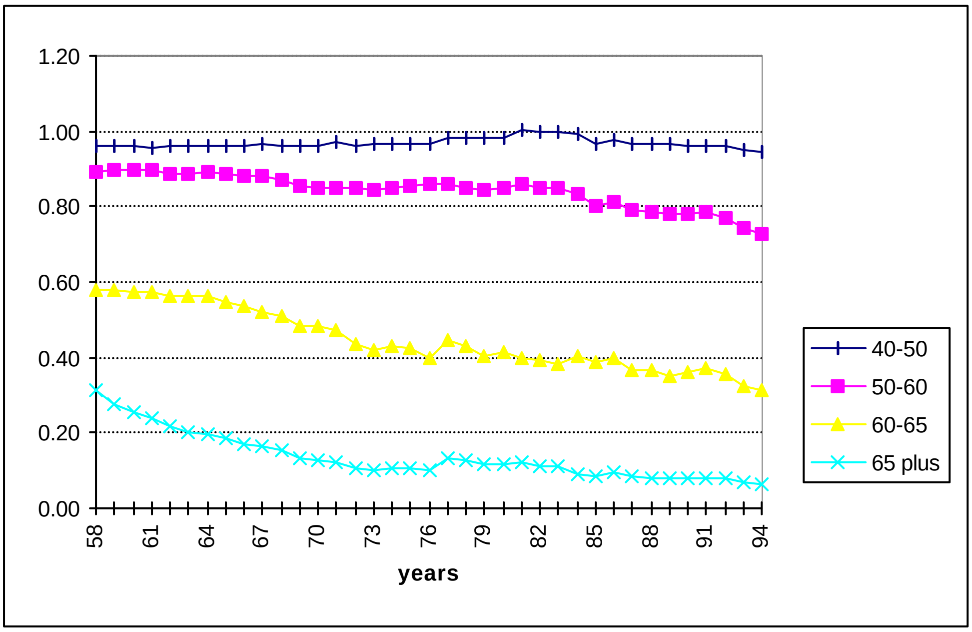
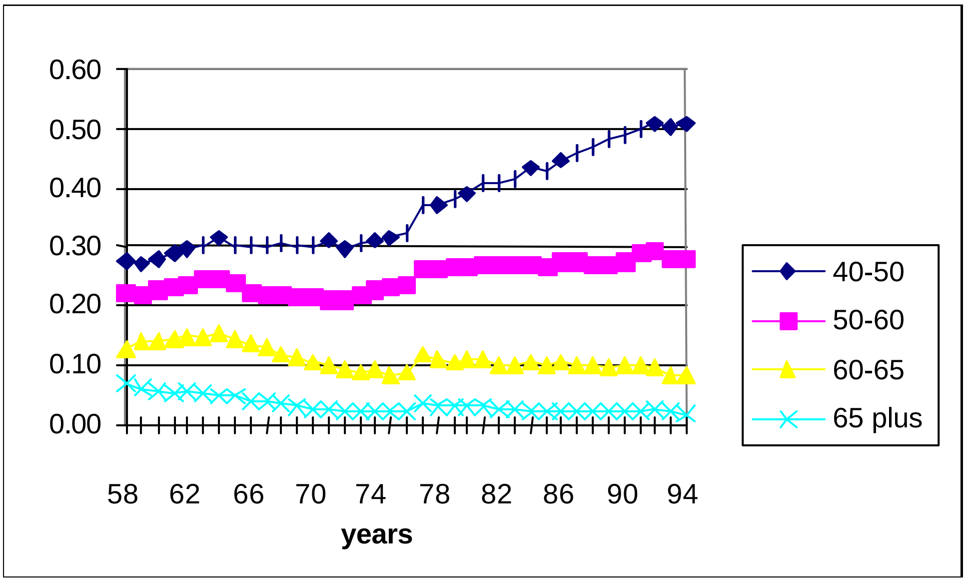


Figure 4. Female activity rates, 1958-1994



Institute of Statistics (ISTAT,1997) and by the Treasury (Ministero del Tesoro -Ragioneria Generale, 1996 and 1997) has shown the likely impact on pension liabilities of demographic trends.

[29] This point is developed further in Brugiavini, 1997. In particular it is shown how , for ages between 55 and 60, the marginal cost of working one extra year, both in terms of extra social security contributions and in terms of lost old age benefits, large outweighs the marginal advantages. Hence there exists a strong incentive to retire early.

The following table 6 is based on survey data and it gives a finer classification of activity rates by age groups. In particular it shows that only 65% of men in the age group 55-59 is still active while the proportion for women is as low as 18% (this is an average over the years 1989-1995). However it should be mentioned that, in Italy, black economy activities are quite common for early retirees and this income source does not show up in survey data. Hence we are possibly overestimating the extent to which there exists detachment from the labour force at young ages.

***Table 6. Proportion of economically active men and women, by age group*[30]**
(Row percentage)

Age-Group	**55-59**	**60-64**	**65-69**
Men	0.646	0.295	0.090
Women	0.182	0.070	0.020

6. Income of the elderly

In order to analyse income distributions we use a sample of Italian households (The Bank of Italy Survey of Household Income and Wealth-SHIW) which spans 7 years and contains 4 waves: 1989, 1991, 1993 and 1995. This allows us avoid some of the problems related to the effects of macro-shocks on cross sectional data[31]. Although the Survey is designed to collect data on wealth and financial aspects of Italian households, it contains detailed information on different sources of income for each individual in the household. Because of the time span covered by our sample, our data reflects the current legislation (i.e. the transitional period between the pre-Amato Regime and the Amato-Regime). The Data Appendix provides details on characteristics of the sample.

In our investigation the unit of analysis is the household: we distinguish between couples, single man or single women. There are 17707 households, 57% are couples, 12% single men and 31% single women, a large fraction of single women is in the 75+ age group.

We use a definition of **pensioner** and **pensioner's income** which are not problem free.

We define a **pensioner** as an individual who is older than 60 and is no longer active. The current Italian legislation allows people to claim some benefits while still working. Hence we assume that a person is a pensioner if he is older than 60 and if he regards himself as retired and not occupied, however this does not exclude completely the possibility that a pensioner has earnings. For couples we assume that the household is a pensioner-household if the husband is a pensioner (and attribute all the income of husband and wife to the husband). This has the effect of including some working wives. Our definition is arbitrary and it leaves out a substantial group of people from the pensioner-category, in particular people who have retired before the age of 60 (approximately 8% of the total sample). The advantage of this definition is that we include all individuals (households) who retire as a result of their age and not because of their economic conditions, in fact a large fraction of young pensioner could be a self-selected group (either taking advantage of the early retirement option or receiving disability benefits)[32]. However it should be mentioned that many women, particularly those working in the public sector, had the possibility to claim old age benefits (not early retirement) at a very early age, and we arbitrarily left them out.

An important feature of the Italian economy is the regional distribution of resources: many argue that there exist two separate economies, the rich northern regions and the poor southern regions. Given our interest in income distributions, we have also provided information at macro-regional level. For example, table 7 shows that pensioners seem to be uniformly distributed across three macro-regions: North , Centre and South.

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[30] Authors' calculations from the Bank of Italy Survey, see Appendix for details.

[31] E.g. in 1993 the Italian economy experienced a brief, yet sharp, recession.

[32] Hence, in our terminology, a retired household could be of any age, while a pensioner is necessarily above 60 (see data appendix for details). As discussed in the text, people who retire early might engage in black economy activities: this makes it even more compelling not to include them in the pensioner group.

Table 7. Proportion of pensioners in each macro-region

	North	Centre	South
%	0.378	0.403	0.404
Number of Observations	7502	3918	6287

Total income of the household is defined as after tax income (net of social security contributions and income taxes). Each income component is also recorded after tax in the survey. Although we focus the attention on husband and wife (for couples) and single head of the household, we want to take account of family composition. In order to compare incomes for families of different size we compute ***equivalised income*** on the basis of a very simple equivalent scale of 1 for a single person, plus 0.7 for any additional adult and 0.5 for any children. The definition of income provided by the survey includes imputed rent from owner occupied house. Owner occupation is very common in Italy, particularly for elderly households: the fraction of owner occupier households where the head is between 50 and 65 is 73%, the fraction for households older than 65 is 67% as opposed to an overall percentage of 64%.[33]

Table 8. Average Italian pensioner income, by status and age group (thousands of 1991-Italian-Lira per year)

Number of pensioners: 6955
Number of young households: 10252

Age-Group	60-64	65-69	70-74	75+	age 60+	Young (both active and retired)
Couples	32137 (0.785)	29496 (0.765)	27862 (0.762)	25145 (0.710)	28504 (0.754)	47383 (1.022)
single men	22827 (0.891)	22738 (0.990)	19141 (0.823)	20157 (0.858)	20939 (0.880)	28155 (1.146)
single women	19294 (0.769)	18234 (0.825)	17971 (0.853)	16883 (0.795)	17784 (0.811)	21538 (0.777)
Total	26077 (0.790)	24208 (0.812)	22405 (0.810)	19968 (0.776)	22668 (0.796)	39592 (0.988)

In table 8 we present sample averages of total income in thousands of 1991-Italian Lira per year[34]. We distinguish two main groups: pensioners and young households, these groups are not the complement of each other as young households do not include people older than 60 who are still active (500 households). The distinction allows us to concentrate on the age split. Within the pensioner sample we distinguish different age groups. The first row is average income in 1991-thousand-lira, while the second row contains (in parentheses) the ratio of average equivalent income of each cell to average equivalent income of the whole non-pensioner households group (mean equivalent income in this group is 19011). Hence, for example, for the group defined as «total-young» we observe a ratio of equivalent incomes close to one, but not exactly equal to one (due to the 500 households left out).

Pensioners do not fare substantially worse in terms of their equivalised incomes when comparing with the equivalised income of non-pensioners. Both single men and single women tend to be richer than couples (particularly at young ages for single men). Overall the group age 65-69 seems to enjoy a high level of income, higher than the 60-65 group. This might be due to a «pension formula effect» (longer career and

[33] Source: Banca d'Italia, Supplementi al Bollettino Statistico, several issues.

[34] One thousand Lira in 1991 was worth approximately 50p We converted nominal values into 1991-Lira values by means of a price index (Indice dei prezzi al Consumo per l'Intera Collettivita') which we have available for each year and for each region in the survey. We chose 1991 as the base year because is in the middle of our sample.

higher eanings before retirement) but we cannot exclude a compositional effect (lower paid jobs associated to shorter careers). Our results suggest that single women (particularly older ones) are overprotected by the SS system when compared with their younger counterparts. This might be explained by the high number of widows who collect survivors' benefits.

In table 9 we split total income in the household for couples into the share belonging to the husband and the share belonging to the wife. No significant difference emerges across age groups.

Table 9. Incomes of the retired-couple: share belonging to the man and to the woman

Age-Group	60-64	65-69	70-74	75+	60+	Young (both active and retired)
share of total income belonging to the man	0.67	0.68	0.68	0.69	0.68	0.62
share of total income belonging to the woman	0.33	0.32	0.32	0.31	0.32	0.38

Equivalent scales are obviously relevant for the above result. In order to illustrate the effect of our choice of equivalent scales we present in table 10 some indicators of the income distribution for different population groups by restricting our attention to non-pensioners.

Tab 10. Income distributions of different population groups[35]

.Population group	Mean	Median	90th	10th	90/10	Number of households
Couples no children, head 40+	45399	38920	76988	19437	3.9	2272
Couples no children, head under 40	45876	42540	68612	25349	2.7	700
Couples with children	48937	44185	76307	24186	3.1	4149
Single parents	22095	19628	36355	7233	5.0	604
Single men under 40	27197	23168	46255	11623	3.9	670
Single men 40+	30023	23578	51681	10400	4.9	675
Single women under 40	22852	21270	38521	7200	5.3	424
Single women 40+	21899	19644	39536	7448	5.3	1258
North	24664	21062	42216	10060	4.2	2835
Centre	22511	19019	38695	9660	4.0	1580
South	20139	16899	34958	8301	4.2	2540

Amongst non pensioners, couples with children have the highest median income, couples are on average richer than single-households. Single women and single parents have very low levels of the 10th percentile of income, close to the minimum benefit level and below the official poverty line of 1991. Hence tables 8 and 10 suggest that, particularly for certain groups of the population, pensioners are not the poor ones. This conclusion was also reached by Cannari and Franco (1990) in a study of the 1987 Bank of Italy sample. Also, for the non pensioners group there is no evidence of large regional imbalances, the northern regions being characterised by higher average income.
Table 11 looks at the income distribution of pensioners.

[35] This table is based on the non-pensioner group as defined in the text (people younger than 60 or older than 60 and still active). We also provide the income distribution according to three macro-regions.

Table 11. Distribution of pensioners income (thousands of 1991-Italian-Lira)

Number of pensioners: 6955

Age-Group	60-64	65-69	70-74	75+	60+
COUPLES					
Median	27572	25369	23827	21450	24408
90th Percentile	52217	49046	44404	38783	47226
10th Percentile	16603	15400	14828	14711	15209
90th/10th	3.14	3.18	2.99	2.64	3.10
SINGLE MEN					
Median	19764	17187	15123	15710	16858
90th Percentile	37882	38678	33840	38203	37882
10th Percentile	9187	10306	8298	8430	8675
90th/10th	4.12	3.75	4.08	4.53	4.37
SINGLE WOMEN					
Median	15508	14817	14812	13586	14371
90th Percentile	35386	34016	31534	30414	31854
10th Percentile	8067	7957	8198	7752	7845
90th/10th	4.39	4.27	3.85	3.92	4.05

Couples have the highest median income in the pensioners group: the ratio of the 90th percentile to the 10th percentile indicates that income inequality is not particularly high in this group. Amongst pensioners the highest income inequality occurs for old single men and young (60-64) single women. Again, for single women this could be the result of survivor's pension benefits on the one hand and short work careers on the other hand. Also we should bear in mind that income from owner occupied houses in included in this definition of income and create large differences across single people who own and those who do not own the house they occupy. Finally, it is worth stressing that income inequality is much higher for single women in the non-pensioners sub-sample.

As argued above differences in sources of income could partly explain the observed income variation and the differential inequality patterns between groups. In table 12 and table 13 we look at the average proportions of income from various sources. In the former table we aggregate income from the subcategories and only distinguish between income from the state, investment income and from earnings and we make use of the aggregate values of income as defined in the survey. A more detailed picture is given in table 13 where we further disaggregate income from the state into types of provision.[36].

[36] In table 15 we construct pension income as the sum of the various benefit components. Each individual in the survey can receive up to three different types of pension provisions. This way benefits can be distinguished by type (DI versus old age, say) and also attributed to specific SS Funds. We focus on current state pension figures and exclude the part of the benefit which might be imputed to different financial years. The income grand-total , obtained by aggregating the various components, gave some slight discrepancies with the survey figure (e.g. median total income for older couples is 24351 as opposed to 24408.

Table 12. Composition of pensioners income, by status and age group[37]

Number of pensioners: 6955
Number of young households: 10252

Age-Group	60-64	65-69	70-74	75+	60+	Young (both active and retired)
COUPLES						
% from state	71	75	77	77	75	9
% from investment income	21	22	22	22	22	16
% from earnings	8	3	1	1	3	75
SINGLE MEN						
% from state	72	75	76	76	75	11
% from investment income	27	25	23	23	24	22
% from earnings	1	0	1	1	1	67
SINGLE WOMEN						
% from state	73	77	77	77	76	30
% from investment income	26	22	23	23	23	23
% from earnings	1	1	0	0	0	47

The largest income item is *pension income*, from either old age pensions, income maintenance programmes or means tested transfers. Since private pensions are negligible (only 7 individuals in the sample reported receiving a private pension) this is almost exclusively income from State sources. Pensions account for between 70% and 77% of total income.

The second item is investment income ranging from 27 per cent for single men, (marginally higher than for young households) and 21 per cent for couples in the 60-64 age group. Due to under-reporting of financial assets, a very large fraction of investment income derives from imputed rent of owner occupied houses.

Earnings are a small but non negligible fraction of income for certain groups (as high as 8 per cent for single men in the 60-64 age group). This reflects the fact that the wife of a pensioner can be active and the pensioner himself, though retired, can have earnings.

Because the bulk of income for the pensioner group comes from pension benefits, and this is pretty constant across cells, it is useful to turn the attention to table 13, in which we use information on the specific sources of income from state. We distinguish three components:

(a) basic maintenance income (*pensione sociale*- provided by INPS)[38] ;

(b) old age and early retirement pension income plus pension to survivors plus war pensions and other minor cases (all of these provided by INPS and the two public employees funds: Treasury and Government Employees Fund);

(c) means-tested benefits (in the pre-1995 legislation these correspond to disability benefits only).

Our results show that income maintenance provisions are a larger fraction of income for old couples than for other pensioners: this is an indication that the very poor pensioners might be in this group. Old age benefits seem a pretty constant income share between groups, while disability benefits are a higher component for couples in the 60-64 age group.

[37] Figures do not sum to 100 because of rounding

[38] This old age benefit is granted only to those older than 65 with no other incomes. In the table there are cases where: (a) income maintenance is obtained by individuals younger than 65 as the income of the spouse (who could be older than the head of the household) is attributed to the head; and (b) income maintenance is obtained with non zero earnings as the spouse could work.

Table 13. Composition of pensioner income, by status and age group

(income obtained by aggregation of sub-categories)

Number of pensioners: 6955
Number of young households: 10252

Age-Group	60-64	65-69	70-74	75+	60+	Young (both active and retired)
COUPLES						
% from investment income	21	23	22	22	22	15
% from earnings	7	3	1	0	3	76
% from income maint.	1	4	4	7	4	0
% from old age	60	63	64	63	63	7
% from means-tested	10	7	8	8	8	2
SINGLE MEN						
% from investment income	27	22	23	23	23	23
% from earnings	1	0	0	0	0	67
% from income maint.	1	3	3	4	3	0
% from old age	66	70	69	67	68	7
% from means-tested	5	4	5	5	5	3
SINGLE WOMEN						
% from investment income	27	22	23	23	23	23
% from earnings	1	0	0	0	0	47
% from income maint.	0	3	3	4	3	0
% from old age	66	70	69	67	68	24
% from means-tested	6	4	5	5	5	2

The *regional distribution* of the composition of income suggests that pensioners in the South have a higher fraction of their income coming from disability benefits or from income maintenance provisions.

Table 14. Composition of pensioner income by macro-regions
(income obtained by aggregation of sub-categories)

Macro region	North	Centre	South
% from investment income[39]	23.5	23.6	22.0
% from earnings	1.2	1.2	1.6
% from income maint.	2.4	3.4	4.5
% from old age	67.4	64.7	64.8
% from means-tested	5.2	6.8	6.9

The composition of pensioner income is shown for each quintile below in figure 5 and the average net income of each quintile is given in figure 6. As argued above, the poorest 20% of the sample of pensioners has a larger fraction from the income maintenance provision. Income of the elderly appears to be essentially composed of old age (early retirement and survivor) pensions and investment income (owner occupied houses). The richest 20% has a much higher equivalised income from investment.

In order to document the position of pensioners relative to the rest of the population we show in figure 7 the proportion of pensioners in each decile of the population income distribution.[40]. It is worth pointing out that the level of equivalent income defining the bottom decile is slightly below the poverty line for the year 1991. Overall there is a substantial proportion of pensioners in the first 5 deciles (around 62%);

[39] The same argument concerning imputed rent from owner occupied houses applies here.
[40] Here we use the entire sample and define income deciles on the basis of equivalent income of the entire sample.

percentages in each decile increase from the 10% in the first to about 13-14 in the subsequent three and then decrease to near 6 per cent in the top two deciles. When breaking this figure into status/gender groups we see that there is a larger percentage of pensioner-couples in the first 5 deciles (65 per cent) and only 4 per cent of them in the top decile. The comparison between pensioner-single men and single women points to a slightly better position of the first: only 56 per cent of them are in the first 5 deciles as compared to 60 per cent for pensioner-single women; it is thus confirmed that single women do not fare too badly relatively to other pensioner groups. Our definition of equivalent scales and the relevance of income from owner occupied houses are likely to explain this features of the data. In fact single women who are also pensioners are very likely to own the house where they live and hence result richer than those renting in the rest of the population.

Figure 5. Composition of pensioners income, by income quintile

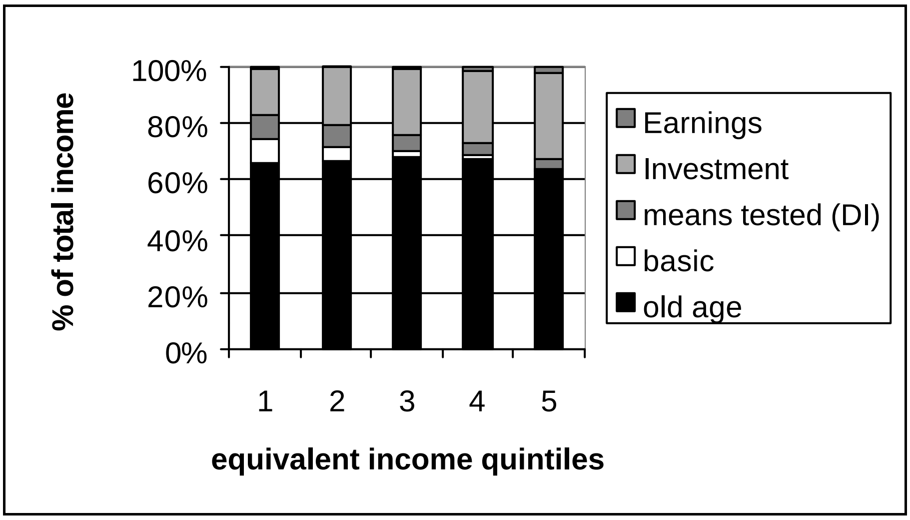


Figure 6. Equalised income components, by income quintile

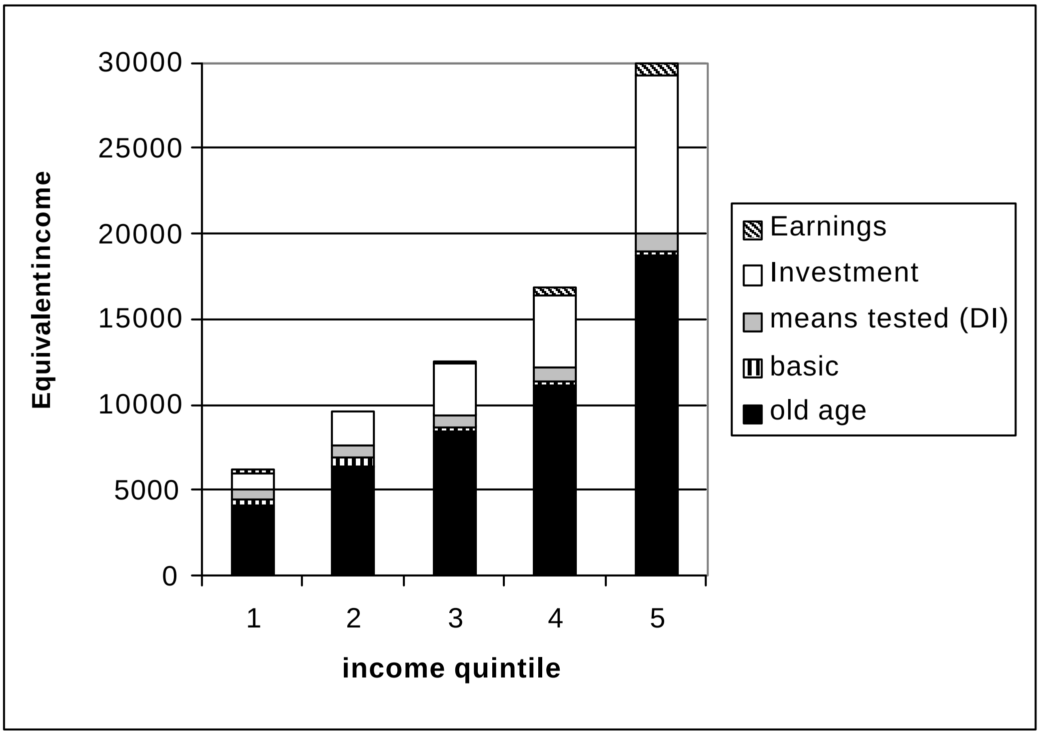
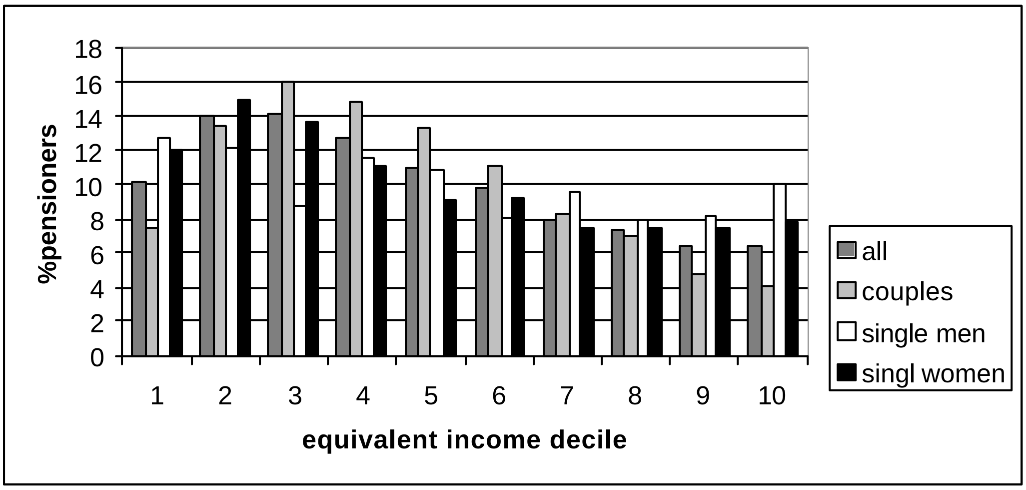


Fig 7.Proportion of pensioners in each income decile[41]



7: Conclusions

Understandably enough the Italian pension system provides the backbone of elderly income and is crucial in preventing elderly poverty.

A lot of the system's traditional generosity remains, despite the move to a more severe set up. Replacement rates for an employee working continuously for forty years and earnings the median wage of his cohort are, at present, around 80%; in the new regime this will drop slightly to about 75 per cent for a 65 year old retiree with 40 years of contribution. The crucial difference, however, will be that the new pension will reflect actuarial equivalence while in the former system part of the generous pension provision was the result of political patronage. On the other hand, for individuals with either low earnings or intermittent careers the system provides an adequate safety through income maintenance. Our empirical investigation confirms that more than 70% of pensioner's income comes from pension provisions, where almost 60% can be attributed to old age, early retirement or survivor benefits, while the remaining 10% comes from income maintenance (pensione sociale) or disability benefits. These findings are consistent across age and across status/gender groups.

We could not find any evidence that pensioners are "poorer" than the rest of the population, nor could we support the argument of strong regional inequality in terms of the pensioner population.

We feel this is a result that must be considered very favourably. The financial sustainability of the system is however still in doubt. The envisaged long transition to the new regime requires extremely high payroll tax rates that might encounter political opposition or result in uncompetitive labour costs.

In the near future, given the condition of government finances, Italian social policies will face a stark dilemma: the continuation of this policy of generous support will inevitably prevent resources from being channelled towards even more needy segments of the population and particularly towards the young.

[41] For exact Percentages see Appendix Table A.2