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IV. PENSION REFORM ISSUES¹

A. Introduction

1. During the 1990s, Italy introduced some of the most radical pension reforms in industrial countries. Among others, reform steps included a switch from a pay-as-you-go, defined benefit system to a defined contribution system. However, important parts of the reforms will be phased in over a very long period, using mostly a “mixed-system” before the defined contribution system is fully implemented after 2030. Throughout the transition period the share of pension expenditure to GDP—presently one of the highest in the EU—will increase further.

2. Against this background, the chapter reviews the case for additional pension reform steps in Italy. Its focus is on three central arguments. First, *fiscal sustainability*: the projected rise in aging-related spending (in relation to GDP) until about 2030 threatens fiscal sustainability, particularly in view of Italy’s high public debt-to-GDP ratio. Moreover, as discussed in more detail in the staff report, the already very high level of social security contributions (and other taxes) implies that the onus of adjustment falls clearly on expenditures, including on pensions. Second, *creating room for other reform priorities*: recent (and ongoing) labor market reforms have strengthened the argument for a broader reform of the social protection system. However, expanding unemployment benefits and spending for other social priorities will be difficult to secure without redirecting some spending from the category that currently absorbs the vast majority of social spending, that is, from pensions. Similarly, growth-oriented reductions of tax and contribution rates could also make a case for curtailing future pension outlays. Third, *intergenerational equity*: the long transition period to the defined contribution system generates significant income gaps, in terms of replacement rates, between workers with very similar contribution periods. Reducing these inequities could argue for a faster phasing-in of the contribution-based system.

3. Future pension spending, and thus the case for additional reforms, depends in part on the (inherently uncertain) evolution of economic growth over the coming decades. In particular, official baseline projections assume that labor productivity will rebound considerably over the next 50 years. Instead, if productivity growth were to remain around the rate observed over the past decade, pension spending-to-GDP ratios would rise significantly more than assumed in the official baseline projections. The chapter highlights the implications of alternative macroeconomic assumptions for future pension spending.

4. The rest of the chapter is structured as follows: Section B provides a brief overview of social expenditures and pensions in Italy, and it highlights the relatively high (low) spending on pensions (other social objectives) in comparison with other EU countries.

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Section C reviews the history of pension reforms in Italy and describes the main features of the current system. Section D presents medium-term projections of the Italian Treasury and those of the *European Policy Committee-Aging Working Group* (EPC/AWG), compares Italy with other EU countries, and illustrates vulnerabilities. Section E discusses recent reform proposals and provides a quantitative assessment of expenditures under different reform scenarios. Section F concludes.

B. Pensions and Social Protection Expenditures in Italy

5. Italy has the largest share of pension expenditures across EU countries (according to Eurostat definition; see Table 1), with old-age and survivor pension expenditures alone representing over 15 percent of GDP in Italy, and when disability pensions are also included the share climbs to about 17 percent of GDP.^{2 3}

6. Over the past 50 years, pensions have represented the most important component of social spending in Italy and almost the only social safety net available to a large segment of the population. Since total estimated spending on social protection in Italy ranges 24 percent of GDP, expenditures appear heavily skewed toward pension benefits, thus recent calls for a broader reform of the pension system to allow for a better-targeted social protection policy.

7. The recent political debate in Italy has challenged the definition of pension spending both at a national and a cross-country level, on the basis that pension expenditures based on contributory schemes should be more clearly separated from "social" pensions paid on the ground of a broader objective of social protection spending and unrelated to contributions.

² Cross-country comparisons of pension expenditures have proven difficult in the past, mainly because of the different definitions adopted for pension expenditures, not only by the different reporting international entities, but also across different reports produced by the Italian authorities. These issues were confronted with by the EPC/AWG when it tried to evaluate trends in public pension expenditures across EU countries. Additional difficulties arise from the fact that the source of funding for social protection expenditures is not always a criterion for statistical definitions. Eurostat's harmonized definition includes pensions or benefits relating to old age or retirement from all schemes: basic (first pillar), supplementary (second pillar), personal (third pillar), means-tested welfare, early retirement, and other old-age-related schemes.

³ The Italian Treasury (*Ragioneria Generale dello Stato*, RGS) defined pension expenditures for purposes of long-term projections for public sector expenditure trends. This definition was harmonized with that used by the EPC/AWG and includes pension for old-age and early retirement schemes, invalidity and survivors pensions (defined as IVS in the Italian terminology) and welfare (social) pensions. In contrast with the Eurostat definition, the RGS pension definition (e.g., in Table 7 below) does not include the private severance fund *TFR* (1.6 percent of GDP in 2000; see below).

Table 1. Selected European Countries: Old Age and
Survivor Benefits 1/
(In percent of GDP; in descending order as of 2000 figures)

| | 2000 |
|-------------------------------|------|
| European Union (15 countries) | 12.2 |
| Italy | 15.4 |
| Switzerland | 13.5 |
| Austria | 13.5 |
| Greece | 12.6 |
| France | 12.5 |
| Sweden | 12.4 |
| United Kingdom | 12.3 |
| Germany | 12.1 |
| Belgium | 11.1 |
| Netherlands | 10.9 |
| Denmark | 10.7 |
| Portugal | 9.2 |
| Spain | 9.1 |
| Finland | 8.8 |
| Luxembourg | 8.1 |
| Norway | 7.6 |
| Iceland | 6.0 |
| Ireland | 3.4 |

Source: Eurostat.

1/ Data includes all transfers from all old age related schemes, basic (first pillar), supplementary (second pillar), and personal (third pillar), including the *IFR* in the case of Italy.

Unions have been claiming that Italy's pension expenditures also include pension benefits awarded as social safety nets. Thus, in the critics view, the size of pension expenditures is overestimated in official statistics, and pension expenditures would be otherwise sustainable. Their argument hinges on the fact that, were it not for the rapid growth of "social" pension expenditures, the system would be sustainable, and "social" expenditures could be financed through budgetary transfers.

8. However, in a defined benefit pension system, general and "social" pension expenditures are inevitably intertwined, as such systems are founded on principles of revenue aggregation and income redistribution. Defined benefit pension systems can be thought of as an insurance against old age, which tend to redistribute income across workers. For this reason, the sustainability of the system would be better evaluated as a whole.⁴

9. In Italy, and across most EU countries, pension expenditures award an income stream not directly related to the capitalized value of workers' contributions, and thus implicitly tend to contain an element of social protection. The distinction between welfare based spending

⁴ For example, in the Italian system, the pension scheme of farmers has had a persistent deficit, while that of professional workers has had surpluses.

and pension spending would become clearer in the context of a defined contribution pension system where the amount of “pension” benefits received by workers will only depend on the amount of capitalized contributions, thus clearly separating flows generated from contributions from those deriving from income redistribution.

10. With the exception of the large shares of pension-related expenditures, social protection expenditures in general have not been very high in Italy by EU standards,⁵ leaving Italy with one of the lowest expenditures shares for unemployment benefits and family/children benefits. Interest in expanding needs-based benefits—for example, on unemployed in the context of ongoing labor market liberalization—have added urgency to the discussions on pension reform.

Table 2. Pensions and Social Protection Expenditure - Italy vis-à-vis Other European Countries, 2000
(In percent of GDP; in descending order as of 2000 figures)

| Total Social Protection Expenditure 1/ | | Total Means-Tested Social Protection Expenditure | |
|--|------|--|-----|
| 2000 | | 2000 | |
| European Union (15 countries) | 26.2 | European Union (15 countries) | 2.7 |
| Sweden | 31.7 | United Kingdom | 4.2 |
| Germany | 28.5 | Ireland | 3.6 |
| France | 28.3 | France | 3.2 |
| Denmark | 28.0 | Finland | 3.2 |
| Austria | 27.9 | Netherlands | 3.1 |
| Switzerland | 26.1 | Germany | 2.7 |
| United Kingdom | 25.8 | Spain | 2.5 |
| Netherlands | 25.7 | Greece | 2.3 |
| Greece | 25.5 | Switzerland | 1.8 |
| Belgium | 25.3 | Austria | 1.6 |
| Norway | 24.9 | Portugal | 1.6 |
| Finland | 24.4 | Sweden | 1.5 |
| Italy | 24.3 | Norway | 1.3 |
| Luxembourg | 20.2 | Italy | 1.1 |
| Portugal | 20.2 | Luxembourg | 1.1 |
| Spain | 19.6 | Iceland | 0.9 |
| Iceland | 19.2 | Denmark | 0.8 |
| Ireland | 13.4 | Belgium | 0.7 |

Source: Eurostat.

1/ Data includes all transfers from all old age related schemes, basic (first pillar), supplementary (second pillar), and personal (third pillar), including the *TFR* in the case of Italy.

⁵ The Italian statistic agency definition of pensions includes pensions from old age, retirement and early retirement schemes, invalidity and survivor pensions, including pensions for reasons of health not relating to specific contributions, war pensions and the like (amounting to about 0.8 percent of GDP in 1999). The Eurostat definition for old-age pensions and survivors also includes payments through the severance pay funds (so-called *Trattamento Fine Rapporto* (TFR), which are paid out as capital and not in a pension form, and also are not matured at retirement age but at employment separation).

C. The Current Pension System: Past Reforms and Policy Challenges

The public scheme

11. The public pension system is comprised of more than 50 different schemes but the five largest schemes account for four-fifths of total pension expenditure, and the remainder schemes involving very few workers or retirees. The system is mainly administered through the National Social Security Institute (INPS), which manages the great majority of social security schemes for private sector employees that account for about two-thirds of the public pension system. Only few categories of workers are not included in INPS, for example, journalists and workers in the performing arts and postal and telecommunication services. A relatively large fund, that of industry managers, was recently incorporated into INPS. Of the pension schemes not included in INPS, the largest by far is administered by the social security institute of the public employees (INPDAP) accounting for about one-fourth of total pensions. The remaining professional schemes are fragmented across numerous very small institutions.

12. The contribution rates differ across workers' categories and currently are set at 32.7 percent for private sector employees.⁶ These rates were increased significantly during the late-1980s and early-1990s following the acceleration of pension expenditures. As an example, in 1985 the contribution rates for private sector employees were 24.5 percent, while that for artisans was more than 10 percentage points lower.

The pre-reform system⁷

13. Prior to the 1992 reform, the Italian pension system was entirely a defined benefit, pay-as-you-go (PYG) public system, very generous in many ways. In particular, the replacement rate granted by the pension formula was high, as it was based mainly on

Table 3. Pension Contribution Rates in Selected OECD Countries, 1967-95
(Percent of average earnings)

| | 1967 | 1995 |
|----------------|------|------|
| United States | 7.1 | 12.4 |
| Japan | 5.5 | 16.5 |
| Germany | 14.0 | 18.6 |
| France | 8.5 | 19.8 |
| Italy | 15.8 | 29.6 |
| United Kingdom | 6.5 | 13.9 |
| Canada | 5.9 | 5.4 |
| Austria | 16.5 | 22.8 |
| Belgium | 12.5 | 16.4 |
| Denmark | 1.0 | 1.0 |
| Finland | 6.5 | 17.9 |
| Ireland | 5.2 | 15.7 |
| Netherlands | 10.2 | 14.5 |
| Norway | 12.8 | 22.0 |
| Portugal | 13.5 | 13.9 |
| Spain | 16.0 | 28.3 |
| Sweden | 6.4 | 19.8 |
| Switzerland | 4.0 | 8.4 |

Note: Contribution rates are expressed as system averages.

Sources: Blöndal and Scarpetta (1998); and *The Retirement Decision in OECD Countries*, OECD Economics Department Working Paper No. 202.

⁶ For example, artisans have a contribution rate of 17 percent (2004), shopkeepers (self-employed) contribute 17.3 percent (2004).

⁷ For a detailed discussion of the reform process and the impact of the reforms on medium- and long-term expenditure trends see Annunziata and Laxton (1999) and Annunziata (2000).

earnings during the latest contribution period;⁸ the indexation rules for existing pensions awarded increases linked to wages; and the minimum required contribution period was relatively short.⁹ Workers could not receive pension benefits if they remained in the active labor force, a regulation that tended to foster underground employment while benefiting from retirement income. The lack of an actuarial correlation between the size of the pension benefits and the retirement age acted as a tax on continuing to work (Brugiavini, 1999). Finally, the absence of correspondence between contributions paid and the pension entitlement accrued encouraged contribution avoidance.

14. Such benefits, coupled with an overall aging of the population led to significant increases in pension expenditures in the early-1990s. In addition, official projections indicated expenditures would accelerate over the medium and long term, a clear indication that the system had become unsustainable.

The reforms of the 1990s

15. The “Amato” reform in 1992 reduced the generosity of the benefits in several ways: (i) the reference period for calculating benefits was gradually extended across all categories of workers; (ii) the minimum number of contribution years needed for eligibility to an old-age pension was increased (from 15 to 20 by 2001); (iii) the level of the minimum contribution required by public sector workers was increased; and (iv) pensions were no longer to be indexed to wage but just to consumer prices. Also, the minimum retirement age for old-age pensions was increased by five years, at the time, over the course of ten years, and hence is now entirely effective. However, workers that had at least 35 years of contributions could still take early retirement at 57, receiving so-called seniority pensions.¹⁰ It is important to note that these reforms, with the notable exception of the indexation mechanism on pensions, only applied to the contributions following the year of the reform. Recent research has evidenced how the change in the methodology for indexing pensions is the one measure that has contributed most in reducing the pension expenditure growth rates during the 1990s.

⁸ The reference period varied across workers, with the latest monthly earnings representing the reference wages for public employees, and the average earnings over the latest five or ten years represented the reference wages for private employees and self-employed, respectively.

⁹ The minimum contribution period for an old-age pension was 15 years, and 35 years for a seniority pension in the private sector; in the public sector, the minimum contribution period for a seniority pension was 20 years, and 15 years for married women with children.

¹⁰ The “seniority” pensions still exist under broadly the same conditions, but for a slight increase in the retirement age and contribution period starting from 2008 (2006 for some categories; see below).

Table 4. Expected Old-Age Replacement Rates in Selected OECD Countries, 1961-95 1/
(Percent)

| | 1961 | 1975 | 1995 |
|-------------------------------|------|------|-------|
| United States | 39.1 | 49.1 | 56.0 |
| Japan | 24.6 | 54.1 | 52.1 |
| Germany | 60.2 | 59.6 | 55.0 |
| France | 50.0 | 62.5 | 64.8 |
| Italy | 60.0 | 62.0 | 80.0 |
| United Kingdom | 33.4 | 33.8 | 49.8 |
| Canada | 31.3 | 45.1 | 51.6 |
| Australia | 19.1 | 32.8 | 40.9 |
| Austria | 79.5 | 79.5 | 79.5 |
| Belgium | 72.6 | 70.5 | 67.5 |
| Czech Republic | .. | .. | 53.2 |
| Denmark | 35.9 | 42.3 | 56.2 |
| Finland | 34.9 | 58.6 | 60.0 |
| Greece | .. | .. | 120.0 |
| Hungary | .. | .. | 54.6 |
| Iceland | .. | .. | 93.0 |
| Ireland | 38.6 | 28.9 | 39.7 |
| Luxembourg | .. | .. | 93.2 |
| Netherlands | 32.2 | 48.0 | 45.8 |
| New Zealand | 32.0 | 43.0 | 61.3 |
| Norway | 25.3 | 61.2 | 60.0 |
| Poland | .. | .. | 53.7 |
| Portugal | 85.0 | 77.0 | 82.6 |
| Spain | .. | 50.0 | 100.0 |
| Sweden | 53.8 | 77.1 | 74.4 |
| Switzerland | 28.4 | 51.7 | 49.3 |
| Average of above countries 2/ | 44.0 | 54.6 | 59.3 |

Sources: Blöndal and Scarpetta (1998); and *The Retirement Decision in OECD Countries*, OECD Economics Department Working Paper No. 202.

1/ The figures refer to theoretical replacement rates and are based on assumptions detailed in Blöndal and Scarpetta (1998).

2/ The average for 1995 refers only to countries for which data are available for the whole period covered in the table.

16. While the 1992 reform reduced pension benefits, the system continued to remain a defined benefit system. However, the projections of the social security administration continued to point at a significant deterioration of the expenditure ratios in the medium term. Thus, in 1995 the government passed a second major reform, the "Dini reform," which aimed at stabilizing the medium-term path of expenditures, reducing distortions in the labor market and improving equity in the system. The pension system was changed to a defined contribution system with a long transitional period, implying that the system will become fully effective only in 2030.¹¹ Pensions awarded during the transition period, beginning

¹¹ The defined contribution system will apply only to workers with less than 18 years of contributions and only for the contributions after 1995, according to the methodology discussed below in the summary table.

around 2014, would be computed with a “mixed” formula depending on the number of years the worker had been contributing to the old system at the time of the reforms. The defined contribution system assures that retirees’ pension benefits will depend on the capitalized value of the contributions (according to a mechanism that is explained below), thus representing a significant change in work incentives.

17. In 1997, the “Prodi reform” aligned private and public sector requirements for seniority pensions and increased contribution rates for some categories. These reforms improved horizontal equity and resulted also in some savings on pension spending.

The current mixed system and the transition to the defined contribution system

18. The 1995 reform substantially changed the pension calculation methodology across workers depending on the number of years they had contributed to the pension system at the time of the reform:

- Workers who had already contributed for 18 years to the “old” system in 1995 will continue to retire exclusively under the defined benefit system, although subject to the changes on the calculation of replacement rates and contribution periods introduced in 1992.
- Workers who had contributed for less than 18 years in 1995 will have their pension calculated with a so-called “mixed-system” formula. For the “mixed-system workers” contributions paid in the system prior to 1995 will give rise to an earnings related benefit in the pension formula, while the contributions paid in the system after 1995 will be capitalized according to the defined contribution formula.
- Workers who entered the workforce after 1995 will have their pension entirely calculated according to a defined contribution formula and will retire after 57 years of age if they have accumulated sufficient contributions to generate a pension 1.2 times higher than the old-age allowance pension.¹²
- Finally, all workers in the workforce at the time of the reforms have the right to early retirement after 35 years of contributions and 55 years of age (seniority pensions).¹³

19. The defined contribution formula implies that the future pension flow is calculated as a stream of annuities based on the capitalized value of past contribution periods:

¹² The amount of the old-age allowance pension is routinely revised in the financing law of the budget and is paid to all people over 65 years of age who do not have other means of subsistence.

¹³ The requirements vary slightly across categories of workers and minimum age is to increase as of 2008, see summary table for further details.

- The total capitalized value of past contributions is computed by applying a contribution coefficient of 33 percent to past wages and capitalizing the contribution values at the five-year average GDP growth rate for the year in which the contribution was paid.
- The flow of annuities is determined by applying to the capitalized value of contributions an internal rate of return, set at 1.5 percent, and a transformation coefficient, which is calculated on the basis of life expectancy parameters at the time of the workers' retirement (thus it differs depending on the worker's age when he or she retires).

20. The capitalization formula contains an implicit subsidy since the actual contribution rate is currently 32.7 percent, while the contribution rate applied to past wages is 33 percent. This feature is often indicated as one of the vulnerabilities of the defined contribution system, as it introduces a grant element into the pension formula.

21. The transformation coefficients are to be revised every ten years through new legislation. This would take into account changes in life expectancy in the calculation of future pensions, so that the value of each annuity is reduced on the basis of an expected longer period of pension flows (thus replacement rates are reduced). However, since the revisions to the transformation coefficients apply only to new retirees, the system adapts very slowly to changes in life expectancy.

22. One aspect of the system that has often been criticized is that the revisions of the transformation coefficients are to be issued by the government, in consultation with the social partners, every ten years. According to demographic projections, population will age significantly in the next decades and, from a political economy point of view, it may prove difficult for the government to effectively reduce benefits for a large segment of the electorate.

23. Another weakness of the defined contribution system is that the rate of return of capitalized contributions represents an implicit assumption on average GDP growth over the workers' retirement period, which, if proven too optimistic, would put the system under strain. In addition, the minimum effective retirement age is still among the lowest of the EU area (57) (Table 5). Also the minimum contribution period for entitlement to an old-age pension (20 years as of 2001) is low compared with other EU countries.

Table 5. Selected European Countries:
Average Retirement Age 1/ 2/

| | Old Age | Early Retirement |
|----------------|-------------|------------------|
| Italy | 61.6 | 56.3 |
| France | 61.8 | .. |
| Ireland | 62.0 | .. |
| Germany | 62.2 / 62.3 | .. |
| United Kingdom | 62.6 / 60.4 | .. |
| Belgium | 62.6 | 55.6 |
| Austria | 62.6 | 57.9 |
| Finland | 63.6 | 60.5 |
| Sweden | 64.5 | 62.0 |
| Luxembourg | 65.0 | 59.5 |
| Netherlands | 65.0 | 60.0 |
| Spain | 65.3 | 61.0 |
| Portugal | 65.7 | 61.9 |
| Denmark | 67.0 | 61.0 |

Source: Eurostat.

1/ Latest available year: DK, D, E, A, NL, P, FIN, and S:2000; I, L, and UK:1999.

2/ Sorted by average retirement age for old age pensions.

Table 6. Italy: Average Effective Retirement Age, 1994-2001

| | Men | Total |
|------|------|-------|
| 1994 | 58.8 | 58.4 |
| 1995 | 58.5 | 58.4 |
| 1996 | 58.3 | 57.8 |
| 1997 | 57.4 | 57.4 |
| 1998 | 58.8 | 58.9 |
| 1999 | 59.8 | 59.4 |
| 2000 | 59.5 | 59.3 |
| 2001 | 59.1 | 59.4 |

Source: RGS: "Rapporto di Strategia Nazionale sulle Pensioni 2002: Appendice Statistica."

24. While the reforms introduced only marginal changes to the replacement rates of workers that had at least 18 years of contributions in 1995 (see Table 7 below), the replacement rate for workers with a pension calculated entirely under the defined contribution system would drop by about 30 percent. During the mixed-pension system, replacement rates, which currently are still among the highest in the EU, will gradually decline. But, it is not until the defined contribution system will become fully implemented in 2030 that the replacement rate from the public pension system would decline significantly. Benefits will reduce to 50 percent of the average wage, even if considered net of income taxes, and the replacement rate climbs to 60 percent of the average wage, a substantial reduction from the current net replacement rate of 80 percent (see Table 7).¹⁴

¹⁴ Assuming a worker retires at 60 after 35 years of contributions. The replacement rate increases as the worker postpones retirement.

Table 7. Italy: Summary of the Main Features of the Current Italian Pension System, 2000-2030

Pension benefits and entitlements for workers retiring in 1/:

| Year | | 2000 | 2005 | 2006- | 2008 - | 2012 | 2013- | 2029 | 2030 onwards |
|--|------------------|---|------|--|---|------|---|------|--|
| Pension Benefits | | P = 2% (C1W1 x C2W2) | | P = 2% (C1W1 + C2W3) | | | P = PA + PB PA = 2% (C1W1 + C3W4) PB = ct x M | | P = ct + M |
| Entitlement | Old age | Age | | 65 years male 60 years female | | | | | At least 57 years of age |
| | | Entitlement | | 19 - 20 years contributions (as of from 2001) | | | | | 5 years contributions + and matured pension equal to 1.2 times the old age allowance |
| | Early retirement | Age | | Private 55 years | 57 years (as of 2002 /6 for some categories) | | | | |
| | | Entitlement | | Public 54 years | 57 years (as of 2004/ 6 for some categories) | | | | |
| | | Self 57 years | | 58 years (as of 2001) | | | | | |
| | | Private 35/37 years contributions 2/ | | 35/40 years contributions 2/ | | | | | |
| | | Public 35/37 years contributions 2/ | | 35/40 years contributions 2/ | | | | | |
| | | Self 35/40 years contributions 2/ | | 35/40 years contributions 2/ | | | | | |
| Year | | 2000 | 2010 | | 2020 | | 2030 | 2040 | |
| Theoretical gross replacement rates 3/ | | Private 67.3 | 67.1 | | 56.0 | | 49.6 | 48.5 | |
| Assuming 60 years of age and 35 years of contributions | | Public 68.6 | 68.1 | | 58.9 | | 49.6 | 48.5 | |
| | | Self 64.4 | 64.7 | | 41.2 | | 30.7 | 29.4 | |

Sources: RGS tables and calculations in "Rapporto di Strategia Nazionale sulle Pensioni 2002: Appendice Statistica" and "Rapporto di Strategia Nazionale sulle Pensioni 2002: Appendice Normativa;" and Fund staff estimates.

1/ Assuming uninterrupted career.

2/ No age restriction corresponds to the higher contributory period.

3/ In percent of average production worker wages, assuming real GDP growth of 1.5 percent and wage growth of 2 percent.

Definitions:

C1: Years of contributions before 1992.

W1: Last monthly wage for public employees, average of the last 5 for private employees, and 10 for the self employed (indexed to CPI increase).

C2: Contributions after 1992.

W2: Average of the last 4 years wages for public employees, 10 years wage for the private, and 13 years wage for the self employed (indexed to the CPI increase augmented by 1 percent).

W3: Average of the last 10 years for public and private employees, and 15 years for the self employed.

C3: Contributions between 1992 and 1993.

W4: Is average wage calculated over the shortest between i) the lifetime contribution period; and ii) the number of years between retirement and 1992 augmented by 1 year for public employees, 5 for private employees and 10 for the self employed. So that the reference period would be lowest between the entire career and eg. [10 + (Yr-1992)] years of contributions for the self employed; where Yr is the retirement year. Wages are indexed to the yearly CPI increase augmented by 1 percent.

ct: Transformation coefficient for accumulated contributions; for retirement ages below 65, ct takes into account the decrease in the number of annuities to be paid given a certain life expectancy parameter. For retirement ages in excess of 65 the transformation coefficient does not change. Total accrued contributions are capitalized assuming a rate of return of 1.5 percent per year.

M: Total contributions accrued during the whole working life capitalized at the rate of growth of GDP; where contributions are calculated as 33 percent of private and public sector worker income and 20 percent of self employed income.

The private pension system

25. Historically, the main form of saving for retirement outside the public pension system has been the severance pay fund (*Trattamento Fine Rapporto*, TFR). This is essentially a workers' saving scheme that is set up from a yearly contribution, at a rate of 6.9 percent, subject to a yearly capitalization rate of 1.5 percent (in real terms), which is maintained in the employers' accounts until the employment relationship terminates. However, there are some differences between a traditional second pillar supplementary pension system and the TFR, mainly because the capitalized amounts are paid out at the time of employment separation as capital and not in the form of a pension. Moreover, these funds are available for employees during their career for specific financing, for example, first house buying.

26. The 1995 reform envisaged that the gradual shift of the pension system to a defined contribution system was to be accompanied by the development of supplementary private pension funds—a so-called second pillar—to compensate for the significant decline in replacement rates entailed by the defined contribution system with respect to the current defined benefit-earnings-related system. The second-pillar was designed to include both closed and open funds. Finally, the system was to include also fully private funds to be set up only on a voluntary basis, thus constituting a so-called third pillar.

27. The closed funds have to be set up on the basis of unionized agreements, to be accessed by employees within a certain structure identified either by territory, by branch of activity, or by specific enterprise. Open funds would be accessed by all workers and can be set up by authorized financial intermediaries.

28. However, the pension funds have remained mostly underdeveloped as evidenced by the few (eight) closed funds that presented accounts at the end of 2001. This has been also due to the fact that, so far, fiscal incentives to participate in open funds are only limited to specific cases.¹⁵ Some progress was made in 2000, with a new law that allowed for life insurance products to benefit from the same fiscal treatment of private pension funds, if the type of contract entailed a similar financial return as that of a pension fund, and thus to constitute third-pillar type arrangements.¹⁶

29. The 1995 reform envisaged that TFR funds could be allocated to second-pillar pension schemes. Since the standard rate of contribution in the long term to the pension system is high as compared with most other OECD countries, dismantling the severance pay

¹⁵ According to the recent legislation, contributions to an open pension fund benefit from a favorable fiscal treatment if workers did not have an option to participate in a closed fund and if he/she transfers the TFR funds to the pension fund.

¹⁶ Fiscal benefits apply to contributions paid into the funds, though all returns are subject to an 11 percent tax rate on interest earnings.

system (TFR) would release resources that could be allocated to pension funds while providing a funding base for pension funds. However, this intention has not been implemented yet as it encountered a strong resistance from the labor unions and other parts of the political spectrum.¹⁷

D. Trends in Current Pension Expenditures: New Policy Challenges

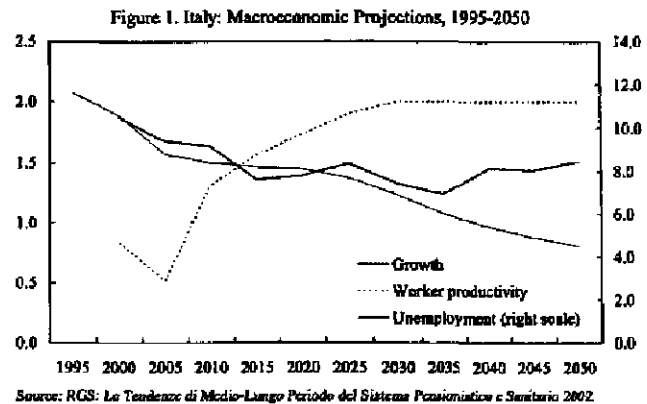
30. This section presents the main assumptions underlying the authorities' pension projections for the coming decades; compares pension expenditures trends in Italy with that for other EU countries; and discusses several important risks to the authorities' baseline projection. It also presents simulation results, which suggest that if these risks were realized, they would undermine fiscal sustainability (see also the staff report). This motivates the discussion of several reform scenarios in the following section.

Demographic scenario

31. The most recent demographic scenario released by ISTAT indicates that life expectancy at birth should increase by about five years for both men and women by 2050. In spite of the projected net positive migratory flows to Italy over the next 30 years and of the slight increase of women's fertility rates to 1.4 against the current 1.2, the dependency ratio for old-age people is projected to climb to nearly 70 percent by 2050 from the current 28 percent, among the highest across EU countries.

Macroeconomic scenario

32. According to the assumptions underlying the latest scenario of the RGS, the unemployment rate is expected to decline from 9 percent in 2002 to 4.5 percent at the end of the projection period, while women's activity rates are assumed to increase from 48.9 to 64.2 percent in the same period. Most importantly, workers' productivity growth is expected to gradually increase and display a long-term trend value of 2 percent after 2026. The combination of these hypotheses would imply that, for the next 50 years, average GDP growth is not expected to fall below 1.4–1.5 percent.



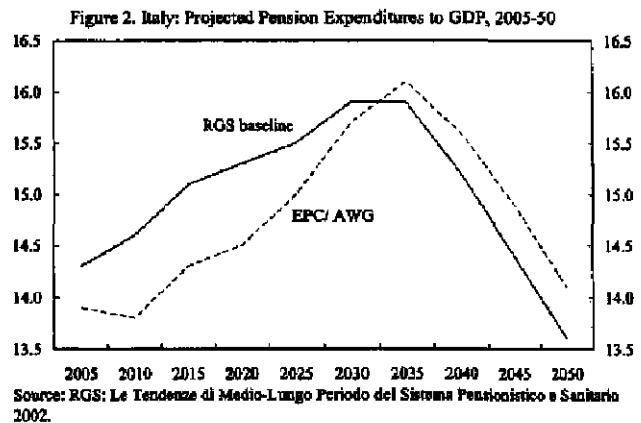
¹⁷ Employers represent severance pay as a cost to the firm. Since cash disbursements mostly take place at retirement, TFR funds provide a form of cheap financing for firms that would otherwise be confronted with tougher conditions on the financial or capital markets.

33. The RGS scenario depends importantly on a strong rise in productivity in future decades, and several factors suggest that labor productivity may indeed increase—at least somewhat—under the envisaged demographic scenario. In particular, as the active labor force declines, labor is likely to become more scarce (relative to capital), resulting in higher labor productivity. In addition, the total population is expected to decline more gradually than the labor force, and this would tend to support aggregate demand during this period and possibly also productivity. Moreover, as families have less children, resources are freed, which may be used for higher investment in education, thereby increasing future productivity. In all, these arguments provide a strong case that productivity growth rates could be higher than the rates observed in recent years. However, they leave open the question if the magnitude of this long-run effect is likely to be as large as envisaged in the RGS baseline, and if this provides the most appropriate baseline scenario (see below).

34. The projected increase in worker participation rates together with the expected increase in labor productivity growth will tend to countervail the impact of adverse demographic trends on pension expenditure. According to the RGS's baseline scenario, pension expenditures are expected to reach 15.9 percent of GDP in 2030—about 2 percent of GDP higher than in 2002—before gradually declining to 13.6 percent by 2050.

Trends in pension expenditures across Europe

35. The *European Policy Committee-Aging Working Group* (EPC/AWG) also projected long-term expenditure paths of the public pension system across EU countries (EPC/ECFIN/5812/00). Since underlying assumptions were to be broadly uniform, they vary slightly from those of the RGS: unemployment was projected to decline by 30 percent (50 percent according to the RGS scenario); female fertility rates and net immigration flows were assumed to be slightly higher than in the RGS scenario; and workers' productivity growth has a different intertemporal profile than in the RGS scenario.



36. The EPC/AWG exercise allows for cross-country comparability of pension expenditures: while public pension expenditures in Italy are currently above the EU average, over time, under the AWG baseline scenario, they are expected to fall well below EU averages in particular vis-à-vis those countries that have not reformed so far. Table 8 evidences how, under the baseline scenario, Italy compares with EU peers.

Table 8. Pension Expenditure Projections Across Selected European Countries 1/ 2/

| | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
|----------------|------|------|------|------|------|------|
| Austria | 14.5 | 14.9 | 16.0 | 18.1 | 18.3 | 17.0 |
| Italy 3/ | 13.8 | 13.8 | 14.5 | 15.7 | 15.6 | 14.1 |
| Greece | 12.6 | 12.6 | 15.4 | 19.6 | 23.8 | 24.8 |
| France | 12.1 | 13.1 | 15.0 | 16.0 | 15.8 | ... |
| Germany | 11.8 | 11.2 | 12.6 | 15.5 | 16.6 | 16.9 |
| Finland | 11.3 | 11.6 | 12.9 | 14.9 | 16.0 | 15.9 |
| Denmark | 10.5 | 12.5 | 13.8 | 14.5 | 14.0 | 13.3 |
| EU | 10.4 | 10.4 | 11.5 | 13.0 | 13.6 | 13.3 |
| Belgium | 10.0 | 9.9 | 11.4 | 13.3 | 13.7 | 13.3 |
| Portugal | 9.8 | 11.8 | 13.1 | 13.6 | 13.8 | 13.2 |
| Spain | 9.4 | 8.9 | 9.9 | 12.6 | 16.0 | 17.3 |
| Sweden | 9.0 | 9.6 | 10.7 | 11.4 | 11.4 | 10.7 |
| Netherlands | 7.9 | 9.1 | 11.1 | 13.1 | 14.1 | 13.6 |
| United Kingdom | 5.5 | 5.1 | 4.9 | 5.2 | 5.0 | 4.4 |
| Ireland | 4.6 | 5.0 | 6.7 | 7.6 | 8.3 | 9.0 |

1/ Projections in the 2001 EPC/AWG document "Budgetary Challenges Posed by Aging Populations."

2/ By expenditure levels in 2000.

3/ Latest estimate, December 2002 "Le Tendenze di Medio-Lungo Periodo del Sistema Pensionistico e Sanitario."

Vulnerabilities of the projected pension expenditures

37. All estimates of pension expenditure trends hinge crucially on employment and productivity patterns of the economy until the pension system is shifted to a contribution based system. In addition, the particularly adverse population trends in Italy, as compared to other EU countries, tend to exacerbate the pitfalls of the relatively long transition phase between the PYG and the defined contribution system. As discussed above, even the defined contribution system is vulnerable to low growth rates and population aging as capitalized contributions are assumed to have a pre-set rate of return of 1.5 percent, and workers can still retire very young, while transformation coefficients are very slow in adjusting pension flows to population aging trends.

38. Most importantly, the assumptions in the RGS scenario regarding increases in workers' long-term productivity are set at the upper bound of productivity growth rates recorded in recent decades. While increases in labor productivity averaged about 1.8 percent per annum for the period 1980–95, the increase was only 0.9 percent during 1995–2002. Moreover, projections for labor productivity in mature economies, such as the United States, generally assume long-run growth rates of around 1¼–1½ percent a year.

39. Against this background, the subsequent analysis is based on somewhat more cautious assumptions for future productivity growth. For the reasons described earlier, the scenario still envisages a considerable pick-up over time from the low productivity growth observed in recent years. But the long-run rise in productivity would be smaller than in the RGS scenario. Specifically, the scenario referred to as "IMF baseline" below assumes a gradual rise in labor productivity from current levels, reaching 1.5 percent in the longer run.

For the entire projection period through 2050, labor productivity growth would average 1.2-1.3 percent per annum. This scenario will be used below to evaluate fiscal sustainability.

Fiscal sustainability issues

40. This section reviews fiscal sustainability issues in the context of the IMF baseline scenario outlined above. The results—crucially hinging on the specific assumptions listed in the next paragraph—indicate that additional adjustment steps will likely be needed to secure fiscal sustainability.

41. The baseline scenario assumes: (i) a constant structural primary balance net of health and pension expenditures (jointly referred to as aging-related spending below) at its 2003 level; (ii) a rise in aging-related spending in line with the RGS baseline, adjusted for staff's baseline assumption on labor productivity growth;¹⁸ (iii) a gradual increase in the average real interest rate on public debt to 3½ percent (its average level during 1998–2003); (iv) GDP growth of slightly below 1 percent, reflecting the combined effect of the assumptions for labor productivity growth and the decline in the number of workers for demographic reason (the projection for participation rates is the same as in the RGS baseline).

42. Under these assumptions, aging-related expenditures rise by considerably more than in the RGS scenario, and the public debt dynamics would become unsustainable. The peak of pension expenditures (in relation to GDP) would increase by about 1¼ percentage points in the IMF baseline scenario relative to the RGS baseline (see Figure 3). As concerns the fiscal deficit and public debt, the IMF baseline implies a declining deficit over the next five years (as the output gap closes). However, the deficit would rise thereafter due to increased aging-related spending and, later, also increased interest payments. As a result, the public debt ratio would rise steadily after 2014,

Figure 3. Italy: Pension Expenditures as a Share of GDP, 2005-50

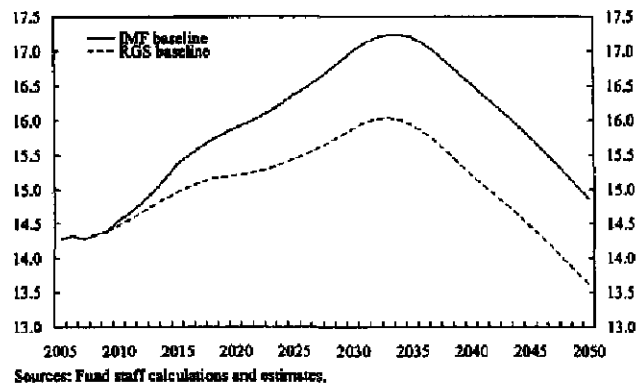
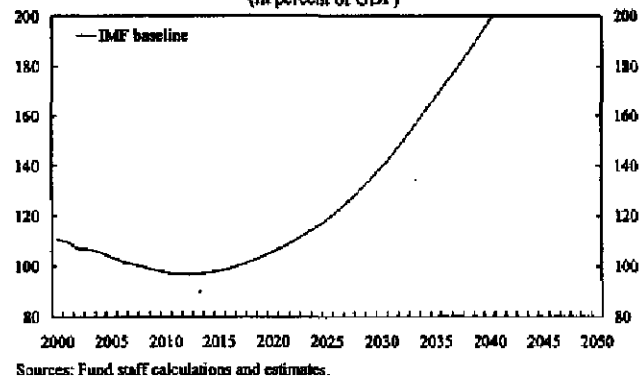


Figure 4. Italy: Public Debt Dynamics, 2000-50 (In percent of GDP)



¹⁸ In this simulation, aging-related spending includes also health care spending, which is assumed to grow in line with population aging.

and ultimately at a rapid and unsustainable rate. While this scenario makes a strong case for reducing the structural fiscal balance vis-à-vis the assumptions of the scenario—and, indeed, this is part of the government's medium-term program—it also provides a case for considering further reforms to alleviate aging-related spending pressures.

E. Issues Underlying Further Reforms

Direction of reform

43. In recent literature, there have been many proposals to reform the current pension system to achieve both medium-term savings and to increase intergenerational equity. In particular, increases in the effective retirement age and in labor market participation rates would be efficient with respect to the first objective, while measures to develop the second third pillar would address the second objective. More specifically:

- *Increases in the effective average retirement age* been estimated to entail significant savings, in particular if applied to the minimum entitlement age for seniority pensions, because of the high share of seniority pensions in pensions expenditures. To achieve this result many have proposed a lengthening in the statutory retirement age or the introduction of a discount on pension benefits for people retiring prior to the minimum retirement age for old-age pensions. For example, Brugiavini (2000) suggests that a steeper curve of capitalization coefficients for accumulated contributions, by discounting more contributions before the age of 65, would provide an incentive for workers to postpone retirement.
- *Incentives to increase labor participation* would tend to reduce the deficit between contributions and expenditures, as workers would continue on the job, and thus pay contributions, while already qualifying for seniority pensions.¹⁹ However, it has often been noted that incentives to increase labor market participation of the older

¹⁹ Under current laws, if a pensioner is over 58 and has fully contributed to the system (37 years of contributions), then he/she will be able to continue working either employed or as self-employed without losing pension benefits. Pensioners of any age and pensioners receiving an old-age pension according to the rules of the earnings related system will also be able to benefit from labor income without losing their pension benefits if they have at least 40 years of contributions. Pensioners that receive an old-age pension according to the defined contribution system (i.e., who do not have 37 years of contributions) with less than 63 years of age will not be able to receive pension benefits if working as employees and will lose 50 percent of the benefits exceeding the minimum pension if self-employed. After their sixty-third birthday, old-age pensioners will be able to access pension benefits if working as employees, but the benefits, as in the case of self-employed work, will be curtailed by half of the amount of the pension in excess of the minimum pensions.

generations would only generate expenditure savings if accompanied by disincentives to early retirement (Boeri and others, 2002).

- *Incentives to develop a supplementary pillar* would countervail the decline in replacement rates following the implementation of the defined contribution system. The severance pay fund (*Fondo di Trattamento Fine Rapporto* (TFR)) could be used, as initially envisaged in the 1995 reform, to constitute the base for the private sector pillar, but the tax structure between needs to be examined to avoid excessive taxation levels on pension funds.

44. As contribution levels are among the highest across OECD countries,²⁰ and are often identified as one of the reasons for poor employment performance in the past decade in Italy. Thus, further increases of contribution rates would be difficult to implement as a means to finance increases in pension expenditures.

Current government proposals

45. The government presented a draft proposal for pension reform proposal in October 2003 that, together with an earlier framework law, envisages several changes to the current pension rules:

(i) An increase of the minimum contributory period for entitlement to seniority pensions from 35 to 40 years for workers both in the current "mixed" and in the defined contribution system for rights maturing after 2007.²¹

(ii) Incentives to increase the effective retirement age. The current proposal envisages that workers that postpone retirement beyond the minimum entitlement age for seniority pensions can opt for a new regime where they would continue to work and receive: a salary increase equal to the full amount of their social security contributions, a tax exemption on the additional earnings, and a pension calculated on the basis of the contribution period up to the time in which the worker opted for the new regime.

(iii) Workers would be allowed to earn labor income while receiving pension benefits. This proposal aims at increasing labor participation and employment for older segments of the working age population.

²⁰ Feldstein and Siebert, eds., "*Pension System Across Europe*," Chicago University Press (2002).

²¹ Until 2015 workers will still be able to retire within the current seniority pension framework (35 years of contributions and 57 years of age), but the pension will be calculated on the basis of the formula for the defined contribution system, thus implying a significantly lower replacement rate.

(iv) A plan to draft legislation for a supplementary pension scheme, both by devising better fiscal benefits and by allowing the transfer of severance pay funds (TFR) to the pension funds.

(v) A cut in contributions rates for new employees, while leaving pension benefits unaffected. This measure is to stimulate employment growth.

46. With many of the specifics still to be worked out, it is too early to fully assess the potential impact of these reform proposals. Moreover, the government intends to discuss the proposals with the social partners and has indicated its openness for modifications, provided that these would not detract from the overall savings envisaged from the reforms. As it stands, the increase in the minimum contributory period extended to workers in the defined contribution system would entail significant savings in the medium and long term. The savings from the remaining measures, however, are highly uncertain and unlikely to be sizable. For example, the cost of the lower social security contributions from those workers that would have postponed retirement even in the absence of incentives is immediate, while the savings from the measures favoring higher labor participation would arise only in the medium term (as evidenced in paragraph by the simulations below). As there would no disincentives to discourage workers from taking early retirement, with workers allowed to retire and continue working, it appears unlikely that the retirement behavior would change significantly. Finally, the envisaged decline in contribution rates for new employees is unfunded and even if it increased employment, this would not reduce the funding gap in the pension system (although it might have other beneficial effects on growth and tax revenues).

Expenditure paths under different reform scenarios

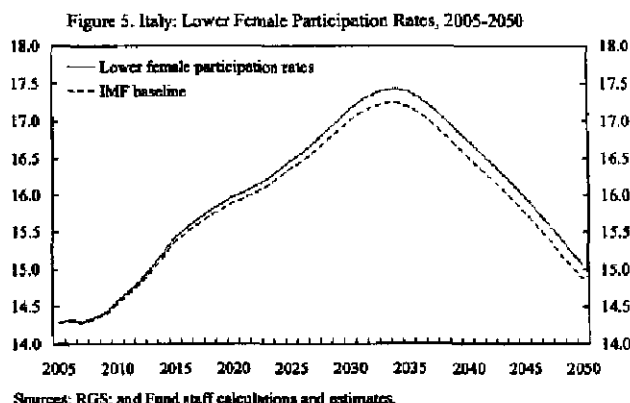
47. To better evaluate the quantitative impact of the different reform proposals discussed above, a series of alternative pension expenditure scenarios were constructed, each of which entailed a change in the current pension regulations with respect to the RGS's baseline. At times, scenarios were designed on extreme assumptions to generate "upper-bound" type of paths—and the scenarios should be seen primarily as a qualitative illustration of different reform options that than specific recommendations for reform. A summary of the numerical savings from different scenarios entailing regulatory changes is presented in Table 7.

48. Savings from each simulation are compared with the IMF baseline scenario, which, as discussed above, was drawn to encompass the same assumptions as the RGS for all macroeconomic and demographic variables with the exception of workers' productivity growth. The latter was assumed to average 1.2-1.3 percent over the projection period (as discussed above), rather than 1.7-1.8 percent in the RGS scenario.

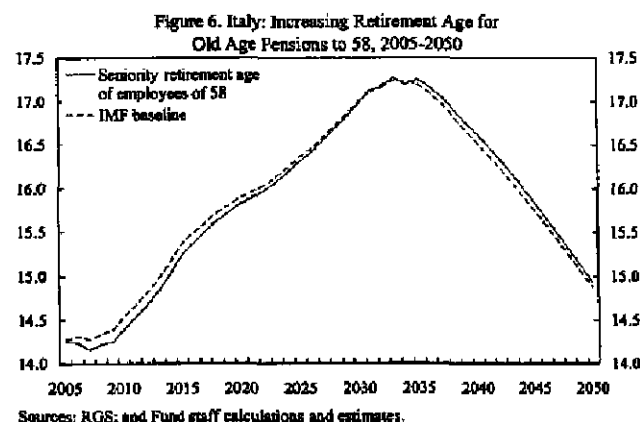
49. In particular, the expenditure paths were estimated under the following assumptions:

- *Lower labor participation rate of women.* Under this scenario, female labor force participation (in the age-bracket 20-54) would reach only 65 percent rather than

70 percent as in the RGS scenario, from its current level of about 50 percent. The lower participation rate is obtained by lowering the hypothesis on the education level and by reducing the rate of growth of population. The hypothesis of a lower participation rate reflects directly on a lower GDP, through a reduction of the number of workers, since GDP is assumed to depend directly on the productivity per worker and on total employment. Thus, the share of pension expenditures increases. However, lower participation rates also result in a gradual reduction of pension expenditures, due to a decline in the number of pensioners, and a reduction of the value of pensions calculated in the defined benefit system reflecting shorter contribution periods, as more time is spent achieving education. The increase in pension spending is gradual and peaks at 0.2 percent by 2040, but then declines thereafter.



- Increasing the minimum retirement age for seniority pensions from 57 to 58 for employees (as it is already 58 for self-employed) beginning in 2005, after 37 years of contributions. In general, increases in the retirement age generate an increase in GDP in the short term, as evidenced by savings of 0.1 percent in 2010. This reflects higher labor participation, and a reduction in the number of pensioners with respect to the baseline scenario. However, as more workers retire with a defined contribution benefit, a longer contribution period implies higher pension outlays. In the specific scenario under consideration, savings from increasing the minimum retirement age would disappear around 2035 when the defined contribution system would become fully phased in and seniority pensions would disappear. In the long run, the regulation would imply an increase in expenditures of 0.1 percent in the period 2040–50.*



- Increasing the minimum retirement age for old-age pensions for women by one year every two years until it reaches 65, with the first increase effective in 2005. This regulation would equalize the age requirement for the entitlement to an old-age pension across men and women. The effects of the regulation, as in the case of the scenario assuming an increase in the entitlement age for seniority pensions has only*

effects until the defined contribution system becomes fully phased in. As in all cases where the contribution period is increased, there will be an increase in long-term expenditures due to the higher values of pensions paid, and also, because of a longer payment period given women's higher life expectancy is longer. Savings were estimated to reach 0.3

percent of GDP in the period 2015–35 before being phased out following implementation of the defined contribution system.

- *Increasing the minimum retirement age for seniority pensions by one year every two until reaching 62 across all categories of workers, and raising the minimum retirement age for women, with the first increase effective in 2005. The combination of these measures would generate significant savings in the short term, before peaking at 1 percent in 2015. However, as in the previous cases discussed, the size of the savings would gradually reduce as the defined contribution system gives rise to higher pensions for workers with longer contribution periods and ultimately generates an increase of pension expenditures in 2035, by 0.2 percent of GDP, which would increase to ½ of a percent in 2050.*

Figure 7. Italy: Women's Retirement Age for Old Age Pension Increased to 65, 2005-2050

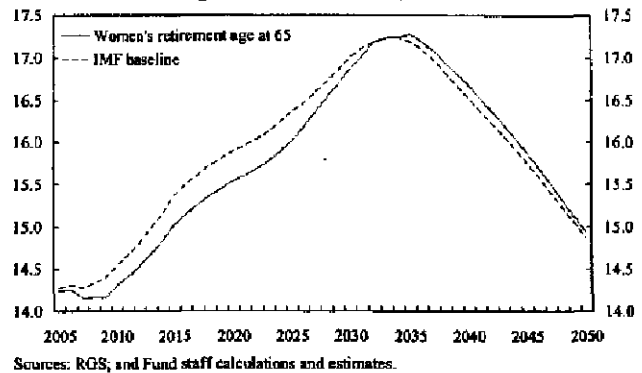
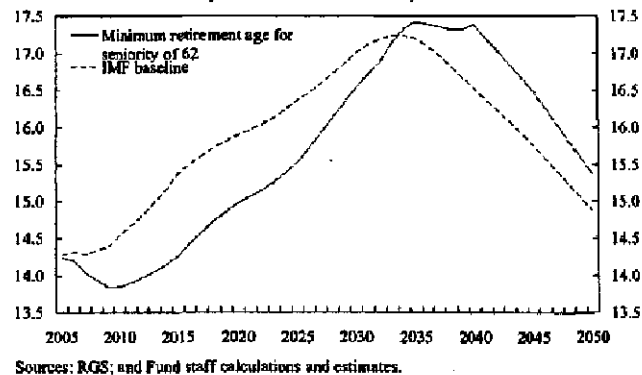
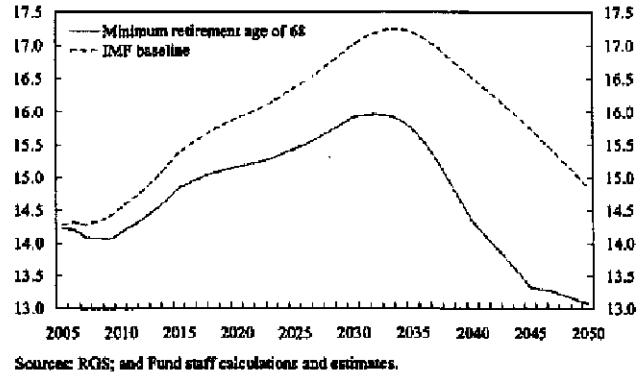


Figure 8. Italy: Minimum Retirement Age for Seniority Pensions Increased to 62, 2005-2050



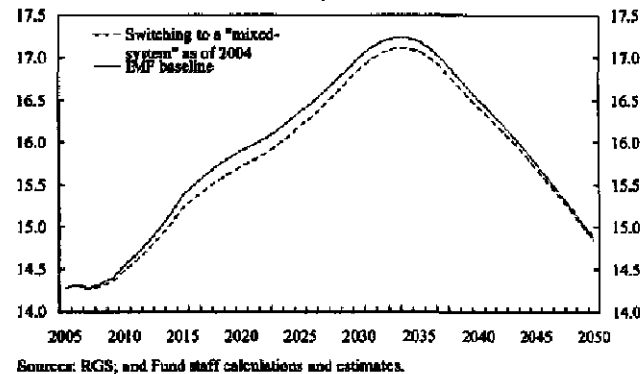
- Increasing the current minimum retirement age for all workers, including those covered by the defined contribution system, by one year every two until reaching 68, with the first increase effective in 2005.*²² This simulation was designed to evaluate the upper bound to the savings obtainable through increases in the “de iure” minimum retirement age. This would represent an increase of 8 years for women, 3 years for men, and 11 years for workers who would be eligible for pensions in the defined contribution system. Since in the current legislation the transformation coefficients are defined to be inversely correlated with age only for the ages 57–65; the coefficient currently applied to workers retiring at 65 was used for ages greater than 65. Not surprisingly, this measure generates significant savings in the medium and long term, as it both entails a reduction in the number of pensions and the increase in workers which is maintained throughout the projection period. As of 2015, savings are about ½ a percentage point of GDP, and peak at 2.5 percent in 2044, reflecting the increase of the retirement age in the defined contribution system.

Figure 9. Italy: Minimum Retirement Age Increased to 68 in All Pension Systems, 2005-2050



- Shifting workers to the so-called mixed-pension system as of 2004.* This would imply that workers now entitled to an entirely defined benefit pension under the 1995 reform,²³ would have part of the pension calculated with the defined contribution system for contributions paid after 2004. Such a change would entail savings of around 0.2 percent of GDP in the period 2010–30. The savings would gradually dissipate

Figure 10. Italy: Switching to a Mixed System Formula as of 2004, 2005-2050

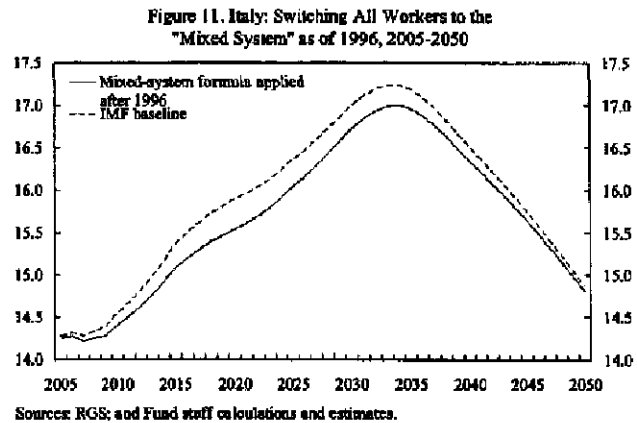


²² This would entail that in the mixed system, early retirements would be abolished and the minimum retirement age would be increased to 68 from the current 65 years of age (60 for women). In addition the age requirement to qualify for pensions would be increased by 11 years in the defined contribution system.

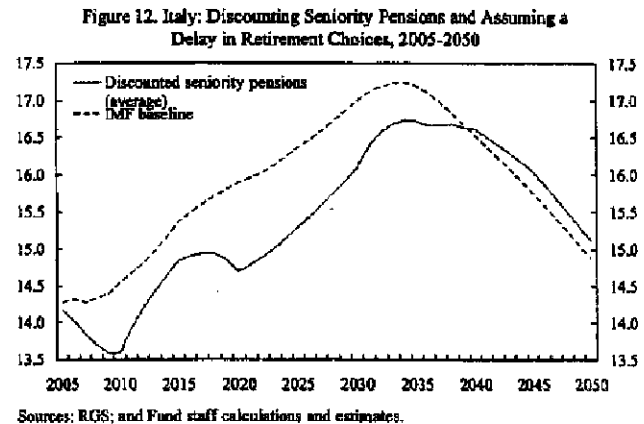
²³ As discussed above, this refers to workers with more than 18 years of contributions to the pension system in 1995.

thereafter as an increasing share of pensioners falls, in the baseline, under the defined contribution system pension scheme.

- Shifting all workers to the mixed-system for contributions paid after 1995 as of 2004.* This would imply equalizing the pension calculation formula across all workers retiring after 2004, whether they had matured 18 years of contributions in 1995 or not: all contributions after 1995 would be capitalized according to the contribution system rule. This is clearly an extreme assumption as it would entail retroactively changing the rules of the game. Savings would be about twice as large as in the previous case, reaching 0.3 percent of GDP in the period 2015–30. However, once again, the effects of this measure would be phased out with the implementation of the defined contribution system. Nevertheless, it contributes to a smoothing of the medium term “hump” in the expenditure path.



- Discounting seniority pensions for workers that retire before reaching the retirement age for old-age pensions (65).* Under this scenario, workers in the transition phase who decide to take early retirement would be faced with a discount of 5 percent for each year the worker retires before the age of 65 (60 for women), beginning in 2004. There is no penalty for women that retire after the age of 60 (minimum retirement age for old-age pensions). Such discounts are not applied to invalidity pensions. In the context of this simulation, retirement choices could change.



To take into account the effects of differences in retirement behavior two scenarios were run: one, which estimated the savings from the new regulation assuming workers would not change their retirement behavior; a second, where workers are assumed to remain in the labor market until they reach the “full” value of their pension (i.e., age 65 for men, 60 for women). These two hypothesis were taken to represent upper bound type of behavior, with the choice of a retirement age for most workers probably falling somewhere between the minimum age for the seniority pension and the statutory retirement age. In the first case, the expenditure savings

would reach 0.2 percent of GDP as early as 2007 and to 1 percent of GDP between 2010 and 2030 before being phased out. In the second case, expenditure savings are close to 2 percent of GDP by 2015, before declining. However, the phasing out of the benefits is also very rapid as outlays in excess of the baseline projections by 1 percent of GDP are generated after the defined contribution is fully implemented. The dynamic path reproduced in Table 9 and Figure 12 is obtained by averaging the point estimates in the two scenarios.

50. Some of the numerical simulations of the different scenarios on legislative changes discussed are reproduced below.

Table 9. Italy: Savings with Different Regulatory Changes, 2005-2050 1/
(In percent of GDP)

| | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|------|------|------|
| Lower female participation rates | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
| Minimum retirement age for seniority (58) | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| Minimum retirement age for seniority (62) | 0.0 | -0.7 | -1.1 | -0.9 | -0.8 | -0.5 | 0.2 | 0.9 | 0.7 | 0.5 |
| Equal retirement age for man and women (65) | 0.0 | -0.2 | -0.4 | -0.4 | -0.4 | -0.1 | 0.1 | 0.2 | 0.1 | 0.1 |
| Minimum retirement age of 68 for all systems | -0.1 | -0.4 | -0.5 | -0.7 | -0.9 | -1.1 | -1.5 | -2.2 | -2.4 | -1.8 |
| Switching to a mixed-system as of 2005 | 0.0 | -0.1 | -0.2 | -0.2 | -0.2 | -0.1 | -0.1 | -0.1 | -0.1 | 0.0 |
| Switching to a mixed-system as of 1996 | 0.0 | -0.1 | -0.3 | -0.4 | -0.3 | -0.3 | -0.2 | -0.2 | -0.1 | -0.1 |
| Applying discounts to seniority pensions 1/ | -0.1 | -1.0 | -0.5 | -1.2 | -1.1 | -0.9 | -0.5 | 0.1 | 0.3 | 0.2 |

Source: IMF scenarios calculated with the RGS pension model.

1/ Average of two retirement behavior scenarios.

Comparing scenarios

51. The regulatory changes simulated in the scenarios discussed help evaluate the size of the savings generated through different measures.

52. Increases in the *effective retirement age* appear to generate significant savings, and as expected, the effects are larger if the increase is applied to the minimum retirement age for seniority pensions. In particular, the size of savings following measures on seniority pensions evidences how the generosity of the early retirement mechanism is generating medium term spending pressures on long term sustainability of the overall system.

53. However, *increases in the minimum effective retirement age for workers in the transition period* also tend to imply higher pension expenditures at the time when expenditures peak. As the average effective retirement age increases, the value of capitalized contributions also increases, as workers contribute for longer periods and the value of future pension flows increases. Thus, some measures that yield short-term savings by changing the benefits in the transition phase also generate increases in long-term expenditures and tend to exacerbate the problems with the expenditure "hump". The dynamics of the transition phase of the pension system is such that, given the very low minimum retirement age in the defined

contribution system (57), the flow of workers exiting the labor market at the end of the transition period exceeds the savings generated by the implementation of the defined contribution system.

54. As evidenced in the simulation above, an *increase in the minimum retirement age of workers under the defined contribution system*, or an increase in the minimum contribution period for entitlement under the defined contribution system would significantly reduce the "hump" in pension expenditures.

55. Thus, simulation results tend to confirm that the measures contained in the framework pension law which are directed at increasing labor participation, given the absence of disincentives to take early retirement, do not generate sufficient savings to impact pension expenditure trends leaving the expenditures dynamic path unchanged. However, the prospective increase of the minimum contribution period for seniority pensions and for pensions in the defined contribution system would appear to generate sufficient savings to bring pension expenditures on a more sustainable path in the medium term.

56. The savings generated by *equalizing the pension formula for all workers* that had been contributing to the PYG system before 1995 (those with more and less than 18 years of contributions), are low because of the ten years that have already gone by since the time of reform. Nevertheless, they remain positive and would contribute to a smoothing of the medium-term "hump" in the expenditure path. It would also toward make more homogeneous the pension benefits across workers with very similar contribution periods.

F. Conclusions

57. Notwithstanding major reforms of the Italian pension system over the past decade, the long transition phase to a defined contribution system implies a further increase in pension spending (in relation to GDP) over the coming three decades. The extent of the increase depends importantly on the evolution of labor productivity—and official projections, assuming a considerable rebound vis-à-vis the growth rates observed over the past decade, entail considerable risks of underestimating future pension ratios. The rise in pension spending constitutes also a risk to fiscal sustainability in Italy, already burdened by a very high public debt. Moreover, the high share of pension expenditures in GDP—presently among the highest in the EU—crowds out other fiscal objectives, be it other social spending priorities or growth-fostering tax reductions. Finally, a case for additional reforms can be made on the grounds of strengthening intergenerational equity, as the long phase-in period of the earlier reforms would result in significantly different pension benefits for people with fairly similar pension contributions.

58. Against this background, the chapter analyzes several pension reform scenarios. The results suggest significant savings from increases in the effective retirement age; this is in particular the case if the increases are obtained by introducing disincentives for early retirement in the mixed-system and by increasing the minimum retirement age in the defined contribution system. The government's current reform proposals—which still remain to be finalized—contain important elements of such a strategy and could thus provide a significant step toward containing future pension spending.

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