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FEWER AND OLDER ITALIANS, MORE PROBLEMS? LOOKING FOR SOLUTIONS TO THE DEMOGRAPHIC QUESTION *

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Maria Rita Testa[*]

A.DEMOGRAPHIC OUTLOOK

A fertility decline and life expectancy gains in the old ages have brought about the ageing of the population in all the developed countries. Although this consequence of the demographic evolution was, in a way, predictable, its quickness and magnitude make it nonetheless shocking. With one of the lowest total fertility rates (1.2 children per woman) and one of the highest life expectancies at birth (75 and 81.2 years respectively for men and women) at the end of 1990s, Italy will be the vanguard of ageing populations. Moreover, as a result of its below replacement fertility, the Italian population is projected to stop growing in size and start decreasing, with the highest pace and intensity within the European context.

According to the United Nations' population projections - medium variant - the Italian population will decrease by around 28% over the next 50 years (table 1). The decline will start before 2005 and will go along with a transition in the age structure, due to the changing in size of different age groups. Indeed, the youngest generations (0-14 age group) will fall by 40%, the working age population (15-64) will decrease by 44%, while only the older cohorts will increase, by 50% (within this age group persons aged 80 or over will raise by 160%).

The new proportions between different segments of the population are better understood, if one considers that potential support ratio (e.g. ratio of the population aged 15-64 years to population aged 65 or over) will go from 4.1 in 1995 to 1.4 in 2050, that is in the mid-2000s "one and a half" persons in working age group will have to support one person in old age. It is the lowest value among the European countries, since France, Germany, the United Kingdom and the Russian Federation will have a potential support ratio of about 2 at the same date (United Nations, 1999 -medium variant). Furthermore, the ratio between working and retired population is bound to decline even in the presence of net migration flows countering the decrease of working and total Italian population size (United Nations, 2000).

While differences among the three scenarios of the United Nations' projections exist (Table 1), they do not alter the conclusions on population ageing and decline: there is a considerable degree of certainty on the labour force and old population developments in the next three decades. The demographic outlook does not change if one refers to the last population projections provided by Italy's National Statistical Office (Istat, 1997) (table 1).

The implications of these changes are enormous and pervasive, they will impact on all levels, from the global to the family level, and will produce far-reaching effects in all fields, such as: the economic, social and political fields. They pose new problems for the solutions of which no lessons can be learnt from the past. Moreover, the rapidity of these changes requires that suitable policy measures be adopted urgently.

In this work we will try to focus on the most important consequences of the demographic evolution, seeking several policy responses useful to cope with the on-coming demographic challenges. Particular attention will be given to "pensions and fertility" because they will

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probably play a key role in facing the ageing of the population in a country, Italy, where the large majority of social expenditures are on old age pensions and fertility has reached very low levels.
Nowadays, policy makers are more aware of the implications of such demographic changes than they used to be until recently. The analysis of policy responses to future population challenges will start from the description of the measures already adopted.

B. THE CONSEQUENCES OF AN AGEING POPULATION

1. Labour market evolution

An older and slower growing population will result in a smaller and older proportion of the population being in the working age (table 2) and, assuming constant participation rates, in a smaller and older labour force. Therefore, the working population will have to support an increasing burden in the coming decades, as the rising number of old people will be only partially offset by the decreasing number of children, with consequent pressure on budgetary positions and output.
However, the future labour force evolution will depend not only on the demographic changes, but also on socio – economic factors. In a context of demographic ageing, overall labour force number will be more and more influenced by activity patterns of the older generations. Activity rates in the old ages are particularly low in Italy, and they have been declining considerably over the past 30 years, especially among males (figures 1 and 2). Several factors may help explain this trend: increases in incomes per capita and greater demand for leisure, that cause workers to wish to retire earlier; expansion of public old-age pension arrangements; early retirement option; pre-retirement schemes relating to: a) the firms' desire to get rid of expensive older workers while preserving a wage profile steeply rising with ages; b) the policymakers' belief that a fewer older workers would imply more jobs available for young unemployed.
Therefore, there exists a wide scope for pushing activity rates up, in order to counterbalance the working age population decline and ageing. This is particularly true, if one considers that women represent a huge unused potential workforce at all ages in Italy: even in their thirties women activity rates are merely around 60%.
A contracting labour force will probably reduce growth in material living standards (Turner and others, 1998), and will result in lower economic growth unless it is offset by sustained improvements in factor productivity growth. However, the implications of a shrunk and aged labour force are manifold and not easily predictable. An aged labour force may be a less dynamic and productive one, but, at the same time, the scarcity of workforce may accelerate human capital formation with potentially favourable long run effects on economic growth rates. Higher aggregate savings could also counterbalance the negative effects of ageing by increasing productive investments and long-run growth. But it is not clear whether ageing implies a reduction in saving. Recent projections on the future dynamics of aggregate savings in Italy (Ministero del Tesoro, 1998), point out that imbalances between supply and demand of funds mainly stem from the negative contribution of the public sector, while the private contribution should not change significantly. Other scholars (Baldini and Mazzaferro, 2000), conversely, estimate that the demographic transition will result in falling Italian households savings.

2. Macroeconomic implications of welfare provisions for ageing

a. The financial burden of the growing old ages

Since in Italy the pension system absorbs the largest share of social protection expenditure (around 72% versus 49% in France, 48% in Germany and 52% in the UK, including old age, disability and survivor pensions, in 1996) (De Vincenti, 2000), the Italian welfare system, because of the ageing of the population, will come under increasing pressure in the future decades. The possibility to support the financial burden of an "aged society" will depend on the capability to place the pension system on a sound financial foot.

Therefore, the reform of the pension system is at core of the adjustments to the new demographic, economic, and social conditions that Italy will need to introduce in its social policies.

In the last decades, the unfavourable trend assumed by the demographic variables (e.g. the increase in the number of elderly people), coupled with the increasing generosity of the Italian pension system, due to the high replacement rates and the possibility of retiring at a relatively low age, resulted in a growth of pension expenditures (accounting for around 15% of GDP in the early 1990s), that are inconsistent with the long run sustainability of government debt, and some blatant inequities. In the attempt to correct these imbalances and to hedge the public pension system against the gloomy demographic outlook, an outstanding reform process was triggered in the early mid-1990s. The process was characterised by two major reforms: the Amato reform of 1992[1] and the Dini reform of 1995[2].

In order to take into account the increased longevity (the so called "absolute" ageing of the population), the Dini reform switched from a system based on the *defined benefit* rule, where the payments of benefits are prescribed by a formula, to a new one based on the *defined contribution* rule, in which benefits depend on the contributions paid, plus the investment return. In short, the current Italian pension system is a hybrid system, called *notional-defined contribution*, where the pension benefits are calculated on the basis of contributions as if the system were fully funded[3], but the financial mechanism is still on a pay-as-you-go basis, e.g. current contributions are used to pay current benefits. Furthermore, an *actuarial fairness* was introduced in the benefit computation formula: the pension benefits, calculated on the stock of contributions (virtually) capitalised at the rate of real GDP growth, are made available from the age of 57 onwards with adjustments reflecting life expectancy (at the age of retirement) and expected GDP growth rates, parameters included in the "transformation coefficients" used to convert the lifetime payroll contributions in a lifetime annuity pension (to calculate the annuity value of the "capitalised fund" of each worker).

The new pension system takes into account the demographic evolution and tries to face up the effects of the future ageing of the population basically through three mechanisms.

I. The periodic revision of transformation coefficients should counterbalance the financial effects of the increase of life expectancy. These revisions will push down the transformation coefficients[4], due to the expected growth of life expectancy, and could give rise to problems of low average replacement rate and "poor pensions".
II. The reduction of working people should be included in the GDP dynamic, so that it is already discounted in the return rate of the system (Padoa Schioppa Kostoris, 1996).
III. The new scheme, similar to an insurance mechanism (in principle, each retiree benefits as much as he has contributed during his working life), is based on the individual responsibility and, for this reason, could stimulate the participation in the labour market of all persons who want to be entitled to an adequate pension benefit. Therefore, it could be more adequate to the new family types (e.g. elderly women living alone), than the previous scheme based on the model of male breadwinner, which often left insufficient pension cover to older women.

Nonetheless, the new system could not face the population ageing challenge, because it is fundamentally based upon a Pay-As-You-Go scheme (the funded components being so far

negligible), and, therefore, its financial balance is still based on the ratio between the number of retirees and workers. The future deterioration of this ratio, due to the declining of working age population and the upcoming entry in the retirement ages of the baby boom generations, puts a further reform of the pension system on the agenda of the Italian government.
The increase in the absolute number of old people will bring about also a rise in the geriatric treatments and other social services, including medical services, boosting the public health care spending. However, the effects of ageing on health care are not easy to predict, because they are also influenced, by non demographic factors, such as: real benefits per inhabitant, cost of health care, future trends in morbidity for people at the top of the age pyramid, etc. Furthermore, even the demographic impact depends on the old age threshold which in this field is much more flexible[5] than in others (e.g. pension system), being mainly determined by the incidence of disability and other chronic conditions. In this regard, the recent results provided by Istat are heartening indeed; according to them around 90% of life expectancy of men aged 65 (87% for women) would be lived without disability (Cappellini and Cavicchia, 1999). The measure of the future impact of the growing health expenditures on public finance will very much depend on the technological advances that will play a crucial but uncertain role, in terms of costs and benefits.
The increase in expenditures for pensions and health care will be only partially offset by the fall of public spending on education, because in this sector the reduction is expected to be modest. This is because overall expenditure on education is much less than that on pensions and health care, and the decrease in the size of student population will be much less than the increase in the elderly population: according to the medium variant projections of the United Nations (1999), the percentage of persons in school ages 6-14, will go from 9 to 7.5% in the next 50 years, while the percentage of persons aged 65 or over will double from 17 to 35% in the same period. In addition, average cost per unit education may increase in the attempt to improve quality and to promote life-time training which enables elderly workers to remain in the labour forces.

b. Inter-generational fairness

The demographic ageing will greatly impact on the intergenerational sustainability and equity of current fiscal policy.
Although the high public debt poses enormous obstacles to achieving an intergenerational equilibrium, the ageing population distorts even more the generational balance.
In a recent study, Franco and Sartor (1999) assess, in the light of the results of "generational accounting"[6], that the demographic transition, more than the large outstanding government debt, will be responsible for the generational imbalance in the current fiscal policy which, if no changes are introduced, will lead to a redistribution to the disadvantage of future generations.
To get an idea of the financial burden of ageing, we should think that if we maintained the population scenario existing in 1995, the public debt sustainability would be consistent with a cut of about 7% in taxes to be paid by all generations. On the contrary, under the baseline scenario (main variant [7]) of population projections provided by Istat (1997), the long term sustainability of the 1995 fiscal policy would require future generations to face a 53% increase in all taxes aimed at balancing the intertemporal budget constraints. Alternatively, an increase of about 10% in taxes to be paid by all generations, future as well as current generations of living Italians, would be necessary to restore intergenerational balance and to ensure government debt sustainability (Franco and Sartor, 1999).

Within the European context, Italy is marked by the highest taxes to be paid by young persons; the highest generosity of old age payments; and the positive value of net tax-payments of a new born.

3.Other implications of population ageing and population decline

Space constraints prevent me from exploring in detail all the consequences of an ageing population and declining population, such as those concerning the military sector, transfers of property by succession, with a potential effect of concentration of them; modification of consumption structure.
Above all, two main aspects should be highlighted: the changes of households structures and typologies; and the modification of the electorate.
Ageing will reduce the average size of households, and will impact on families' economy since relatives' network plays a very important role in Italy providing child care services. Since private child care centres are rare and expensive, families with working mothers and young children rely heavily on the helping network of relatives, especially for child care and income transfers.
Ageing will clearly influence the structure of the electorate in favour of elderly voters, who could be tempted to address a greater share of public expenditures for elderly people at the expense of schools and child care. Tension between generations may arise as a result.

C. COPING WITH THE CONSEQUENCES OF AGEING: WHAT POLICY-MAKERS SHOULD THINK ABOUT FOR AN "OLD SOCIETY"

1. Getting out of the predicament: the pension system reforms

a. Increasing active life span in the labour market

Since the activity rates of older Italian workers are particularly low, a particularly effective response to the challenge posed by an ageing society would be an increase in the actual age of retirement. This solution would have the double advantage of reducing the number of retirees and, at the same time, increasing the number of workers.
The Amato and the Dini reforms have taken initial steps along this line, increasing the length of the contribution period for full benefit and linking life-time benefits and contributions for junior workers and newcomers. But the new regime will be fully phased in only several decades (2035)[8] and through most of the transition period there will be strong incentives to early retirement, as the increase in benefits for an additional year of work, after reaching seniority pension requirements, does not seem to counter the financial costs stemming from additional contributions and shorter expected retirement (Ferraresi and Fornero, 2000).
In order to increase the incentives to remain longer in the labour market, raising the participation rates of older males, the following measures seem to be particularly suitable: the transition to a more actuarially neutral pension system[9], the introduction of actuarial fairness (taking into account life expectancy at retirement) also for seniority pensions, and the speeding up of the transition process towards the new regime (e.g. applying the *pro rata* mechanism to all existing workers)[10], even if, in this case, many workers could consider it more profitable to retire immediately, in order not to lose their "entitlements".
However, no public intervention could be effective if the behaviour of firms remains unchanged. Therefore, policies aimed at preventing the dismissal of older workers in the context of industrial restructuring (as those adopted in France) are also needed.

Furthermore, if the average age of retirement is largely determined by the minimum statutory retirement age (57 years in the new system), as it seems, the age of retirement will be still low in the future. In 1998, it was 57 years for men and 56 years for women (Bank of Italy, 2000). From this point of view, gradual retirement policies would be indirectly aimed at increasing the age of retirement, as further rising of statutory age to retire cannot be proposed to certain segments of the population (e.g. those less educated which, presumably, have started working earlier).
On the other hand, it should be stressed that several changes affecting the labour market will keep pace with a natural postponement of retirement. Individuals with discontinuous careers, high educational level, late entry into the labour market and unemployment spells, tend to postpone their retirement, other things being equal. Furthermore, it would be interesting to investigate how the future demographic changes (e.g. households' structures and typologies) will impact on the retirement decisions, as retirement choices are not a result of a merely economic strategy, and are strongly influenced by demographic factors, such as a presence of a spouse already retired, etc. (Testa, 1999).
The late transition to retirement gives rise to the issue of the productivity of older workers, a subject where unanimous opinions have not been reached yet, and the question of suitable means to encourage people to work longer, taking for granted that is inconceivable to force them to do so. There are not many reasons to believe that an elderly worker should be less productive than a young one in the new, knowledge-based economy. May be, only the introduction of an entirely new class of technology (such as digital technology) requiring a new mode of thought could be a real threat for older workers (MacKellar, 2000). Nonetheless, a postponement of withdrawal from the labour force calls for a re-examination of labour and social policies towards old workers, aimed at retraining them, mainly in terms of flexibility and mobility, and solving any problems related to poor health. Policy action reinforcing the employability of ageing workers and reviewing employment rules and practices to adapt the workplace to ageing are also requested.

b. Diversifying the structure of retirement income: towards a mixed pension system

Another way to cope with the future population ageing is to switch partially from a pay-as-you-go system to a funded system, theoretically less sensitive to demographic changes. The transition implies a lot of problems not easy to solve, among which the necessity to find financial resources to implement it maintaining the inter-generational equity, as current workers should pay twice: once for the pensions of current workers and again for their own pension fund.
Some authors (Castellino and Fornero, 1999) claim that to move gradually towards a mixed system (*partially funded* consisting of a PAYG and a complementary fully funded plans) would be both feasible and wise: a supplementary funded component may be introduced in Italy through the switching of other savings, such as the flows to severance pay funds (Trattamento di fine rapporto). The process should be very slow, but the burdens would be offset by considerable advantages for future generations, stemming from larger expected returns on the funded component, more savings and accumulation, a diversified pension portfolio involving a better risk-return combination. A so-called "multi-pillar" system would diversify the structure of retirement income, lowering the risks of future income loss.
The transition should be accompanied by a strengthening of financial market infrastructure, in particular the development of an effective regulatory and supervisory framework for pension schemes; while paying attention to the growing diversity among older people in terms of income, housing, and health.

Today pensioners are quite well-off and there are not evidences that they are one of the poorest segment of the population (Brugiavini and Fornero, 1998). The incidence of poverty is greater (and increasing) among young families with three or more children, particularly if they live in the South, while among elderly only single women living in the South are exposed to high risk of social and economic exclusion (Baldacci and others, 1999).
Nevertheless, three aspects should be kept in mind:

I. the public pension system plays a crucial role in providing retirement income: over 70% of the income of retired comes from public benefits (60% old age, seniority and survivor pension, 10% disability pension or basic pension);
II. the relative well-being of old people is often caused by the possibility of relying on income sources of other members living in the same household;
III. the heterogeneity of economic conditions among elderly people is likely to increase in the future, as components with individual risks (e.g. market assets) raise in weight compared to components with a common risk for all elderly (e.g. public pensions) (Disney and others, 1998).

The ageing population will reduce the households' size and the reform of pension system will cut benefits of new generations of retired people. Therefore, poverty could be on increase among the old population in future decades. A recent report on the economic conditions among elderly (Pace and Pisani, 1998) highlights the growth of poverty diffusion and intensity among persons aged over 65 if compared respect to the rest of population. Therefore, we should not ignore the risk of social exclusion and poverty in old age.

2. Changing the demographic forces: a window of opportunity?

a. A recovery of fertility

Measures to improve activity rates would not be enough to prevent the labour force form declining in the long run, if fertility rate remains as low as it is at present. So, one of the most important policy measures aimed at countering the future population decline and ageing, in the long term, is to raise fertility rates bringing them (close) to the replacement level. The range of action is largely depending on the various determinants of low fertility. Firstly, we should consider that, in Italy there seems to be a gap between the expected number of children at the end of the reproductive age span, which is close to the replacement level, and the number of children that cohorts are actually likely to have (table3). This fertility gap highlights the existing obstacles to the fulfilment of expectations, and a “latent demand for family support” (Chesnais, 1998).
But what kind of support? Institutional rigidities (e.g. inadequate opening hours for child care centres, insufficient private services; high youth unemployment, expensive loans) and the Italian labour market, that is over-protective for those who already have an occupation (mostly, people in their thirties or older), but extremely demanding on young job-seekers (younger persons), call for deregulation in the labour market, and for specific policies aimed at improving the effectiveness of child care centres, particularly services for children under 3 years, that are scarce and irregularly distributed on the territory.
It is less easy to find immediate prescriptions for other factors of fertility decline, such as: disproportionate share of household tasks between the two spouses (to the disadvantage of women); uncertainty, lack of points of reference, fear that things may change abruptly; hedonism, post materialism, and secularisation, with their new philosophy of life; late transition to adulthood; familism (typical of the Italian society), that induces parents to invest in children enormous energies, time, and resources. What is pivotal in these cases, is an attitude which, at best, can only be changed with considerable time and energy.

Economic determinants of low fertility offer more intervention options: for instance, an effective system of child care and family services, which will free at least part of the mother's time[11], could counter the increased opportunity costs of motherhood[12].
Beyond the opportunity costs, children costs appear to be high (Ekert, 1994), and they are on the increase, as several public actions (e.g. the introduction of compulsory education and pension systems) unintentionally make children even more expensive. Generous old-age government transfers substitute the re-distribution from (middle aged) children to elderly parents, so that children do not bear fruits any more but still cost, and the balance between costs and benefits may become heavily negative (De Sandre, 1994; Cigno 1991). In addition, since family allowances play a minor role if compared to pensions in the Italian welfare system, large and young families may be exposed to higher risks of economic vulnerability.
In this case, if a society thinks that children are, at least partly, a public good (because they perpetuate culture, because they are essential for a pay-as-you-go public pension system, etc.), it must be prepared to pay for them more than it customarily does. Many possible ways of doing this have been suggested: lump sums or monthly instalments; cash or payments in goods and services; subject to means testing or not; of fixed or varying amount (depending, for instance, on the economic status of the household, on birth order, etc.), etc.
What it should be stressed is that each response to fertility decline advocates financial support. It may be familism, and by giving families enough resources per child, one may hope to induce them to have not only high-quality children (which they do anyway), but also more children (which they would not do otherwise). It may be a matter of social recognition, and by attaching a formal payment for the very fact of bearing and rearing children, one automatically upgrades it to the dignity of an officially recognised, and socially valued, activity. It may be uncertainty, and this solution would be tantamount to firmly stating that investing in children is part of the society's commitments for the foreseeable future. And so on.
This financial effort can only be effective if one is prepared to invest a considerable amount of resources in it. In Italy, which has a high public debt inherited from the past (roughly as large as the GDP itself), and is subject to strict fiscal controls after its entry in the European Union[13], no large reform is going to be possible, and no relevant investment is going to be made on future generations, unless such a legislative change goes along with other major fiscal reforms.
Another possibility exists, though. Further adjustments of the pension system (foreseen in 2001) could be exploited to reform the intergenerational transfer system more thoroughly taking explicitly into account also the youngest generations, which will have to support the main burden of the last pension adjustments and are penalised also in a generational accounting perspective. In this regard, some proposals have already been put forward among demographers (De Santis, 1997a, b), with the double advantage of encouraging fertility and stabilising the financial flows of the transfer system itself, even in case of future fertility fluctuations.
A reform in this direction could also be considered as an option to solve the stark dilemma between the generous support to the elderly and the investment of financial resources towards the young, and to start seeing both of them as necessary responses to the demographic question.

b. Replacement migration

Migration could offer another option to offset the population ageing and decline, considering that the raise of mortality rates (for example through the non expenditure of some health benefits) is an absolutely inconceivable hypothesis for all civilised countries.

Migration has an immediate and relatively strong impact on the working age population, as the young age structure of immigrants. In addition, since fertility rates among immigrant women are often relatively high, this can also raise fertility level in the medium term. In Italy migration is particularly beneficial for the labour demand in two sectors: industry and personal services. Indeed, the relative scarcity of labour, particularly of blue collar workers, has already induced some firms in Northern Italy to recruit foreign workers, as the Italian southerners do not go to the North, despite the high unemployment rate (22%) of the South, for different reasons, such as: the higher cost of living, the low-skilled jobs allegedly available and their own way of life preventing them to make sacrifices and to be go-ahead persons, because of the highly protective family where they were brought up[14]. The foreign labour force also meets the labour demand in the housework sector and personal services, which the local labour supply cannot meet, both because it is shrinking and because its expectations are higher.

Moreover, relevant migration flows would reduce significantly the degree of generational imbalance, lowering the absolute difference in generational accounts between a new born and unborn person (Franco and Sartor, 1999).

These circumstances, coupled with the enormous quantitative and qualitative population imbalances between the two sides of the Mediterranean Sea, make the "zero immigration policy" scarcely conceivable for the future.

Nonetheless, migration can be considered neither as a mere instrument to achieve demographic or economic targets nor, what is worse, as a panacea for socio-economic problems arising in an ageing society.

On the one hand, migration flows – that could partially compensate Italian population decline - should be very large to counter Italian population ageing (figure3) (United Nations, 2000) and, in any case, migration policy could not easily reach precise demographic objectives for the difficulties in controlling volume and composition of net migration. On the other hand, such large flows would create more problems than they would solve. Migration is a long process including many stages: individual presence; family reunification; second generation arrival; integration in the labour market and in the whole society. All these phases have to be considered in order to work out an adequate integration policy.

The contradiction between the tendency to reduce flows, toughening criteria for the legal entry of migrants, and the large incentives to migrate in the origin countries, will accentuate, in the next decades, the problem of illegal immigration, whose elimination is one of the first measures to enhance foreign human resources and to keep a peaceful cohabitation between local and foreign population.

D. CONCLUSION

The implications of ageing population go beyond the impacts considered in this work. They are multifaceted and, therefore, they will require a comprehensive package of reforms.

In the short run policies aimed at tackling the consequences of the population ageing e.g. the pension system reforms, seem more necessary and urgent. They should attain two main objectives: the increase in the life spent active in the labour market and the diversification of retirement income sources.

In the long run, to ensure a long term equilibrium, policies counterbalancing the determinants of the population ageing and decline, should be carry out, too.

Probably, in the long run, an economic development based on the new technologies and globalisation could offer the best hope to solve many of the socio-economic challenges posed by the large demographic changes. The rate of productivity growth is one of the most

important variables over a time scale of decades, but one which is practically impossible to project.

The cost of ageing will very much depend on the elasticity of old age threshold and on the rapidity and magnitude of the reform package to be implemented: the wider the range of the government interventions and the faster their implementation, the more effective their impact will be. The expenses of this financial effort will probably be enormous, nevertheless they are worth being made: they should be considered as a "huge investment plan in the equilibrium", aiming at guaranteeing an even inter-generational contract, on which the future welfare of a society, and, more generally, a non painful administration of problems arising from the post-transitional demography lie.

ENDNOTES

[1] D.L. n.421 and D.Lgs. n.503, 30 December 1992.

[2] L. n.335, 1995, 8 August 1995. This second law was adjusted with further measures adopted under the Prodi government (L. n.449, 27 November 1997).

[3] The benefits are linked to a “virtual capital” accrued by each individual during his working life.

[4] The Dini reform refers to the life table of 1990.

[5] Indeed, some have proposed to define as "old" those whose remaining life expectancy is around 10 years (Ryder, 1975).

[6] The method was originally developed by Auerbach and others (1992). It is aimed at reconstructing the net financial position of all citizens, by sex and age, towards the public sector.

[7] The main variant of Istat' s population projections assumes that: a) cohorts' fertility will continue its downward trend until it reaches a stationary value (1.45) for women born in 1975; b) a 1.3 years increase in life expectancy at birth in 1995-2005, and another 1.6 years increase in 2005-2015; c) a net immigration of 50,000 per year.

[8] Until 2035 the new rules will be entirely applied only to new comers, while they will partially affect the persons already working when the reforms came into effect (on the basis of *pro rata* mechanism).

[9] Blöndal and Scarpetta (1998) estimated that moving towards an actuarially neutral pension system (a system where pension arrangements neither penalise nor unduly benefit for those who retire earlier or later than the standard retirement age), would have the effect of raising the activity rates of males aged 55-65 by over 20 percentage points.

[10] This speeding up would also reduce future government expenditures and the degree of intergenerational imbalances (Franco and Sartor, 1999).

[11] This is partly already done, since in Italy fathers, instead of mothers, can take a 6 month leave (paid at 30% of salary) during their child's first year of age. Afterwards, if children under the age of 8 get sick, one of the two parents (indifferently) can take a sick leave that is unpaid.

[11] Any hour that women do not spend working (for instance, because they are looking after their baby) brings about an opportunity cost (=unearned wage) which may be very high, given their higher female educational levels.

[12] Any hour that women do not spend working (for instance, because they are looking after their baby) brings about an opportunity cost (=unearned wage) which may be very high, given their higher female educational levels.

[13] The future Italian budgetary policy framework is defined by the *Stability and Growth Pact* (e.g. objective of "close to balance" budget deficit).

[14] "Why Italy's southerners stay put", The Economist, July 22nd 2000.

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TABLE 1. POPULATION PROJECTIONS:1995-2050

	Base:	*United Nations*			*Base:*	*ISTAT*		
	1995	*Medium*	*High*	*Low*	*1996*	*Medium*	*High*	*Low*
Population (Mio)	57.3	41.2	46.8	36.8	57.3	46.0	54.3	38.0
Population Growth rate (%)	0.11 [a]	-0.60	-0.37	-0.81	0.19 [a]	-0.40	-0.10	-0.76
% of total pop.								
0-14	14.7	12.0	15.6	8.3	14.9	11.7	14.4	8.4
15-64	64.8	53.1	53.7	52.6	68.3	56.0	55.7	55.5
65 -79	16.7	20.9	18.4	23.4	12.7	20.4	18.4	23.2
80 or over	3.8	14.0	12.3	15.7	4.1	11.9	11.5	12.9
PSR [b]	4.1	1.5	1.8	1.4	4.1	1.7	1.9	1.5
Median age (years)	38.8	53.2	48.0	57.4	40.3	49.4	47.0	52.8

Sources: United Nations, World Population Prospects: The 1998 Revision, 1999.
Istat, (1997). Population Projections by Sex, Age and Region. Base 1.1.1996, Informazioni No.1, Rome.
[a] This value covers the 1990-1995 period
[b] Potential support ratio: ratio between population aged 15-64 and population aged 65 or over

TABLE 2. WORKING AGE POPULATION PROJECTIONS:1995-2050

	1995	*medium*	*high*	*low*
Total (Mio)	39.2	21.9	25.1	19.4
Age structure [a]	85.4	128.9	109.1	159.0
Turn over [b]	95.6	142.6	104.2	209.0
Median age (years)	38.1	43.2	41.1	45.5

Sources: United Nations, World Population Prospects: The 1998 Revision, 1999.
[a] Ratio between population aged 40-64 and population aged 15-39
[b] Ratio between population aged 60-64 and population aged 15-19

TABLE 3 . AVERAGE EXPECTED AND CURRENT NUMBER OF CHILDREN BY AGE OF MOTHER AND AREA (1996)

Age	*Cohort*	*North*		*Centre*		*South*		*ITALY*	
		Expected	*Current*	*Expected*	*Current*	*Expected*	*Current*	*Expected*	*Current*
20-24	1971-75	2.0	-	2.0	-	2.2	-	2.1	-
25-29	1966-70	1.9	*1.2* [a]	2.2	*1.3* [a]	2.3	*1.7* [a]	2.1	*1.4* [a]
30-34	1961-65	1.9	1.3	2.0	1.4	2.3	1.9	2.1	1.6
35-39	1956-60	1.8	1.5	1.8	1.6	2.3	2.1	2.0	1.7
40-44	1951-55	1.7	1.6	1.9	1.7	2.5	2.2	2.0	1.9
45-49	1946-50	1.9	1.7	1.8	1.8	2.6	2.4	2.1	2.0
Total		1.9	*1.5* [b]	2.0	*1.6* [b]	2.3	2.1 [b]	2.1	*1.8* [b]

Source: De Santis and Testa, *Fertility Trend and Family Policy in Italy*, 2000.

[a]Cohort born in 1966. [b]Cohorts born in 1946-1966.

Figure I. Activity rates in the adult and old ages. Males.

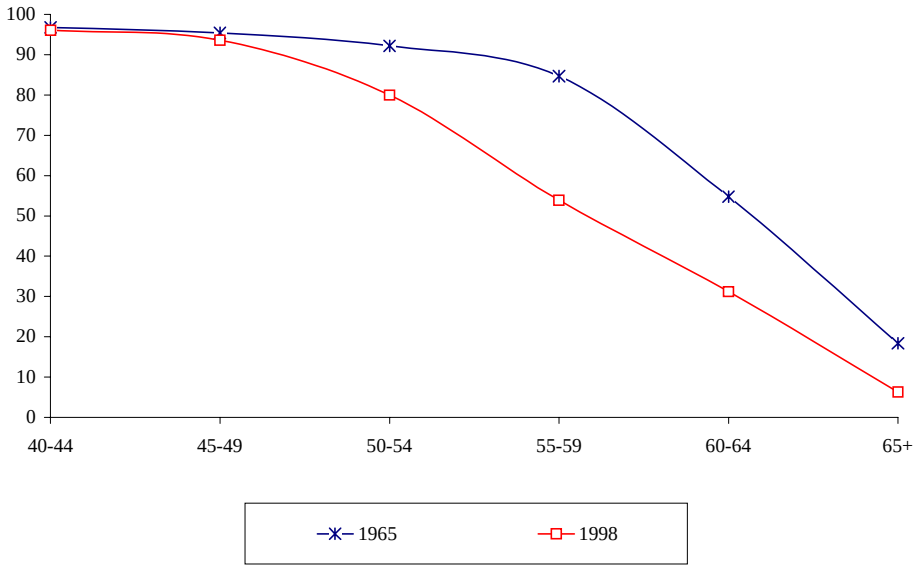
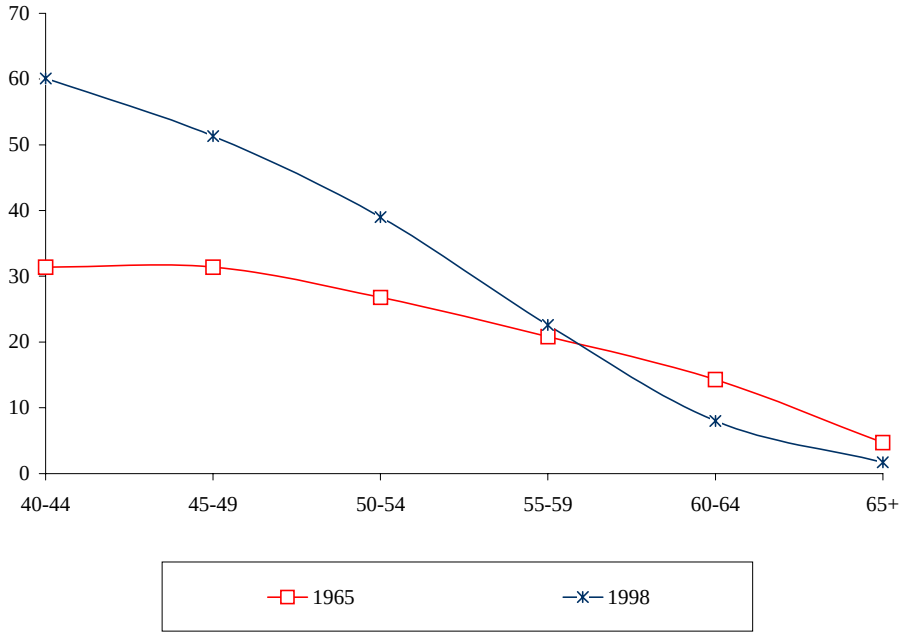


Figure II. Activity rates in the adult and old ages. Females (%).



Source: Istat, Labour Force Surveys.

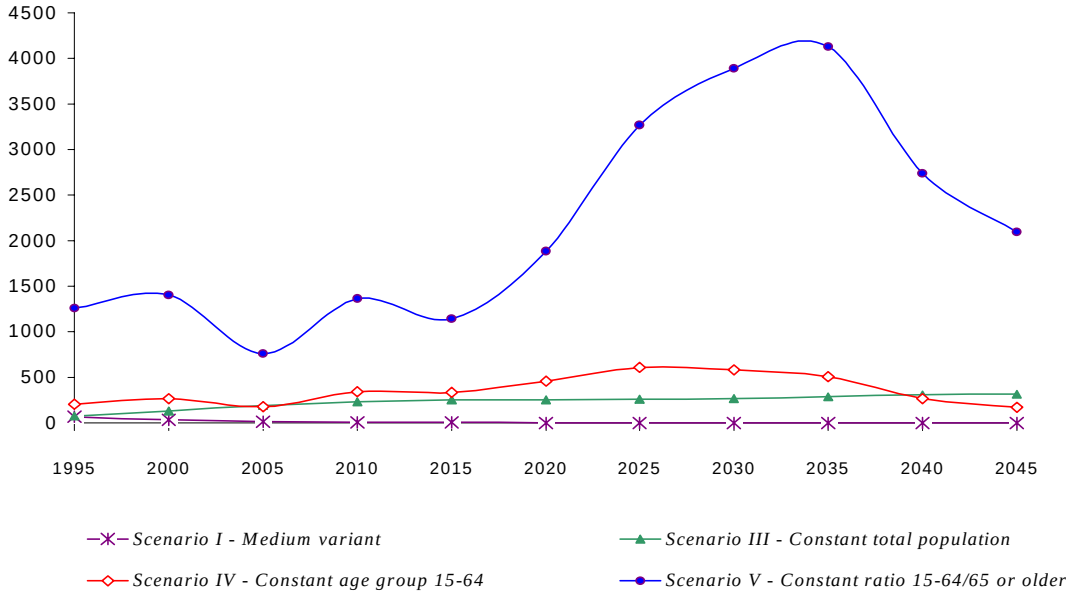
[a] Activity rates are calculated as ratio between labour force and resident population.

[b] As the definition of Labour Force changed (in 1986 and 1992), the two series are not exactly comparable.

In 1986 "other persons seeking employment" (e.g. person with no professional status that stated to seek employment only after a second question) were added to the aggregate of persons seeking employment.

In 1992 only the individuals who were trying to find a job in 1 month before the interview (no more 6 months) were considered as "persons seeking a first job".

Figure III. Average annual migration necessary to achieve different population objectives
(thousands)



Source: United Nations. *Replacement Migration. Is it a Solution to Declining and Ageing Populations?*, Population Division, Department of Economic and Social Affairs, 2000.