APG World of Pensions Scholarship
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Overview of the Italian pension system

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ABSTRACT

This report provides a general introduction to the Italian pension system. To this end, firstly a contextual framework of the pension system is given by presenting Italian demographics and economic indicators. Secondly, the history of the system is analyzed, including the main reforms of the past two decades. After having determined the context, the public and mandatory first pillar of the pension system is discussed. The first pillar has traditionally been Italy's main pillar, providing generous replacement rates. The characteristics of the contributions-based scheme introduced in the 1995 reform are outlined, followed by a presentation of forecasted effects of the reform on public pension expenditure and replacement rates obtained. The reforms have changed the outlook for the younger generation of workers, increasing the importance of the complementary pillars. The voluntary second and third pillars are then thoroughly analyzed, by presenting both the theoretical and regulatory framework and market data.

The report has been constructed in the context of the APG World of Pensions Scholarship. The aim is to provide an overview of the entire Italian pension system, with specific attention for the complementary pillars. In addition, literature is analyzed in order to identify recommended further steps. On a personal note, drafting this document has been useful in comprehending the current state-of-the-art of the pension system. Moreover, the report can be used as a general introduction to the Italian pension system by future participants of the Scholarship or others interested in this subject. This overview is not aimed to be a final product but should instead be frequently updated, as the system is constantly developing (especially now as pension issues are high on the agenda of policy makers) and new market data becomes available. All views expressed in this article are those of the author and do not necessarily represent the views of, and should not be attributed to, APG and PensPlan.

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1. INTRODUCTION TO THE ITALIAN PENSION SYSTEM

1.1 Introduction

The Italian pension system consists of a compulsory first pillar and voluntary second and third pillars. The first pillar is a public and unfunded pay-as-you-go scheme, whereas the second and third pillar are private and funded systems including individual and collective pension schemes. As noted by Paci et al. (2010), the current state of affairs of the Italian pension system has largely been determined by reforms of the first pillar, the eligibility requirements for public pension and the replacement rates obtained.

The main reforms of the first pillar that occurred in the last two decades are: Legislative Decree 503/92 in 1992, Law 335/95 in 1995 (Dini Reform), Law 449/97 in 1997, Law 243/04 in 2004, Law 247/07 in 2007 and Law 102/09 in 2009 (Paci et al., 2010). The Dini reform moved the Italian pension system gradually toward a contribution based scheme. It applies in full to anyone that enters the labor market after 31 December 1995 and partially for 'junior' workers (those with less than 18 years of contributions). 'Senior' workers (those contributing for a period of 18 years or more) are excluded from the contribution based scheme and here the earnings based scheme still applies. The characteristics of the first pillar are further described in chapter 2, based on Gronchi and Nisticò (2006).

The historical development of the eligibility requirements have further shaped the Italian pension system. This process is described in section 1.3. The first pillar can be divided into two types of public pension, which are old age pension and seniority pension. For both types, eligibility requirements differ. Besides this, the law distinguishes between three categories of workers: employees, self employed workers and self employed professionals. The last group of workers is obliged to provide for retirement through private institutions.

The (gradual) move from an earnings based calculation method toward a contribution based one in 1995 has important consequences for both the sustainability of the public pension system and the replacement rates achieved. See for example table 1.1, in which the current and expected future gross replacement rates for private employees are listed (further discussed in section 2.3.2). The high replacement rates achieved by the first public pillar (based on the earnings based scheme) are the main reason for the small interest in and size of the second and third pillars (Gronchi and Nisticò, 2006;

Age	2010	2020	2030	2040	2050	2060
	Contribution period: 30 years					
60	55.4	47.2	42.8	41.7	41.1	40.4
65	59.4	52.9	49.4	47.9	47.0	46.1
	Contribution period: 35 years					
60	70.2	56.9	50.8	48.3	47.9	47.1
65	70.2	62.6	58.4	55.5	54.8	53.7
	Contribution period: 40 years					
60	80.2	66.6	60.3	55.2	54.5	53.8
65	80.2	72.3	67.8	63.4	62.4	61.4

Tab. 1.1: Current and forecasted gross replacement rates of the public pension system for private employees (see Department of General Accounts (2009)). Final income is defined as average gross wage per dependent worker.

Paci et al., 2010). However, the significant expected decrease in replacement rates of the current younger workers increases the importance of the complementary pillars (e.g. see Schoyen (2009)). The complementary pension schemes are discussed in chapter 3.

In order to understand the current state-of-the-art of the Italian pension system, in this introductory chapter a contextual framework is created in which to view the discussion about the public and complementary pillars in chapters 2 and 3. Firstly, the demographics of the Italian population are presented in section 1.2, together with relevant macroeconomic trends. Secondly, the historical development of the pension system and the characteristics of the reforms of the past decades are discussed in section 1.3.

1.2 Demographics and economic context

As outlined in the OECD (2009) report, population aging has been a main driving force behind pension policies and reforms. Aging is the result of an increase in life expectancy as well as a decline in the fertility rate. In addition, migration can play a role. For a thorough (sensitivity) analysis of the factors life expectancy, migration, productivity, unemployment and the participation rate, see Aprile (2009).

Life expectancy As shown in figure 1.1, life expectancy has been increasing over the last 5 decades in all OECD countries reflecting rising living standards and greater access to quality health services. Italy is among the countries with the highest life expectancy, but with a relatively large gender gap (i.e. difference in life expectancy between men and women). This high expectancy contributes to the pension burden.

Fertility rate As noted in OECD (2009), in 2006 fertility rates were 1.65 on average across the OECD countries. This number is below the rate needed to ensure population replacement, which equals 2.1 in the absence of migration

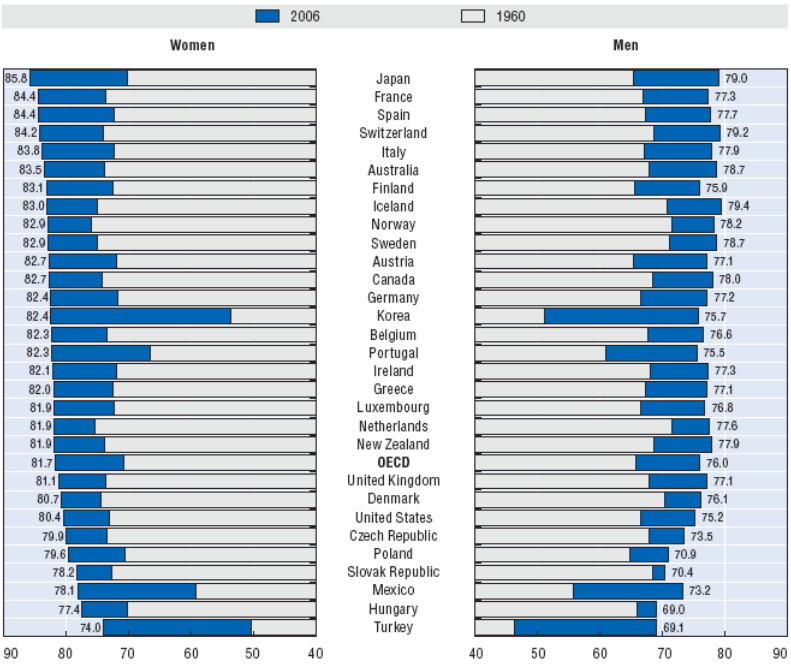


Fig. 1.1: Life expectancy at birth in years for men and women. Data is shown for both 1960 and 2006 (see page 147 of OECD (2009)).

flows and fixed mortality rates. This thus contributes to aging populations. The trend toward lower fertility rates is partly driven by postponement of childbirth to later ages. The fertility rate of Italy in 2010 equaled 1.4, and is expected to gradually increase toward 1.6 in 2060 (Department of General Accounts, 2009).

Population aging As noted by Cackley et al. (2006), Italy is faced with a demographic challenge considerably larger than the OECD average. As shown in figure 1.2, the old-age dependency ratio (the ratio of people aged 65+ to those of working age) is vastly increasing in Italy. Note that Japan has an even stronger aging population and that both countries are well above the OECD average. As noted above, both the relatively high life expectancy and low fertility rates contribute to this problem in Italy.

Labor market Arpaia et al. (2009) show data with respect to participation of males and females on the labor market in Italy. As compared to other OECD countries, Italy has relatively low labor market participation rates for people aged 55 years and over. This is especially true for women, although their participation in the labor market increased over the past three decades.

Figure 1.3 contains data on absolute and relative labor market participation of both men and women in Italy anno 2009. As can be seen in figure

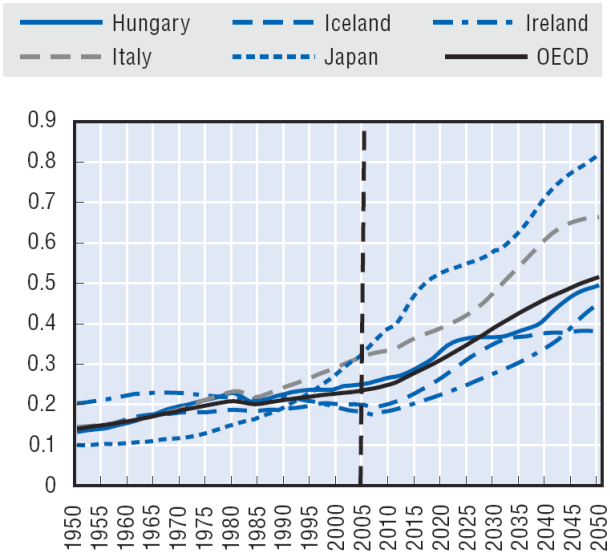
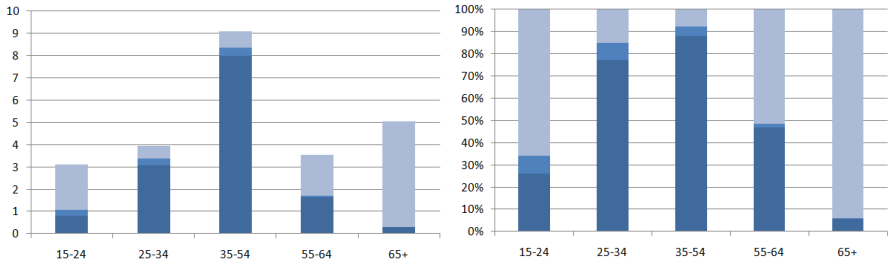


Fig. 1.2: The old-age dependency ratio for selected countries and the OECD average from 1950-2050. The ratio measures the number of people that are aged 65+ relative to the number of people of working age (see page 151 of OECD (2009)).

1.3(b), the percentage of working population (dark blue) is largest in the 35-54 age cohort, but decreases markedly after. For females (see figure 1.3(d)) this decline is even stronger, with only 26% employed or seeking employment in the 55-64 age cohort. As more thoroughly discussed in section 2.3.2, one of the aims of the Dini reform and the move from an earnings-based scheme to a contributions based scheme has been to give incentives to increase tenure and postpone retirement (also see Van der Putten (2005)). This in order to increase employment especially among women and the older age cohorts as shown in figure 1.3. Indeed, Carone and Eckefeldt (2009) project that the reforms lead to an increase in labor market participation of 13.6% by 2020 and 22.2% for the 55-64 age cohort. However, within this age group the effect is stronger for males (17.1% by 2020 and 29.0% by 2060) than for females (10.2% and 15.2% respectively). Cioccia et al. (2001) notes that this is largely due to the slow economic development in the Southern Italian regions.

Other economic indicators The Combined Report on the Economy and Public Finance for 2010 of Ministero dell'Economia e delle Finanze (2010) provides an overview of the state of the Italian economy and its public finances. Relevant economic indicators can be summarized as follows:

- The unemployment rate increased from circa 6.0% in 2007 to 8.5% in 2010;



(a) Male absolute (people, millions)

(b) Male relative

(c) Female absolute (people, millions)

(d) Female relative

Fig. 1.3: Male and female absolute and relative labor market participation according to age cohorts. Dark blue (bottom of bars) indicates 'employed', lighter blue (middle) indicates 'unemployed but looking for employment' and lightest blue (top) indicates 'not part of labor market'. Figures are given for Italy anno 2009 (Ministero dell'Economia e delle Finanze, 2009).

	2007	2008	2009
Monthly pensions financed by state	15,491	15,906	16,655
Disabled persons	13,050	13,054	15,504
Disability pensions	4,114	4,217	4,403
Revaluation of pensions	2,956	2,999	3,044
Charges for pensions to farmers, sharecroppers and colonies	2,862	2,862	2,862
Social security, social and life allowances	2,770	2,821	2,817
Charges arising from early retirement	2,122	1,808	1,808
State participation in funding annual pensions	2,098	2,098	2,098
Social pensions (hardship)	1,375	1,375	1,375
Minimum pensions	1,140	1,140	1,140
Provisions for income and pension accumulation	121	121	131
Sum transferred to customs/shippers fund	31	32	32
Charges in favor of cases of particular hardship		0	900
Total transfers for pensions	**48,130**	**48,433**	**52,769**

Tab. 1.2: Public transfers to pensions, specified into categories (amounts in millions of euro). Source: Ministero dell'Economia e delle Finanze (2010).

- The gross domestic product (GDP) increased in 2007 with 1.5%, but due to the effects of the financial crisis declined in 2008 with 1.3% and in 2009 with 5.0%;
- The ratio of public debt to GDP increased from 103.5% in 2007 to 116.7% in 2010 (see figure 1.4);
- The budget deficit equaled 80,537 million euro in 2009 and 78,116 million in 2010. This corresponds to a net borrowing to GDP ratio of 5.3% and 5.0% respectively;
- Public expenditure to 'social benefits' increased from 17.1% of GDP in 2007 to 19.2% in 2010. Within this category, expenditure to pensions as a fraction of GDP went from 13.9% in 2007 to 15.4% in 2010. Even though public spending to social benefits and pensions increased in absolute amounts from 2007-2010, the decline in GDP explains most of the increase in the ratios;
- A specification of public pension expenditure to different categories from 2007-2009 is given on page 138 of Ministero dell'Economia e delle Finanze (2010) and can be found here in table 1.2. Note in specific that from 2008 to 2009 the transfers to disabled persons increased significantly. In addition, the charges arising from early retirement decreased from 2007 to 2009. Finally, a large new form of expenditure are charges in favor of cases of particular hardship;
- With respect to the importance of complementary pension funds (i.e. second and third pillar) relative to the size of the economy (measured as percentage of GDP), in Italy this equaled 3.5% in 2007. This compares to an OECD average of 75.5% (OECD, 2009).

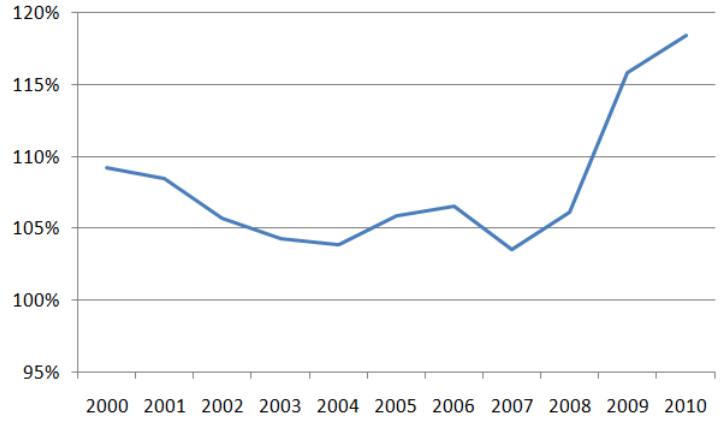


Fig. 1.4: The public debt to GDP ratio of Italy from 2000-2010 (source: Ministero dell'Economia e delle Finanze (2010)).

1.3 History and reforms

The Italian pension system went through a range of reforms in the past two decades. These reforms were necessary in order to guarantee the sustainability of the system, threatened by the demographic developments as shown in section 1.2 and generous award formulas. In this section the historical situation and main characteristics of the reforms are presented. A more thorough analysis with respect to the characteristics of the first and complementary pillars is deferred to chapters 2 and 3. In addition, see Cioccia et al. (2001) for an analysis of the reforms placed in a political context. Section 1.3.1 describes the origins and pre-reform status of the pension system, followed by an overview of the 1992 reform in 1.3.2 and the 1995 reform in 1.3.3. Aspects of the more recent reforms are discussed in section 1.3.4. Finally, in section 1.3.5 further steps as proposed by literature are presented.

1.3.1 Historical perspective and pre-1992 situation

The first compulsory pension scheme for private employees in Italy was introduced in 1919. It was funded and managed by INPS, the National Institute for Social Security. A payroll tax financed the scheme, providing old age and disability benefits on a contributory basis. However, due to inflation and the use of pension fund assets to support government finances, the funded schemes were unable to handle the increasing pension liabilities. Therefore, after the Second World War (in 1952) a pay-as-you-go scheme was established. At the same time, a guaranteed minimum pension level was introduced. As Brugiavini and Galasso (2004) argue, the following decades frequent changes took place enlarging the generosity of the pension system. For example, in 1956 an early retirement option was introduced and in 1969 the pension benefits of private sector employees were computed based on

final salaries. In the 1980s first steps were taken to reduce the expenditure on pension provisions.

The main characteristics of the pension system before the 1992 Amato-reform are now discussed. These are also shown in table 1.3, together with those of the 1992 and 1995 reforms. The pre-1992 pay-as-you-go (note: unfunded) scheme received its funding through a payroll tax shared between the employer and the employee: the former approximately contributing two-thirds, the latter one-third. In addition, the employer contributed 7.41% to the employees' severance pay fund (further discussed in section 3.2.1). Eligibility requirements were 60 years for men and 55 for women, with a minimum seniority of 15 years. However, retirement was possible for any age after 35 years of seniority for private sector employees (in the public sector only 20 seniority years were needed). This provided incentives for early retirement as no actuarial penalty applied for early retirees. Benefits were computed by taking the product of pensionable earnings, a 2% rate of return and seniority (max. 40 years of seniority, so at most 80% of pensionable earnings could be achieved). A minimum benefit was granted if the final benefit level obtained was below a given threshold, conditional on means-testing.

Lastly it is noted that the first pillar was practically the only significant pillar before the 1992 reform. The need for a funded pillar and for supplementary pillars became apparent in the early 1990s (Brugiavini and Galasso, 2004).

1.3.2 The 1992 reform

The first reform occurred in 1992, with the aim to reduce the pension expenditure (equal to 14.9% of GDP in 1992). The relatively large pension expenditure was in large part caused by demographic trends and the generosity of the system (both in the sense of high replacement rates and early retirement possibilities). Additionally, problems existed in mobility of workers due to segmentation into a range of funds. The fact that each fund had its own rules and provisions led to a difference in the treatment of workers in different sectors (Benetti, 2002). Moreover, remedies were needed for certain aspects of the composite pension system, such as invalidity pensions. The intention of invalidity pensions was to promote mobility toward Italy's Northern regions, while the actual effect was a generalized granting of pensions in the Southern regions (Cioccia et al., 2001). This was due to the fact that eligibility was based on the possibility of finding employment in the area of residence.

As can be seen in table 1.3, the 1992 reform tightened the eligibility requirements for old age pension, raised the payroll tax and changed pensionable earnings from final wage to career average (for workers with less than 15 years of contributions in 1992). Furthermore, the minimum number

	Pre-1992 reform	1992 reform	1995 reform
Pensionable earnings	Average real earnings of the last five years (using price index)	Average real career earnings (using price index plus 1%)	Career contributions (capitalized at a five-year moving average of the GDP growth rate)
Pension benefit	0.02 × pensionable earnings × years of seniority	0.02 × pensionable earnings × years of seniority	Pensionable earnings converted into annuity using transformation coefficient
Eligibility requirements seniority pension	*Men and women*: min. 35 years and max. 40 years of contributions; no age requirements	Same as pre-1992 reform	Abolished
Eligibility requirements old age pension	*Men*: age 60 and 15 years seniority. *Women*: age 55 and 15 years seniority	*Men*: age 65 and 20 years seniority. *Women*: age 60 and 20 years seniority	*Men and women*: retirement possible between 57 and 65; min. five years of seniority needed. Accrued pension has to be > 1.2 times the minimum old age allowance to obtain pension before 65
Total payroll tax	24.5% of gross earnings	27.17% of gross earnings	32.7% of gross earnings
Survivor benefits	60% to spouse; 20% to each child; 40% to each child (if no spouse)	Same as pre-1992 reform	Same as pre-1992 reform

Tab. 1.3: Main characteristics of the pension system before and after the 1992 and 1995 reforms for private employees (Aprile, 2009; Borella and Moscarola, 2009; Brugiavini and Galasso, 2004).

of years required for public sector employees to be eligible for early retirement was harmonized with the requirements of employees in the private sector.

These measures reduced public pension outlays and brought different rules among a range of sectors and occupations more in line. However, further measures were necessary as the 1992 reform did not produce the amount of savings needed.

1.3.3 The 1995 reform

The 1995 reform changed the Italian pension system significantly by adopting a notional defined contribution approach, instead of prior career average defined benefit scheme. The new contributions-based scheme is also on a pay-as-you-go basis (hence, unfunded) but provides for a stronger link between contributions and benefits as compared to the defined benefit model (Arpaia et al., 2009; Brugiavini and Peracchi, 2007). Pensionable earnings are now calculated based on career contributions capitalized at a five-year moving average of the nominal GDP growth rate. Then, using an actuarially fair transformation coefficient, retirement is possible between 57 and 65 (provided a minimum of five years of seniority has been reached). The transformation coefficients were planned to be revised every 10 years (a recent reform changed this to every 3 years). Finally, payroll taxes increased to 32.7% of gross earnings.

Under the new system, the first pillar will produce lower replacement rates for the younger workers. Therefore incentives for workers to retire later and have longer contribution periods are increased (e.g. see the discussion in section 2.3.2). The gradual and lengthy implementation period of the 1995 reform has however been widely criticized. As further discussed in section 2.2.3, Gronchi and Nisticò (2006) estimate that 40% of employed people are exempted from the new contributions-based scheme.

1.3.4 Recent reforms

After the 1995 Dini-reform, reforms followed in 1997, 2004 (Maroni-Tremonti reform), 2007 (Prodi-reform) and 2009. The reforms of 1997 and 2004 led to a further tightening of the conditions of seniority pensions. They also provided another set of incentives for workers to participate in the complementary pillars. Law 296/2006 provided such incentives by allowing workers to allocate their TFR (severance pay) funds to a pension scheme (further see section 3.2.1). Furthermore, Vagliasindi et al. (2004) remarks that a main objective of the reforms in the early 2000s has been to reduce inequality between employees, for example public versus private and between workers in different sectors.

	Minimum age (years)	Seniority/tenure (years)	Quota
01/07/2009 - 31/12/2010	59	36 (35 if at least 60 years old)	95
01/01/2011 - 31/12/2012	60	36 (35 if at least 61 years old)	96
01/01/2013 - onward	61	36 (35 if at least 62 years old)	97

Tab. 1.4: Minimum requirements to access seniority pension benefits as specified in Law 247/2007 for employees. With 40 years of contribution, the seniority pension is possible without any age requirements.

The 2007 reform however followed a different logic, being of an 'expansive' nature and coming at an estimated cost of 10 billion euros over the next decade. Schoyen (2009) notes that this is mostly due to the influence of the trade unions, who engaged in excessive negotiations with the parliament. For example, the *assegno sociale* (means tested benefit) was decided to be gradually increased and the pension adequacy of workers with atypical contracts were strengthened (by increasing their contribution rates with 3% from 2010). Also if retirees had a pension benefit below a certain threshold, they could foresee an increase in their pension income from 2008 (for more details see Carone and Eckefeldt (2009)). The reform further defined that for the cohorts of workers that fall completely under the notional defined contribution scheme, the minimum retirement age has been raised to 65 for men and 60 for women. With regard to the transformation coefficients, according to the 2007 reform they are revised every 3 years depending on changes in life expectancy and GDP growth rates.

Finally, the 2007 reform increased the age with which a worker is entitled to the seniority pension (in steps) from 59 to 61 years. The exact qualifications required are listed in table 1.4. For example, currently the quota needed is 96, which can be obtained through a combination of 36 years of tenure and 60 years of age (or 35 + 61). With 40 years seniority, workers can retire at any age. For self employed workers, the minimum age and tenure required for eligibility of seniority pension benefits are both one year higher compared to private employees.

Another measure, as specified in Law 133/08, attempts to provide incentives to continue working after retirement. The measure makes it possible to combine income from pension benefits and wages (see Strati (2008)). Previous to this legislation there were restrictions in fully accumulating pension benefits with labor income, especially for employees (Aprile, 2009; Carone and Eckefeldt, 2009).

The latest reform, enacted in 2009 (Law 102/09), provides that from 01/01/2015 the age requirement for public and private employees to be eligible for an old age pension will be adjusted in order to reflect the changing life expectancy of the population. The change in life expectancy with respect to the previous five years is taken, and is measured by the Italian National Institute of Statistics (Istat) and validated by Eurostat. Furthermore, the 2009 reform changed the eligibility requirements for women who

are employed in the public sector. In specific, from 01/01/2010 to acquire old age pension the age is raised from 60 to 61. A further increase of one year occurs on 01/01/2012, and then for every two years thereafter until reaching the age of 65.

1.3.5 Recommendations and further steps

In this section the likely effects of the reforms and resulting policy implications as proposed by literature are analyzed.

In a comprehensive analysis on the reforms in the 1990s, Franco and Sartor (2003) argue that the reform process is not yet complete. Further measures are necessary in order to avoid the expected rise in pension expenditure (see section 2.3.1), as well as to reduce the negative effects of the reforms on the labor market. The authors show that recommendations for further reforms can be classified roughly into three categories:

- Shorten the transition phase by including a larger part of the workforce with the aim to reduce public pension expenditure. This is technically simple, but politically sensitive;
- Tighten the eligibility rules to provide incentives to postpone retirement and have increased tenure. For example, the transformation coefficients can be reduced and the curve made steeper. The indexation of contributions can be tied to the growth rate of wages rather than nominal GDP growth;
- Accelerate the development of the complementary funded pillars. A combination of pay-as-you-go and funded schemes could provide relatively high replacement rates for individuals retiring at 65.

Indeed, the aim of the reforms in the past few years were along these lines, by increasing the eligibility requirements for seniority pension and a more frequent updating of the transformation coefficients. By allowing the TFR funds to be diverted to complementary schemes, the size of the second pillar increased as well. The conclusion of Franco and Sartor (2003) is that the contributions-based scheme should either be fully implemented (ensuring sustainability and including efforts to explain its functioning to the public), or to move toward a more traditional pay-as-you-go system.

Moscarola and Fornero (2009) note that an important effect of the move from a defined benefit to a defined contribution scheme is that pension risk is transfered to individuals. People are now more exposed to the consequences of financial crises. Therefore, the authors emphasize the importance of efforts to improve financial literacy among the population (e.g. on the area of portfolio diversification). In addition, it is argued that the conditions on the labor market have to be improved with regard to older workers and women

in order to increase their participation rates. The low participation rate of women does not seem to be a problem of human capital accumulation: the number of female university graduates is larger than the number of male graduates.

A different analysis is performed by Bottazzi et al. (2011). In this paper the reforms are evaluated from the perspective of the Italian households. In specific, the authors estimate the portfolio effect of households' perceived changes in social security wealth brought about by the reforms. The shift from the earnings-based scheme to the contributions-based one has led to a reduction in the replacement rates likely to be achieved, especially for younger workers and the self-employed (also see section 2.3.2). The results indicate that households anticipate to the lower benefits mostly by increasing their real estate wealth and safe financial assets. However, the authors calculate that the resulting increase in consumable private wealth is 20,000 euro, whereas the pension reforms have reduced the social security wealth of middle-aged workers by circa 45,000 euro. Hence households do not sufficiently anticipate the reduction in benefits. The main policy implications as indicated by the paper are that the information provision on pension benefits has to be improved. In addition, Italian households can respond to the fall in benefits by increasing their wealth in private pension plans, even though only a small fraction currently has done this. Therefore, the complementary pillars have to be further promoted.

Along the same line, Paci et al. (2010) argue that the awareness of the lower future replacement ratios should be increased through an institutional campaign. In addition, a financial education program has to be established in order to develop the understanding of the pension product. Finally, the policy maker should encourage the annuity option (further discussed in section 3.2.5) by providing fiscal incentives. The annuities should be diverse, competitively priced and easily comparable.

1.4 Structure

The rest of the report is structured as follows. In chapter 2 the first pillar of the Italian pension system is described. To this end, the specification of the contributions-based scheme provided in the paper of Gronchi and Nisticò (2006) is used. Furthermore, in the same chapter the forecasted effects of the first pillar reform are outlined with respect to public pension expenditure and replacement rates achieved. Then in chapter 3 the second and third pillars of the pension system are analyzed. In specific, the different types of complementary pension funds and their main characteristics are presented. Finally, chapter 4 aims to provide an overview of the current state of affairs of the Italian pension market by providing numbers and statistics.

2. FIRST PILLAR

2.1 Introduction

As remarked by Gronchi and Nisticò (2006), in the course of the last century most developed countries adopted pay-as-you-go (PAYG) pension systems combined with generous award formulas. However, problems such as economic slowdown and population aging have led to the emergence of disequilibria in the pension systems. Public pension expenditure as a ratio to GDP is especially large in Italy: equal to 14% in 2007. This ratio was the highest in Europe and among all OECD countries, for which the average pension expenditure to GDP equaled 7.2% (OECD, 2009). In addition, the number of pensioners relative to the number of contributors in public pension schemes is forecasted to increase from 65% in 2010 to 94% in 2050 (see Table 53 of Economic and Financial Affairs (2009)). This is large compared to other EU member states, partially due to the fact that Italy is among the countries with the highest life expectancy (Arpaia et al., 2009).

Because of these developments, reforms were necessary in order to provide for a sustainable first pillar. Italy's solution has been the establishment of a contributions-based scheme (or notional defined contribution), retaining the (PAYG) architecture with award and indexation formulas typical of funded defined contribution systems. An additional reason for the change from earnings-based to contributions-based noted by Gronchi and Nisticò (2006) is the relative 'fairness' of the latter: i.e. the earnings-based scheme tends to reward early retirement and careers with fast-rising earnings, whereas this is not the case in the latter scheme.

The rest of this chapter is organized as follows. Firstly, the contributions-based scheme is introduced in section 2.2 by providing a general framework, the parameters needed for an ideal implementation of the scheme and finally Italy's implementation. Secondly, in section 2.3 projected effects of the reform on public pension expenditure and replacement rates obtained are presented.

2.2 Italy's contributions-based scheme

In this section the public contributions-based scheme is described, which replaced the earnings-based scheme with the 1995 Dini Reform. The description is based on Gronchi and Nisticò (2006), to which is referenced for

additional details. The notation used is equal to that of Gronchi and Nisticò (2006) in order to maintain consistency.

2.2.1 General framework of contributions-based scheme

Firstly, a broad definition of a contributions-based scheme is introduced, in order to be able to analyze the Italian reform in more detail. In this framework, the pension system is conceived as a virtual bank, in which every individual has a savings account. In this virtual account the contributions are 'deposited' and the pension installments are 'withdrawn'. This general framework should allow for heterogeneousness of rates of return to the retired population (e.g. short term bonds) and working population (long term bonds). Furthermore, the deposit-exhaustion constraint has to be satisfied (i.e. withdrawals cannot exceed deposits plus interest accrued). This constraint is denoted as follows:

$$a \cdot \sum_{i=1}^{n}(w_i) \cdot \prod_{j=i+1}^{n+1}(1+\pi_j^L) = p \cdot \Big(1 + \sum_{i=n+2}^{n+m}\prod_{j=n+2}^{i}\frac{1+\sigma_j}{1+\pi_j^R}\Big). \tag{2.1}$$

Here, a equals a specific tax rate, w_i is the annual wage in year i, π_j^L is the rate of return to active workers in year j, $1, \ldots, n$ indicates the years in which the worker paid in contributions, p is the first pension installment or pension award, m is the life expectancy at retirement, σ_j is the indexation rate in year j and π_j^R is the rate of return to retired workers in year j.

In other words, using the terminology of Gronchi and Nisticò (2006), the pension award p equals the value of the contribution balance at retirement age (the left hand term of equation 2.1) divided by the conversion rate:

$$h = \Big(1 + \sum_{i=n+2}^{n+m}\prod_{j=n+2}^{i}\frac{1+\sigma_j}{1+\pi_j^R}\Big). \tag{2.2}$$

Note that at retirement, the contribution balance is known. The conversion rate in equation 2.2 is not known, as this would require knowledge about the indexation rate, the rate of return to pensioners and life expectancy. However, h can be calculated when the indexation parameter is chosen in correspondence with the rate of return to pensioners. This is indeed what the Italian policy maker does: the policy maker chooses the indexation key, and consequently the rate of return is endogenously determined by the following formula:

$$\pi_j^R = (1+\sigma_j) \cdot (1+\delta) - 1 \qquad \forall j. \tag{2.3}$$

Here, δ is the deviation rate with which the rate of return to pensioners differs from the indexation rate. The deviation rate δ is also set by the

policy maker. Then equation 2.3 can be substituted into equation 2.2 (not done here, see formula (6) in Gronchi and Nisticò (2006)), with the result that the independent variables in the conversion rate formula h are reduced to the deviation rate δ and life expectancy m.

Alternatively, the policy maker can set the rate of return to pensioners and let the indexation rate be endogenously determined as in equation 2.4. This approach is adopted by the Swedish system.

$$\sigma_j = \frac{1 + \pi_j^R}{1 + \delta} - 1 \qquad \forall j. \tag{2.4}$$

Excluding indexation or return rates < -1 and guaranteeing that σ and h are algebraically meaningful, the deviation rate has to be set $\delta > -1$. Furthermore, the conversion rate h decreases with respect to life expectancy m, for every value of deviation rate δ. Also note that a larger value of the deviation rate in formula 2.3 under a constant indexation rate leads to a higher rate of return to pensioners. Under formula 2.4 a larger value for δ leads instead to a lower rate of indexation under a constant rate of return.

2.2.2 Ideal scheme

In the context of the framework created in section 2.2.1, Gronchi and Nisticò (2006) continues to describe the 'ideal' conditions within the contributions-based scheme. These conditions can be described as follows:

- Take the rate of return to pensioners as exogenous, hence as in equation 2.4;
- Set the rate of return to pensioners equal to the rate of growth of the wage bill:
$$\pi_j^R = (1 + \alpha_j) \cdot (1 + \lambda_j) - 1 \qquad \forall j, \tag{2.5}$$
where α is the wage growth and λ is the growth of employment. Hence, the right hand expression equals the growth of total wages in year j;
- Set the rate of return to pensioners equal to the rate of return to the active working population:
$$\pi_j^R = \pi_j^L \qquad \forall j. \tag{2.6}$$
This condition imposes fairness/neutrality in the sense of 'horizontal' uniformity of returns (in case the unique return to workers and retirees is constant over time, the uniformity is also 'vertical' or temporal).

Under a steady-state assumption of a constant rate of growth of the wage bill, the sustainability of the ideal scheme is guaranteed according to the Theorem (proved in Gronchi and Nisticò (2006)) that:

> "*A fair contributions-based retirement scheme is in equilibrium if the rate of return to workers and retirees is set equal to the growth rate of the wage bill.*"

Outside of the steady state assumption of constant rate of growth of the wage bill however, the fairness and sustainability of the scheme can be threatened. Firstly, the 'neutrality' condition as described in equation 2.6 does not have a temporal dimension outside of the steady state. Therefore, differences in rates of return between individuals can arise, for instance due to differences in the age with which work is commenced, differences in retirement age and differences in earnings growth. Secondly, the sustainability of the scheme is threatened by variations in the growth rate of employment λ. In contrast, the expenditure to revenue ratio is not affected by changes in the growth rate of wages α. Thirdly, the equilibrium of the ideal scheme can be affected by permanent increases in life expectancy, as this leads to a steady violation of the deposit exhaustion constraint. Thus, infrequent revisions of conversion rates could magnify the problem.

2.2.3 Italian implementation details

In this section the Italian pension reform toward a contribution-based scheme is analyzed in more detail, using the framework described in section 2.2.1. The Italian reform fits the broad notion of a contributions-based scheme, albeit not with the 'ideal' conditions set forth in section 2.2.2.

Conversion rate As discussed above, with respect to the conversion rate, the Italian policy maker takes the indexation key as exogenous variable, which then together with the deviation rate determines the rate of return to pensioners (see equation 2.3). Within this formula, Italy took δ equal to 1.5%. This relatively large value is intended to provide income replacement rates comparable to those existing prior to the reforms. Moreover, the indexation rate is set equal to the inflation rate. Summing up, the rate of return to pensioners equals the inflation rate plus 1.5% (more specifically, 100% price indexation is awarded to the lowest income bracket, 90% for the second and 75% for the highest).

Rate of return With respect to the rate of return to active workers, Italy equaled this to nominal GDP growth. Because of this choice, the sustainability of the scheme is not assured, as generally both the rates of return to pensioners and to active workers are different from the sustainable rate. The return to active workers (nominal GDP growth) only equals the sustainable rate (increase in wage bill) if the distributive shares in GDP remain constant. The return to pensioners (inflation + 1.5%) only equals the sustainable rate (increase in wage bill) with substantial rises in the participation rate and/or productivity, given the diminishing size of the working population.

Retirement age In the Italian contributions-based scheme, workers are allowed to retire between the ages of 57 and 65. In addition, a provision is made for employees agreeing with their employer to retire at a later age. Therefore, conversion rates should be defined for all ages from 57 years and above. However, conversion rates are only calculated for the 'normal' retirement age interval 57-65. This flexible choice of retirement age is still in conformity with the fairness and sustainability of the system, however temporary unbalances are possible in case of large changes in behavior that substantially alter the average retirement age.

Survivor's benefits In Italy a survivor's entitlement equals 60% of the deceased spouse's pension (applicable to both men and women). The concession of survivor benefits consequently affects the conversion rates. These rates are significantly lower, due to the additional expectation of continuation of pension payments to survivors. Therefore, in order to keep the income replacement rate from being too low, higher contribution rates are required. Another consequence of survivor benefits involves the decision whether to differentiate the conversion rates only based on the retirement age or also according to marital status (and possible the spouse's age). Due to social acceptability and informational shortcomings (e.g. probability of divorce), Italy decided to differentiate the conversion rates only by age. Lastly it is noted that the survivor's benefit is also available in case of decease before retirement age. In this case, the conversion rate corresponding to 57 years used.

Differentiation of conversion rates by gender In Italy the conversion rates are not differentiated according to gender. As life expectancy for women is larger than for men, this tends to reward women. However, this approach is attenuated (in the existence of survivor benefits) by on the one hand the fact that women are less likely to leave a surviving spouse and on the other hand the fact that male survivors live less long than female survivors (Gronchi and Nisticò, 2006).

Revision of conversion rates Given lengthening life expectancies over time, backward-looking conversion rates tend to generate deficits. Therefore, frequent revision of the conversion rates based on new data with respect to life expectancies is needed. On the other hand, decisions to retire at a certain age are based on the conversion rates available at that time. To ensure fairness to workers in a specific age cohort by providing stable retirement conditions, it should be prevented that the conversion rates are updated too often. The Italian approach according to Law 247/07 is to revise the transformation coefficients every 3 years, depending on changes in life expectancy and GDP growth rates (Paci et al., 2010). Before, Law 335/95 determined

Age	Coefficients Law 335/95	Coefficients Law 247/07
57	4.720%	4.419%
58	4.860%	4.538%
59	5.006%	4.664%
60	5.163%	4.798%
61	5.334%	4.940%
62	5.514%	5.093%
63	5.706%	5.257%
64	5.911%	5.432%
65	6.136%	5.620%

Tab. 2.1: The 'old' transformation coefficients as specified in Law 335/95 and the 'new' coefficients as specified in Law 247/07. The new coefficients are in force as of 2010.

that revision only took place every 10 years. The 'new' transformation coefficients, listed in table 2.1, are in force as of 2010.

Contributions The total contribution rate for payroll employees equals 32.7% in Italy, of which formally 27% is charged to employees and 73% to employers. In addition to this, the employer is required to set aside an amount of 6.91% of wages of employees. This is also known as the TFR and is further discussed in section 3.2.1. For self-employed workers, the contribution rate equals 19% (to be gradually phased in). As remarked by Gronchi and Nisticò (2006), in Italy the 'financing rate' (the rate actually paid) is different from the 'award rate'. This is the rate used to determine the contribution balance, and equals 33% for payroll employees and 20% for self-employed workers. Hence, the rights increase by more than is justified by the contribution. This in turn leads to a widening gap in expenditure which comes at the cost of general tax revenue. Another side-effect of the difference between the financing and award rate is that differences in treatment of individuals within the same age cohorts persists, although variability is diminishing (see Borella and Moscarola (2004)).

Disability In Italy, the risk of disability is included in the pension system. As a result, disability allowances account for a significant part of total system spending (see table 1.2). The allowance equals the contribution balance at time of disability times the conversion rate used for a 57-year old retiree. The allowance is paid until the age of 57, after which it gives way to the old age pension.

Administration costs As argued by Gronchi and Nisticò (2006), administration costs of the scheme (such as costs of collecting unpaid contributions and covering those that cannot be collected) can be funded either through a set-aside quota of the contribution rate, or by detracting the costs from

the rate of return to pensioners and workers. In Italy, no specific option has been chosen, thus the costs will have to be funded by general tax revenues.

Transition phase In order to safeguard the claims accrued by employees and workers under the old rules, Italy adopted a criterion based on contribution seniority with the following rules:

- No application of the new award formula to 'senior' workers (those with 18 or more years of contributions at the time of reform);
- Pro rata protection for 'junior' workers (those with less than 18 years of contributions at time of reform). The percentage of rights awarded according to the old earnings-based scheme at retirement equals the reciprocal of the employer's total contribution seniority upon retirement. For example, one year of contribution prior to the reform, combined with a career of 40 years, leads to $1/40 = 2.5\%$ coverage under the earnings-based scheme.

As noted by Gronchi and Nisticò (2006), these rules limit the impact of the reforms as still 40% of employed people are exempted from the new contributions-based scheme.

2.3 Forecasted effects of first pillar reform

As discussed in section 2.1, the 2010 public pension expenditure as percentage of GDP in Italy is the largest among the EU-27 countries (Economic and Financial Affairs, 2009). The reform of the public pension system toward a contributions-based scheme has as one of its objectives the sustainability of public pension provision. In this section the consequences of the reforms with respect to public pension expenditure and to income replacement rates are therefore analyzed. This is largely based on projections in the reports of Department of General Accounts (2009) and Economic and Financial Affairs (2009).

2.3.1 Public pension expenditure

The Italian Department of General Accounts of the Ministry of Economy and Finance discuss the mid and long term trends for the pension system in the report Department of General Accounts (2009). The demographic assumptions underlying the forecasting model are produced by public research organization Istat, the Italian National Institute of Statistics. The main demographic assumptions are listed in table 2.2, together with the real GDP forecast and the projection result of pension expenditure to GDP. The projections of the European Working Group on Ageing set up at the Economic Policy Committee are similar, albeit more conservative. Figure 2.1

Age	2010	2020	2030	2040	2050	2060
Fertility rate	1.4	1.5	1.6	1.6	1.6	1.6
Male life expectancy	79.1	80.7	82.2	83.5	84.5	85.5
Female life expectancy	84.6	86.1	87.5	88.6	89.5	90.3
Elderly dependency ratio	30.9	35.9	43.6	55.8	60.9	59.3
Real GDP	-0.3	2.0	1.6	1.3	1.3	1.5
Pension expenditure to GDP	15.2	15.0	15.5	15.8	14.6	13.4

Tab. 2.2: Demographic assumptions and pension expenditure to GDP projection results (see table A in Department of General Accounts (2009)). The elderly dependency ratio is calculated as the ratio of the population of 65 and older to the population aged 15-64 years.

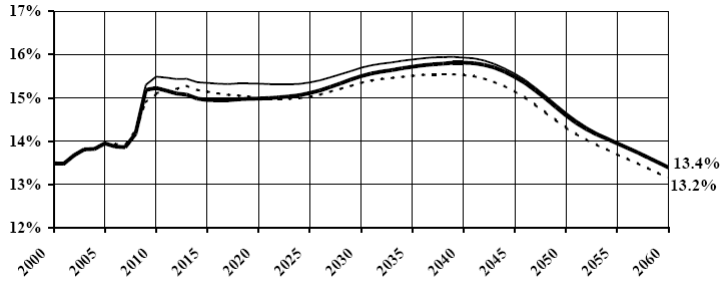


Fig. 2.1: The ratio of public pension expenditure to GDP from 2000-2060 in Italy based on three scenarios as in Department of General Accounts (2009).

shows the development of the public pension expenditure as a percentage of GDP from 2000-2060.

As can be seen in the figure, from 2008-2010 the expenditure ratio increases from 13.9% to 15.2%. This is solely due to the effects of the financial crisis on GDP and hence the denominator of the ratio. The increase seen in the ratio from 2020 to 2040 is mainly due to an increasingly aging population (also see the elderly dependency ratio in table 2.2). The tightening of eligibility requirements introduced in Law 243/04, Law 247/07 and Law 102/09 have only a slightly reducing effect. In addition, the gradual transition of the earnings-based scheme to the contributions-based scheme (see section 2.2.3) has only a slightly containing effect until 2040. After this, the effect of the transition from a mixed regime to a contributions-based one, with a stabilizing ratio of pensioners to employees leads to a decrease in the public pension expenditure ratio. These simulation results are supported by the Economic and Financial Affairs (2009) report. For additional results based on sensitivity analysis, see Department of General Accounts (2009).

Age	2010	2020	2030	2040	2050	2060
	Contribution period: 30 years					
60	55.4	47.2	42.8	41.7	41.1	40.4
	45.4	*33.0*	*25.9*	*25.3*	*24.9*	*24.5*
65	59.4	52.9	49.4	47.9	47.0	46.1
	47.9	*36.4*	*30.0*	*29.1*	*28.5*	*28.0*
	Contribution period: 35 years					
60	70.2	56.9	50.8	48.3	47.9	47.1
	69.4	*42.3*	*31.5*	*29.3*	*29.1*	*28.6*
65	70.2	62.6	58.4	55.5	54.8	53.7
	69.4	*45.7*	*36.1*	*33.7*	*33.3*	*32.6*
	Contribution period: 40 years					
60	80.2	66.6	60.3	55.2	54.5	53.8
	79.1	*51.6*	*40.8*	*33.5*	*33.1*	*32.6*
65	80.2	72.3	67.8	63.4	62.4	61.4
	79.1	*55.0*	*45.4*	*38.5*	*37.9*	*37.3*

Tab. 2.3: Current and forecasted gross replacement rates of the public pension system for private employees and the self-employed (last group in *cursive* typeface). Final income is defined as average gross wage per dependent worker.

2.3.2 Replacement rates

The Department of General Accounts (2009) report further analyzes the effect of the move toward a contributions-based scheme on replacement rates. The replacement rates are defined as the ratio of the first annual pension benefit to the average gross wage received. The rates are calculated for the entire forecasting period (until 2060) using the same demographic and macroeconomic assumptions (see table 2.2). A three year revision of the transformation coefficients is taken into account. Replacement rates are calculated for private employees and self-employed, for four different retirement ages (58, 60, 63 and 65) and for three different lengths of the contribution period (30, 35 and 40 years). Finally, the rates are calculated under a range of scenarios. The gross replacement rates of the public pension system under the 'standard scenario' can be found in table 2.3; the net replacement rates of the public pension system under the 'standard scenario' can be found in table 2.4 and lastly the gross replacement rates of the public and private pension system combined under the 'standard scenario' can be found in table 2.5.

Note from table 2.3 that for private employees the gross replacement rate is expected to decline significantly in 2060 as compared to 2010. For example, a person retiring at 65 with a contribution period of 40 years can expect a gross replacement rate of 80.2% in 2010, but only 61.4% in 2060. The self-employed fall even further behind.

As can be seen in table 2.4 the net replacement rates are in a closer range, due to fiscal measures which give the lower incomes tax advantages compared to higher incomes. Still the rates decline significantly over time. Again, this effect is stronger for self-employed workers.

Age	2010	2020	2030	2040	2050	2060
	Contribution period: 30 years					
60	65.4	57.4	53.1	52.1	51.4	50.8
	63.7	*49.8*	*41.8*	*40.7*	*40.1*	*39.4*
65	69.2	63.0	59.6	58.1	57.3	56.4
	66.4	*53.7*	*46.5*	*45.5*	*44.9*	*44.3*
	Contribution period: 35 years					
60	79.6	66.9	60.9	58.6	58.1	57.3
	90.1	*60.2*	*48.2*	*45.8*	*45.5*	*44.9*
65	79.6	72.3	68.3	65.6	64.9	63.8
	90.1	*64.0*	*53.3*	*50.6*	*50.2*	*49.4*
	Contribution period: 40 years					
60	89.2	76.2	70.1	65.3	64.6	63.8
	100.9	*70.6*	*58.6*	*50.4*	*50.0*	*49.5*
65	89.2	81.7	77.4	73.2	72.2	71.2
	100.9	*74.4*	*63.7*	*56.0*	*55.3*	*54.6*

Tab. 2.4: Current and forecasted net replacement rates of the public pension system for private employees and the self-employed (last group in *cursive* typeface). Final income is defined as average gross wage per dependent worker.

Age	2010	2020	2030	2040	2050	2060
	Contribution period: 30 years					
60	55.4	50.9	49.5	50.9	50.1	49.4
	45.4	*36.7*	*32.7*	*34.5*	*34.0*	*33.5*
65	59.4	57.1	57.1	58.4	57.3	56.3
	47.9	*40.7*	*37.7*	*39.6*	*38.8*	*38.2*
	Contribution period: 35 years					
60	70.2	60.6	57.6	58.2	58.6	57.7
	69.4	*45.9*	*38.3*	*39.2*	*39.8*	*39.2*
65	70.2	66.8	66.1	66.8	67.0	65.8
	69.4	*49.9*	*43.9*	*45.0*	*45.4*	*44.6*
	Contribution period: 40 years					
60	80.2	70.3	67.0	65.1	66.9	66.1
	79.1	*55.3*	*47.6*	*43.4*	*45.5*	*44.9*
65	80.2	76.5	75.6	74.7	76.5	75.3
	79.1	*59.3*	*53.1*	*49.7*	*51.9*	*51.2*

Tab. 2.5: Current and forecasted gross replacement rates of the public and private pension systems for private employees and the self-employed (last group in *cursive* typeface). Final income is defined as average gross wage per dependent worker.

Table 2.5 finally shows the additional effect of the private pension scheme on the total gross replacement rate (i.e. combined effect of public and private schemes). This under the assumption that the TFR (6.91%) is contributed to the private pension system and yields a return of 3.00%. As can be seen from the table, the effect of the additional amount contributed to the private pillar is that the decline in replacement rates over the time interval still exists, but becomes less severe. This indicates the importance of the second pillar to long-term retirement prospect of younger workers (Cackley et al., 2006). Further note that larger replacement rates can be obtained by contributing for longer periods and retiring at a later age. Brugiavini and Peracchi (2007) support this thesis by stating that the contributions-based system favors quick and continuous careers in terms of internal rate of return, as the age distribution of replacement rates is shifted toward older ages.

These results are confirmed by Borella and Moscarola (2009) in a microsimulation of the effects of the Italian pension reforms on the behavior of workers. The authors find that the shift from a generous defined benefit (earnings-based) scheme to a notional defined contribution scheme induces employees to postpone retirement in order to maintain a certain level of pension benefits. Furthermore, it is found that the combination of voluntary postponement of retirement and participation in the second pillar grants employees with a comprehensive replacement rate (i.e. higher than the rate obtained from the first pillar only under the pre-reform regime, also see Aprile (2009)).

Finally, Scopelliti (2009) notes that the total amount of pension benefits is also affected by the change to index pension payments to prices rather than wages. This leads to a progressive reduction in the aggregate replacement rate over the retirement period. For example, Scopelliti calculates that the aggregate replacement rate equals 79% at age 65, but at age 75 diminishes to 68% (thus leading to a differentiation in welfare between active workers and retirees).

3. COMPLEMENTARY PENSION FUNDS

3.1 Introduction

In this chapter the main characteristics and regulatory aspects of the second and third pillar of the Italian pension system are described. Market data is presented in the next chapter. Section 3.2 introduces the different types of complementary pension funds. It then continues to follow Paci et al. (2010), by describing the specific characteristics of closed pension funds in section 3.2.2, open pension funds 3.2.3 and individual pension plans (PIPs, section 3.2.4). Subsequently, in section 3.2.5 the shared characteristics of the different types of funds are discussed. This discussion focuses on benefits, fiscal treatment, supervision and investment rules. First however the role of the TFR (*trattamento di fine rapporto*), a termination indemnity, is discussed in section 3.2.1.

3.2 Types and characteristics of complementary pension funds

The types of complementary pension funds currently in existence are due to a number of laws adopted in the past two decades. In 1993, Legislative Decree 124/93 first established a systematic legal framework for complementary pension schemes. After that, reforms in the second and third pillar have been brought about by Legislative Decree 252/2005 (current law in force) and Law 296/2006. As listed by Paci et al. (2010), complementary pension schemes are characterized by: voluntary membership, funded schemes, the financial management is assigned to institutional managers (i.e. banks, insurance companies) and there is a specific supervisory authority (COVIP). In addition, the schemes are of defined contribution nature. However, defined benefit schemes are allowed for pension funds existing before the initial 1993 legislation (Rinaldi, 2006). There are four types of pension schemes:

- 'Pre-existing' pension funds;
- Occupational closed pension funds;
- Open pension funds (individual or collective membership);
- Individual pension plans (PIPs, or *polizze individuali pensionistiche*).

The 'pre-existing' or old pension funds are those funds established before the initial 1993 legislation and are now closed (i.e. no new participants are allowed). To a certain degree, these old pension funds maintain a self-governing status despite the legislative reforms (Paci et al., 2010). The old funds enjoy favorable provisions as compared to the other types of funds with respect to fiscal treatment, financial management and corporate governance requirements. However, Decree 62/2007 of the Ministry of Finance has as its objective to bring the regulatory framework for the old funds in line with those of the other funds before 2012.

An additional reform of Decree 252/2005 has been that the supplementary pension for public sector employees will be addressed in another decree (which has not yet been issued). Paci et al. (2010) notes that this lack of continuity is the result of specific differences between the public and private sector. The main difference is the issue of severance pay (for a description see section 3.2.1) which is regulated in a different way and is not funded in the public sector. As a result, the participation rate of public employees in the private sector is limited. Public employees can participate in a pension fund on an individual basis, however contractual membership is only possible for school personnel (Espero).

3.2.1 TFR

In Italy, since 1982 private companies are required by law to set aside an amount of 6.91% of wages of employees. Moreover, the employer is required to add interest at a rate linked to inflation: 1.5% plus three-fourths of the inflation rate (measured as the consumer price index change at the end of December). The total amount accrued over time then forms a supplemental (lump sum) payment to which the employees are entitled at their dismissal (Gronchi and Nisticò, 2006).

The TFR thus forms a buffer for employees facing liquidity constraints in case of unemployment after job termination. However, the TFR can also be granted in the form of an advance payment under certain conditions. Examples of such conditions are the need of funds for special medial treatments, the purchase of a house and parental leaves (Paci et al., 2010). In addition, the employee can request the TFR advance payment only once and must have worked at the same firm for a minimum of eight years.

Law 296/2006 (enacted in the beginning of 2007) caused an increase in the size of the complementary pillars, as it allowed employees to decide either to send their TFR flows to a pension scheme or to leave it under management of the firm (Paci et al., 2010). In case the former decision is taken, this decision is irreversible: the TFR funds can not be relocated back to the employer. In the latter case, for companies with more than 49 employees the TFR funds are transferred to INPS (the private employees' social security institution), whereas for companies employing less than 50 people the TFR

funds can be used to fund their business. In case the employee does not decide where to allocate the TFR funds, the *tacit consent* principle holds that flows are automatically transferred into a collective scheme. If no agreement between the employer and a pension fund exists, the TFR funds are transferred to a special complementary pension scheme run by INPS. The TFR invested according to this default situation contains one guarantee: a formal guarantee of the nominal capital. An additional yield in line with the one described by law for the TFR (i.e. 1.5% plus three-fourths of the inflation rate) is provided on best-effort basis.

Ceccarelli et al. (2005) estimate the long term effects of the possibility to divert the TFR to pension funds under Law 296/2006 on the size of the pension funds in the complementary pillar. To this end a simulation model is used, aimed at estimating the growth in assets pension funds are expected to have under varying scenarios. Results indicate that pension funds' assets are expected to increase from 3% of GDP in 2003 to 20% of GDP in 2050, if one-third of employees opt to channel their TFR into a pension fund. As discussed in section 1.3 however, even though the reforms provide incentives to allocate TFR funds to the second pillar, employees do not sufficiently use this option yet.

3.2.2 Closed pension funds

In this section, an overview of the main characteristics of contractual or closed pension funds is given. For a more detailed discussion regarding this, see Paci et al. (2010).

Profiles Contractual pension funds are closed in the sense that only a specific group of people can join, regulated by a collective agreement. Closed pension funds exist as industry-wide pension funds, company pension funds, occupational pension funds and regional/territorial pension funds. In addition, funds for self employed workers exists.

Governance The complementary pension funds are all independent legal entities, having own capital and organizational structure. With respect to the governance of the funds, the members of the board of directors and collective bodies are comprised of representatives of the employees and employers (hence, dual or equal representation). The board of directors is responsible for establishing strategies and investment policies. In addition, the board of directors has to appoint the investment managers, the administrative service provider and the depository bank. The general director executes the decisions of the board and is responsible for the fund.

Funding and contribution With respect to the type of scheme, all pension funds are defined contribution schemes. The exact contribution amount

is established by bylaws of the fund. In general, both the employer and employee finance part of the contribution. As discussed in section 3.2.1, the employee can also decide to allocate the TFR into the specific pension fund. Supplementary contributions of employers or employees are allowed and are tax-exempt up to 12% of wages (subject to an annual ceiling of over €5,000).

Investment management The contributions are then invested by financial managers, which have to be selected by the fund among either banks, insurance companies, SGRs (*Società di Gestione del Risparmio*, or asset management companies) and SIMs (*Società di Intermediazione Mobiliare*, or brokerage firms). The pension fund is obliged to take the needs and risk exposure of the members into account. The pension fund further defines the strategic asset allocation of the investment portfolio, has to structure the mandates, decides on the number of financial managers to appoint and selects them according to a process regulated and controlled by COVIP (i.e. the supervisor). The selection process is partially standardized in order to increase transparency, and starts with an invitation to tender defining the selection criteria. After the process one or more financial managers are selected. The contract subsequently agreed on, defining the respective obligations of all parties, can allow for sub-delegation to another asset manager.

Contractual funds receiving TFR contribution flows due to the tacit consent principle (discussed in section 3.2.1) have to establish a sub-fund guaranteeing at least capital repayment. As noted by Paci et al. (2010), another typical sub-fund offered by a majority of contractual funds is based on asset allocation of 70% bonds and 30% equities.

Further, the pension fund is obliged to report on an annual basis; more frequent reports are allowed. However, too high of a frequency might cause a bias on the long-term orientation of the investment process.

Finally, the law determines that a depository bank should be appointed to keep the assets in custody and to materially conduct the trading activities of the financial managers. In addition, the depository bank verifies the activities of financial managers and controls for compliance with the law and other contracts agreed on. The depository bank should be selected through an invitation to tender.

Administration and costs Contractual funds typically outsource the administration process (also see the data in section 4.7). According to Paci et al. (2010) this is both due to the small structure of its business model and in order to reduce investments required for their establishment.

The costs of contractual pension funds are essentially comprised of administrative and financial fees for the institutions in charge of custodian services, administration and financial asset management. Financial fees are

deducted from the assets of the scheme, whereas administrative costs are covered by a periodic 'membership' fee. The costs are disclosed to members in the form of the Total Expense Ratio (ex-post measure) and the Cost Impact Index (ISC; ex-ante measure).

3.2.3 Open pension funds

In this section a brief description of the main characteristics of open pension funds is given, following the approach of Paci et al. (2010).

Profiles and membership requirements Participation in an open fund is possible only if no closed fund is established for the specific industry or organization (Messori, 2000). There is however no limitation to specific categories of workers, hence membership is not restricted to a specific group. Open funds are offered by banks, insurance companies, SGRs (asset management companies) and SIMs (brokerage firms). Prior authorization of COVIP is necessary.

With respect to individual membership, no entry requirements are set. Collective membership simply requires employment by the employer that signed the agreement. In contrast to closed funds, open funds generally have an active sales force in order to increase membership.

Governance In contrast to closed pension funds, the open pension funds are not independent legal entities. However, the resources of members have special status as they are legally separated from the entity that manages the fund. This in order to ensure the funds can not be discharged to creditors of the sponsor company.

An open fund can be of individual, collective or mixed nature. Collective membership is based on a bargaining agreement between the employers and employees. A collective open fund differs from a closed fund with respect to representativeness of the different stakeholders: in open funds not all parties are equally represented. Moreover, collective open funds are not limited to the group signing the agreement.

In order to ensure independence, the head of the fund is not allowed to have a relationship with the establishing institution and has to ensure the fund operates in the interest of its members.

Scheme funding Individual membership is voluntary. Hence, the contribution rate poured into an open pension fund can individually be determined. Similar to closed funds, collective membership is funded with contributions of the employee, the employer and the TFR.

Investment management As noted at the beginning of this section, open funds are managed by financial intermediaries. Therefore, the asset management process can be directly managed by the company that created the fund. Asset management is however also allowed to be outsourced to a third party (conducting specific operations).

Furthermore, an open pension fund can offer different investment options (e.g. largely fixed income, largely equity, etc.). Members can be allowed to diversify their contributions along different investment options.

Similar to closed funds, a depository bank has to be appointed (see section 3.2.2).

Administration and costs The administration process of an open fund can be outsourced.

The most important difference between the costs incurred by closed funds and open funds is that the latter has substantial marketing and sales costs. Open funds have the objective to be profitable, whereas closed funds are not-for-profit organizations. Hence, the incentive to sell and acquire new members is larger in open funds. Finally it is noted that banks have a competitive advantage in signing collective agreements with employers due to their relationship in being able to provide credit. This can strengthened through aggressive marketing techniques.

3.2.4 Individual pension plans

In this section a brief description of the main characteristics of individual pension plans (PIPs) is given. PIPs can be regarded as third pillar products, as these are pension schemes operating on an individual basis.

Profiles and membership requirements A PIP can provide an additional individual source of pension income and is mainly offered by banks and insurance firms. Individual pension plans consist of an insurance contract that is in line with the regulation on complementary pension schemes (e.g. related to benefits, fiscal treatment and supervision). Insurance contracts can be of two types, namely with-profits and unit-linked. The former generally provide a minimum annual interest rate and are guaranteed, whereas the latter provide no guarantee and return depends on the underlying value of the investment. The advantage of PIPs is the flexibility of the contracts to match individual needs: i.e. additional coverage can be provided regarding risks such as decease or disability. Similar to open funds, authorization of supervisor COVIP is mandatory before establishment.

There are no requirements in order to acquire an insurance product. Comparable to open pension funds, PIPs aim to acquire members through marketing and sales.

Governance With regard to the legal status of PIPs, the situation is similar to open pension funds. PIPs are not independent legal entities, and the resources of the members have a special status as they are separate from the establishing entity and can not be acquired by the creditors of the sponsoring company (see section 3.2.3). In addition, the head of the fund has to be independent from the establishing entity (in this respect, the same requirements hold as are valid for the heads of open funds).

Scheme funding Contribution is flexible and can be agreed upon on an individual basis. The contributions can further be inflation indexed (i.e. constant in real terms). Employees can allocate their TFR flows to a PIP scheme and provide additional contributions. Note that as PIPs are individual pension plans, the participant's employer does not have a contractual obligation to provide for additional contributions.

Investment management In contrast to open and closed funds, investments are subject to the same regulatory framework as valid for insurance policies. This is primarily regulated by the Code of Private Insurance (Legislative Decree 209/2005). The insurance company or bank providing the policy can handle the investment activity directly itself, or opt to delegate activities to a third party. Unlike open and closed funds, no depository institution has to be appointed.

Administration and costs The administration is generally provided for directly by the insurance firm. The costs incurred are similar to open funds and naturally depend on the guarantees and coverage offered.

3.2.5 Shared characteristics of funds

In this section, shared characteristics of open and closed pension funds and individual plans are discussed. The discussion focuses on benefits, fiscal treatment, supervision and investment rules.

Benefits The contributions of members of a fund together with investment returns lead to an amount available at retirement. Under certain conditions, part of this amount can be transferred to the recipient before retirement. In specific, with a minimum of eight years of enrollment seniority, it is possible for members to obtain advance payments of up to 75% of their individual account. For example, an advance payment of 30% is allowed for any reason, and advance payments of 45% are allowed for extraordinary medical expenses or the acquiring of a house. The options available to contributors of a scheme stem from the possibility to allocate the TFR into a complementary pension scheme. The role of the TFR has traditionally

been to serve as a social safety net (e.g. in case of unemployment after job termination), hence the flexibility.

At retirement, fund participants have three alternatives (Paci et al., 2010):

- Convert the entire individual position into an annuity;
- Obtain up to 50% of the individual position as lump sum and convert the rest into an annuity;
- In case at least 70% of the individual position converted into an annuity is less than 50% of the public social pension, the participant can acquire the total position as a lump sum.

Hence, all funds (open, closed and PIPs) offer their participants the opportunity to acquire an annuity. In general, closed and open funds select insurance firms through a tender or a specific agreement, whereas insurance companies in charge of open funds or PIPs usually provide own products.

Fiscal treatment In Italy, pensions are taxed according to the ETT (exempt/taxable/taxable) principle. This implies that contributions are tax exempt, whereas both capital gains and benefits are taxed. Total employee and employer contributions can be deducted from taxable income, up to €5,164 per year. The TFR is excluded from this limit (OECD, 2009). Investment returns on invested capital are taxed at 11%. Benefits are taxed only for the share not yet taxed during the accumulation phase, thus taxes apply only to deducted contributions. The tax rate on both lump sum payments and annuities varies from 9% to 15%, dependent on the length of participation (i.e. maximum rate charged if seniority is lower than 16 years; it decreases yearly until reaching minimum rate at tenure of 35 years).

Supervision and transparency The supervisory authority for the various types of pension funds is COVIP. This institution has responsibilities on various areas, including ensuring the transparent behavior of fund sponsors, prudent management of funds, overseeing the selection process of the fund managers, sound information provision to the members, overall protection of members and the proper functioning of complementary system. As noted by Paci et al. (2010), the position of COVIP has substantially influenced the pension sector in Italy, as Italian laws generally leave considerable room for interpretation.

Transparency to members is ensured by the obligation that before plan enrollment, potential members must properly be informed of the plan's features. This information is provided through a form disclosing the relevant

aspects of the plan (e.g. amount and frequency of contributions, past returns, cost provisions, available sub-funds). In addition, COVIP has mandated plan sponsors to supply (potential) members with an evaluation of the benefits available at retirement based on a range of scenarios. Furthermore, an annual report containing the activities of the scheme and the results obtained is drafted and available to plan participants.

Investment rules As indicated by Paci et al. (2010), due to the social and economic role of the funds of pension schemes, management of these assets has to be based on prudent rules that do not make the value of future pension benefits too vulnerable. These rules consist of constraints on pension fund management and provisions regulating potential conflicts of interest. In specific, Decree 703/96 regulates investment activities of open and closed pension funds established after 1993. According to this Decree, investments are allowed in bonds, equities, collective investment bodies, closed end funds, derivatives and cash and bank deposits. Real estate investment is possible through real estate closed end funds only. In addition, at least one third of the fund's assets have to be invested in the currency in which the benefits are denominated. Decree 209/05 applies to financial management of PIPs.

Decree 703/96 has as its main contents:

- General criteria with which the investment activity must comply (e.g. management criteria);
- A specification of the instruments in which fund managers can invest, as well as a list of prohibited activities;
- Quantitative investment limits (see table 3.1);
- Limitations to derivative contracts;
- Provisions with respect to conflicts of interest.

Type of security	Investment limit
Bank deposits, cash and short term securities with maturity less than 6 months	• $\leq$ 20% of pension fund's assets
Closed end mutual funds	• $\leq$ 20% of pension fund's assets • $\leq$ 25% of closed end net asset value
Securities traded on regulated markets of EU member countries, USA, Canada or Japan	• Issued by entities of OECD countries: no limit • Issued by entities of non-OECD countries: $\leq$ 5% of pension fund's assets
Securities not traded on regulated markets of EU member countries, USA, Canada or Japan	• Issued by entities of OECD countries: $\leq$ 50% of the pension fund's assets • Issued by entities of non-OECD countries: not allowed
Securities issued by a single entity (or different entities belonging to the same group	• Traded on regulated markets of EU member countries, USA, Canada or Japan: $\leq$ 15% of pension fund's assets • Not traded on regulated markets of EU member countries, USA, Canada or Japan: $\leq$ 5% of pension fund's assets
Voting shares issued by a single entity	• If listed: $\leq$ 5% of total nominal value of all voting shares of the company • If not listed: $\leq$ 10% of total nominal value of all voting shares of the company
Shares issued by entity which is required to make contributions to the pension fund	• If pension fund is closed: $\leq$ 30% of pension fund's assets • Otherwise: $\leq$ 20% of pension fund's assets

Tab. 3.1: Quantitative investment limits as specified by Ministerial Decree 703/96. Both voting shares and shares issued by an entity required to make contributions to the pension fund are regulated by Legislative Decree 252/2005.

4. ITALIAN PENSION MARKET

4.1 Introduction

In this chapter statistics on the Italian pension market from the latest annual report of supervisory authority COVIP are presented (COVIP, 2009). In presenting the data, the approach of Paci et al. (2010) is followed. This entails the following: firstly a general overview of the market is given by analyzing data concerning the size of the market in section 4.2. In addition, a list describing the closed pension funds is given. Secondly, section 4.3 contains data on the delegation of investment activities by open and closed pension funds. Thirdly, the asset allocation of funds in the second and third pillar and returns obtained over the last decade are presented in section 4.4. Fourthly, a cost analysis of the pension funds is given in section 4.5, followed by a description of the leading institutions acting as depository banks in section 4.6. The chapter is finally concluded by identification of the main players on the market for the outsourcing of administrative tasks.

4.2 Market size

4.2.1 General overview

Table 4.1 contains the participation rates of the Italian population with respect to the complementary pillars. For the total working population, the participation rate equals 22.1% (up from 20.7% in 2008). Only 3.9% of public sector employees participate in private pension schemes, whereas this equals 26.9% for private sector workers. These numbers are relatively small compared to participation rates in other countries. Paci et al. (2010) further notes that the participation rates of certain groups of workers is lower than their percentage in the workforce, namely: young workers, females, public employees, people employed in the South of Italy and employees from mid-small firms. The last group is problematic as small and medium enterprises are traditionally the 'backbone' of the Italian economy (Paci et al., 2010; Schoyen, 2009).

Table 4.2 tabulates the type of funds against the three categories of workers. It can be seen that closed pension funds contain the largest market share (40.4%), followed by the PIPs (30.6%) and open pension funds (16.2%). Paci et al. (2010) note that this is due to the fact that contractual

	Participants	Total amount of employees	Participation rate (%)
Private sector employees	3,692,000	13,716,000	26.9
Public sector employees	139,000	3,566,000	3.9
Self-employed workers	1,225,000	5,640,000	21.7
Total	5,056,000	22,922,000	22.1

Tab. 4.1: Italian complementary pension schemes, number of participants and participation rates, year-end 2009 (COVIP, 2009).

	Private sector employees	Public sector employees	Self-employed workers	Total
Closed pension funds	1,902,199	134,296	3,655	2,040,150
Open pension funds	395,901		424,484	820,385
Pre-existing pension funds	664,182	4,222	24,635	673,039
New PIPs	544,832		348,715	893,547
Old PIPs	201,918		452,458	654,376
Total	3,692,223	138,518	1,224,543	5,055,284

Tab. 4.2: Amount of private and public sector employees, and self-employed workers subscribed to each type of fund (COVIP, 2009).

funds can easily reach a majority of workers as they are generally established by representatives or unions. PIPs are relatively large due to aggressive marketing and sales.

In table 4.3 it can be seen that the pre-existing funds are the most numerous and also have the largest amount of assets under management. However, the closed pension funds received €4,186 million in contributions over 2009, whereas this was €3,798 for pre-existing pension funds (see table 4.4). The same table also shows the share of TFR flows allocated to the different types of funds, from which it can be inferred that closed pension funds obtain the largest TFR share.

	Number of funds		Net asset value	
	2008	2009	2008	2009
Closed pension funds	39	39	14,092	18,757
Open pension funds	80	76	4,663	6.269
Pre-existing pension funds	411	391	35,941	38,943
New PIPs	75	75	1,958	3,397
Old PIPs	n.a.	n.a.	4,636	5,569
Total	605	581	61,306	72,957

Tab. 4.3: The number of funds and net asset value (in millions of euro) for 2008 and 2009. Note that the total number of funds does not include the number of old PIPs, for which the data is unavailable (COVIP, 2009; Paci et al., 2010).

	Closed funds	Open funds	Pre-existing pension funds	New PIPs	Total
Dependent employees	4,179	750	3,795	689	9,423
of which TFR	2,742	469	1,631	228	5,080
Self-employed	7	402	3	555	967
Total	4,186	1,152	3,798	1,244	10,390

Tab. 4.4: The contribution flows of public and private employees ('dependent employees') and self-employed workers per type of fund. Figures are in millions of euro and year-end 2009 COVIP (2009).

4.2.2 Closed pension funds

The number of participants and net asset value per type of complementary pension fund is shown in figure 4.1. Both the net asset value and the number of participants in closed funds has been steadily increasing over the last decade, with a disproportional increase in participants in 2007 due to the TFR reform.

Appendix A identifies and contains summary statistics of the closed pension funds. As can be seen, the participation rates across the different closed funds range from 0.2 to 88.9%. The funds with the larger participation rates are in general existing for a longer time. Another factor is a strong influence of the sponsor over potential participants.

4.2.3 Open pension funds

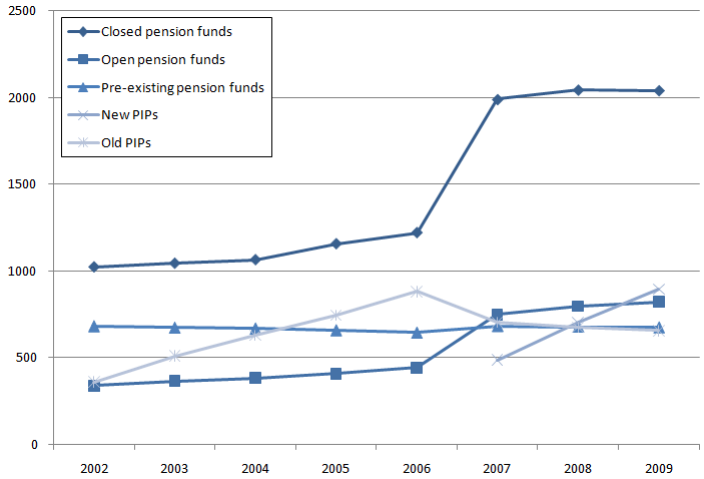
As shown in figure 4.1, the number of participants of open pension funds as well as the asset value follows a pattern similar to that of closed funds. Again, a strong increase in members is visible in 2007.

Of the open pension funds, insurance firms had the largest amount of members (48.1%), followed by asset management companies (34.0%), brokerage firms (13.2%) and banks (4.8%) at the end of 2009. As shown by Paci et al. (2010), the market share of insurance companies increased over time (e.g. it equaled 21% in 2005). Of the 76 open funds, there are 55 insurance firms, 15 asset management firms, 5 brokerage firms and one bank. From 2006 to 2007, the number of insurance firms increased by 10.

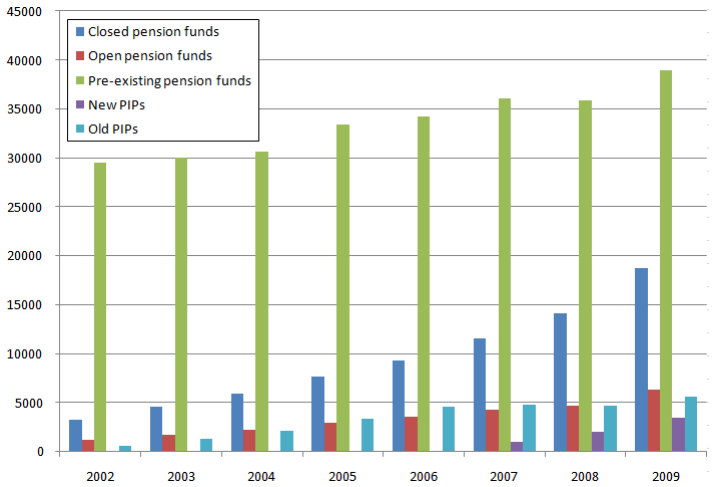
Consequently, the increase in market share of insurance firms over the past decade can be explained by an increase in efficiency of the distributing channels of insurers and due to a round of new entrants (Paci et al., 2010).

4.2.4 PIPs

Figure 4.1 shows that the number of participants and the net asset value of PIPs (the combination of old and new) is rising over time. Persons that agree on policies compliant with Decree 252/2005 (the 'new' PIPs) are more numerous than those enrolled in the old PIPs.



(a) Participants (thousands).



(b) Net asset value (millions of euro).

Fig. 4.1: The development of the number of participants and net asset value per type of complementary pension fund (COVIP, 2009).

Fig. 4.2: Number of mandates and percentage of assets per type of mandate under management by financial institutions appointed by closed pension funds. Data is from year-end 2009 and obtained from table 4.17 in COVIP (2009).

4.3 Financial management

As discussed in section 3.2.2, closed pension funds are obliged to delegate investment management activities to a financial manager. This financial manager is then allowed to 'sub-delegate' the asset management activities to yet other financial institutions. Moreover, multiple financial managers can be selected to mitigate the risk of mismanagement, to create competition or to allocate certain asset classes to specialized managers. Open pension funds and PIPs can be directly managed by the promoting institutions. However, delegation is possible and indeed occurs in practice.

The number of financial managers managing the 39 contractual funds' assets equaled 41 in 2009, up from 38 in 2008 (COVIP, 2009). Over the past decade, the number of contractual funds and the number of asset managers have moved closely together. With regard to the typology of the mandates, figure 4.2 shows that the balanced and mixed bond mandates are most numerous. However, most assets are managed through (mixed) bond mandates.

An overview of financial institutions acting as asset managers for closed pension funds is given by (Paci et al., 2010), listing both for the number of fonds served and the total number of mandates awarded. Financial managers that have entered the industry at an early stage and have 'consolidated' their market share are for example Pioneer Investment Management Sgr, Duemme State Street Sgr, Eurizon Capital Sgr and UGF Assicurazioni. Paci et al. (2010) also shows that sub-delegation is quite common, and especially occurs between firms belonging to the same group (e.g. an insurance firm delegating

asset management services to investment companies within the same group).

The number of open funds delegating investment management to third parties equaled 42 (out of 79) in June 2009. Most delegation occurred by insurance firms (33 cases), of which 16 to asset management firms belonging to the same group and 17 to firms not belonging to the same group. Most delegated financial managers are SGRs (asset management companies): 36 out of 42. For open funds, delegation can occur in case the promoting institution does not have the adequate portfolio management skills, the capacity, or to appoint specialized asset managers.

4.4 Asset allocation and returns

The asset allocation of the different types of complementary pension funds is shown in figure 4.3. The data form an aggregate of the different sub-funds of the pension funds. It can be seen that closed funds invest the largest part of their assets in debt securities and that open funds hold a larger share of equity securities. Paci et al. (2010) further shows that within PIPs, assets belonging to the insurance contracts of the with-profit type (see section 3.2.4 for an explanation) are invested most in bonds (84.9%), whereas the assets of the unit-linked type insurance contracts have a relatively large equity share (32.1%). In the last decade, the portfolio allocation of closed funds has remained relatively stable. The average allocation of open pension funds is slightly changing since 2005: the share of debt securities is increasing at the cost of equities and UCITS (collective investment bodies).

The relative share of different types of investment lines in the portfolio of participants of closed pension schemes per age cohort is depicted in figure 4.4(a). Note that this is not according to the life-cycle theory, which suggests a larger share of high risk-return investments (e.g. equity) for the younger age cohorts. The distribution as shown in the figure is an indication of the low interest or awareness of the younger age cohorts in the issue of saving for retirement. Rinaldi (2006) defines this as 'inertia' with respect to portfolio choice, as there is only limited variation of choice as a function of age. Note that for open funds the share of asset-based investment lines is much larger across all age cohorts (see figure 4.4(b)).

Table 4.5 contains the average investment returns obtained by closed and open pension funds and 'new' PIPs over the period 2003-2009. Moreover, the TFR revaluation rate is given, which is the guaranteed rate of return that employees receive when they decide to leave the TFR within the employer's firm. The financial returns obtained are not only affected in general by the capital markets, but also the funds' specific asset allocation and the participants' sub-fund choices. As the table shows, the more 'extreme' returns obtained by open pension funds and PIPs during 2008 and 2009 as compared to closed pension funds is due to their larger share of equity investments.

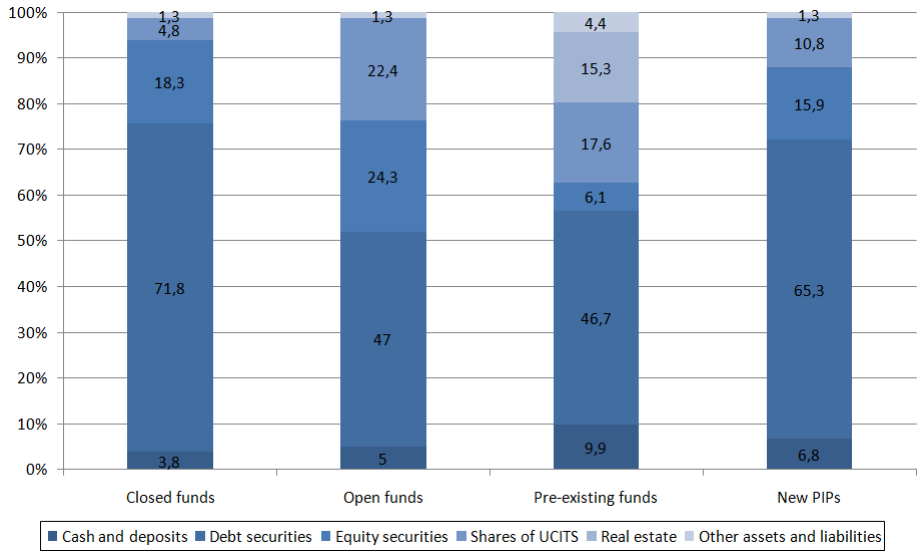
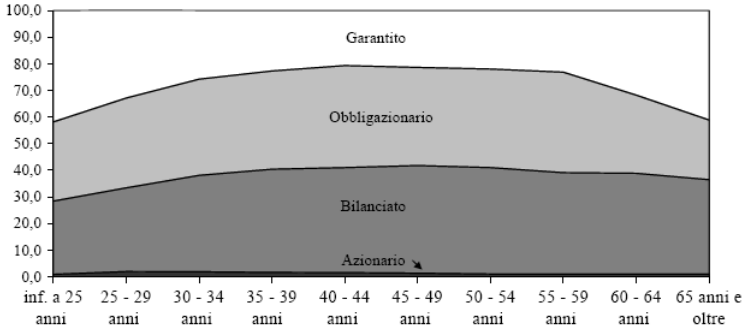


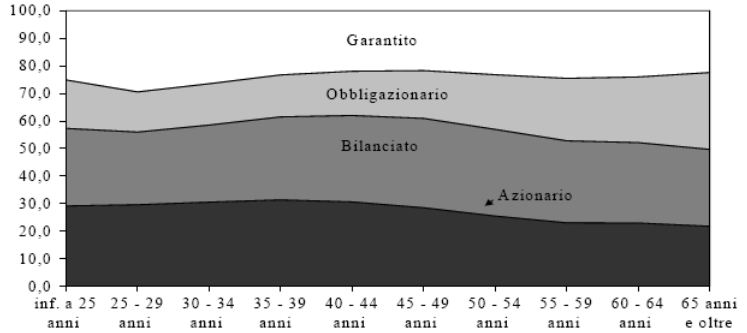
Fig. 4.3: Asset allocation of closed pension funds, open pension funds, pre-existing pension funds and 'new' PIPs. Figures are in percentages and year-end 2009 (COVIP, 2009).

	2003	2004	2005	2006	2007	2008	2009
Closed pension funds	5.0	4.6	7.5	3.8	2.1	-6.3	8.5
Guaranteed funds						3.1	4.6
Pure bond funds	3.0	2.2	2.1	2.6	2.2	1.6	2.9
Mixed bond funds	4.3	3.9	6.9	2.7	2.1	-3.9	8.1
Balanced funds	7.0	4.9	7.9	5.6	2.4	-9.4	10.4
Equity funds	8.3	5.9	14.9	8.2	1.3	-24.5	16.1
Open pension funds	5.7	4.3	11.5	2.4	-0.4	-14.0	11.3
Guaranteed funds	2.6	3.1	2.9	1.0	1.9	1.9	4.8
Pure bond funds	1.6	3.3	3.3	-0.2	1.6	4.9	4.0
Mixed bond funds	3.1	4.2	6.4	1.0	0.3	-2.2	6.7
Balanced funds	4.9	4.2	11.4	2.4	-0.3	-14.1	12.5
Equity funds	8.4	4.7	16.2	3.7	-1.6	-27.6	17.7
PIPs							
With-profit policies						3.5	3.5
Unit-linked policies						-24.9	16.3
Bond						2.7	4.1
Flexible						-6.2	6.7
Balanced						-16.2	13.1
Equity						-36.5	23.1
TFR revaluation rate	2.8	2.5	2.6	2.4	3.1	2.7	2.0

Tab. 4.5: Average investment returns of Italian private pension schemes over the period 2003 to 2009. Returns for PIPs are given which are compliant with Decree 252/05 (i.e. 'new' PIPs). Data has been obtained from table a.4 in COVIP (2009).



(a) Closed funds. Figure corresponds to table 4.6 in COVIP (2009).



(b) Open funds. Figure corresponds to table 5.6 in COVIP (2009).

Fig. 4.4: The asset allocation per age cohort for participants of closed and open pension funds (percentages, year-end 2009). *Garantito* are guaranteed investment lines, *obbligazionario* are bonds, *bilanciato* are balanced investment lines and *azionario* is equity.

4.5 Costs

In order to measure the cost of participating in a private pension scheme, the ISC index is used (*Indicatore Sintetico dei Costi*). The index is constructed as the difference between R_T and R_N, where:

- R_T = yearly internal rate of return of investing 2,500 euro every year at the beginning of the period with an annual accrued gross interest rate of 4% and a fiscal levy of 11%;
- R_N = yearly internal rate of return of investing 2,500 euro every year at the beginning of the period with an annual accrued gross interest rate of 4% and a fiscal levy of 11%, after payment of all expenses due to the pension scheme.

As pension funds are required by COVIP, the index is calculated and published over a 2, 5, 10 and 35 year time frame (for a more expansive explanation see Paci et al. (2010), who further argues that the index is only a rough measure and other factors should be taken into account).

Table 4.6 contains the ISC index calculated at year-end 2009 for closed and open pension funds and PIPs. Care should be taken while interpreting the 2 year figures, because of the long duration underlying pension fund investments. The 35 year figure could be misleading as well due to the rather long period of cost and return projection. Nevertheless, closed pension funds have the lowest cost indicator for all projection lengths, with the smallest variation between minimum and maximum values. Open pension funds are less costly than PIPs. As explained in section 3.2.3, closed pension funds are not-for-profit organizations, whereas open pension funds and PIPs have the aim of profitability and have substantial marketing and sales costs. The differences in ISC indices are not caused by differing risk-return profiles of underlying investment portfolios. A calculation of the ISC index on guaranteed sub-funds for all types of funds yields the same results as in table 4.6 (Paci et al., 2010).

4.6 Depository banks

As discussed in section 3.2.2, closed pension funds have to appoint a depository bank, which keeps the assets in custody and provides the material conduction of trading activities of the financial managers. Decree 703/96 considers that a conflict of interest exists if the pension fund's depository bank and financial manager belong to the same group. In recent years, pension funds have had to change their depository bank due to such occurrences. The main depository banks are Intesa San Paolo S.p.A. and Istituto Centrale delle Banche Populari Italiane S.p.A., serving 16 and 14 closed pension funds respectively (out of a total of 39). Hence, both firms serve

	2 years	5 years	10 years	35 years
Closed pension funds	0.9	0.5	0.4	0.2
Minimum	0.4	0.3	0.2	0.1
Maximum	3.3	1.7	1.0	0.4
Open pension funds	2.0	1.3	1.2	1.1
Minimum	0.6	0.6	0.6	0.5
Maximum	4.6	2.9	2.3	1.8
PIP	3.5	2.4	1.9	1.5
Minimum	0.9	0.9	0.9	0.7
Maximum	5.3	3.7	2.9	2.4

Tab. 4.6: The ISC index (*Indicatore Sintetico dei Costi*) of closed and open pension funds and PIPs at year-end 2009 (COVIP, 2009).

almost 77% of the closed pension funds as depository banks. Another main player is Société Générale Securities Service S.p.A., serving 7 closed funds.

The depository bank appointed by open pension funds often belongs to the same group. Most depository banks in the open fund sector serve one fund, with the exceptions of Intesa Sanpaolo (31 out of 77), Société Générale Securities Service S.p.A. (9) and Bnp Paribas Securities Services (6). Again note that a small number of firms have a large market share: the three firms named above have a share of almost 60%.

4.7 Administration

Sections 3.2.2 and 3.2.3 discussed the possibility of closed and open pension funds to outsource the administrative tasks. This market is highly concentrated, with only a few main players. In the case of the closed pension sector, as of June 2009 all 39 funds have appointed institutions to perform the administration process. Of these 39 funds, Previnet S.p.A. serves 23 and Accenture Insurance Services S.p.A. 8. The remaining 8 closed funds are served by 5 other institutions (Paci et al., 2010).

With respect to the open pension sector, as of June 2009 27 out of 79 funds (34%) outsourced administration. Of these 27 funds, 15 were served by Previnet SpA, 6 by OASI Diagram, 3 by Société Générale Securities Service S.p.A., 2 by RBC Dexia Investor Services Italia S.p.A. and 1 by Accenture Insurance Services S.p.A.

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APPENDIX

A. CLOSED PENSION FUNDS

Table A.1 contains the names, number of members, participation rate and net asset value of the 39 closed pension funds as of year-end 2009. The participation rate is given as percentage of total potential subscribers. Data has been obtained from table a.10 in COVIP (2009).

Name	Number of members	Participation rate (% of total)	Net asset value (EUR million)
Cometa	464,846	46.5	4,931.1
Fonte	169,551	8.5	908.1
Fonchim	158,704	82.9	2,510.5
Laborfonds	111,792	45.6	890.0
Fondoposte	88,951	59.3	515.8
Espero	85,263	7.1	231.1
Cooperlavoro	74,346	24.8	344.8
Previmoda	68,664	17.2	404.8
Telemaco	66,624	44.4	753.1
Priamo	61,429	47.3	512.0
Gommaplastica	56,281	56.3	420.9
Alifond	53,594	17.9	547.0
Prevedi	53,240	7.1	235.2
Previambiente	46,271	18.5	347.8
Solidarieta' Veneto	45,204	7.9	328.5
Fopen	44,464	88.9	823.1
Fondapi	43,830	8.8	308.7
Eurofer	42,607	43.9	430.1
Fondenergia	41,721	84.8	816.2
Arco	40,234	17.5	253.3
Byblos	39,118	14	317.4
Previcooper	32,824	45.6	256.0
Pegaso	30,335	68.9	332.3
Foncer	17,730	55.4	187.6
Quadri e capi Fiat	11,850	78.5	252.7
Filcoop	10,372	6.5	35.3
Prevaer	10,093	32.6	129.0
Artifond	9,809	0.8	27.7
Previlog	8,797	8.8	35.2
Astri	8,172	54.5	64.2
Concreto	7,831	78.3	78.0
Agrifondo	7,665	2.3	31.8
Marco Polo	6,376	0.8	25.6
Fopadiva	6,351	18.1	76.6
Fondav	4,828	48.3	87.4
Fondosanita'	3,611	0.5	66.3
Previvolo	3,006	85.9	205.8
Mediafond	2,806	37.4	33.2
Previprof	960	0.2	3.2

Tab. A.1: The number of participants, participation rate and net asset value of the closed pension funds at year-end 2009 (COVIP, 2009).