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Fiscal Incentives and Saving Behavior for Retirement: Evidence from Italy

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TAX INCENTIVES AND INDIVIDUAL PENSION SAVING CHOICHES IN ITALY.

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Abstract

The public pension system in Italy, in response to adverse demographic conditions, is becoming significantly less generous after 1995 Dini's reform and the development of a private component is now really compelling. Nevertheless, in spite of generous fiscal incentives, private pension plans, never develops. Through GAM techniques, applied to the database ITSILC for 2010 we show that few subjects contribute and even fewer fully exploits the fiscal advantage. Our analysis underlines that in evaluating fiscal incentives Italian savers are influenced by a wide range of heuristics. So there is room for skillful public and private decision makers to reach the goal of increasing the private pension pillar taking advantage of the way people really take their decisions.

In Section 1 after a short review of the different emphasis put on public and private pension pillars by different countries, the Italian pension system and the tax incentives for supplementary pension schemes are briefly described; Section 2 provides a description of the database and the statistical model used to estimate the relevance of fiscal incentives in individual behavior and collects the results of the estimates. Section 3 enucleates the factors responsible of ineffectiveness distinguishing between factors belonging to a classical rationality approach and a bounded rationality approach Section 4 identifies the tools through which public and private decision makers could re-launch private pensions.

Section 1 – The need of private saving for retirement

To adapt pension systems to demographic trends, many countries are reducing pay-as-you-go public pension coverage, lifting retirement ages and moving towards a multipillar system, in which funded private pensions should play a major role to avoid adequacy gaps.
The degree of public disengagement is highly variable and it is between the cases of Chile and Bolivia (a mandatory fully-funded, defined contribution systems with individual accounts and pension benefits based on individuals' savings accumulated during their working lives) and most of the Nordic countries where the public system is paygo and pensions are earnings-related (Old-age Pension Systems in the Nordic Countries, NOSOCO 2008).
Whatever the degree of " privatization" of the system is, two aspects should be emphasized, the first is general and the other is specific to the new setting of an open market:

- The essence of a public pension system is the expression of a" paternalistic" role of the State, which imposes individuals a forced saving, because, otherwise, they would not be able , by themselves , to adequately serve ? the future and accumulate sufficient resources for the age inactive.
- The use of supplementary pension introduces, for individuals , a component of risk associated with retirement savings.

It is worth noting that, as regards the first aspect, the pension reforms implemented in the different countries do not change the target audience but redesign the strategy for action : the State , in fact , in some cases maintains the responsibility of the first pillar, although providing less generous benefits. Regarding the component "private", some countries have made funded pensions compulsory (e.g. Australia, Chile) or quasi-mandatory (e.g. Denmark, the Netherlands) to ensure that most workers are covered and therefore have access to a sufficiently high complementary pension. Often, in these cases, the State's commitment is substantiated by means of asset protection of individuals such as, for example, mechanisms for public guarantee on minimum return and transparency tools and information for the citizen (Chile).

Elsewhere, however, especially where the first pillar is still the largest source of retirement income, membership is on a voluntary basis, and the State encourages participation through a series of tools:

- Tax incentives : provides tax benefits related to savings " meritorious ", which can be applied in the three phases of the production chain of private pension (contribution, accumulation, distribution);

- Flat subsidies or matching Contributions: the State or the employer (later compensated by the state through tax cuts) " adds " to the supplementary pension fund a portion (fixed or proportional) to the savings from the individual;

- A mix of the previous two.

For what concerns Italy: the Italian pension reforms' process – started by Dini's reform of 1995, took two decades to be completed. The main aim of the reforms was to let Italy pass from a public monopillar and earning related system characterized by very high replacement rates (80%) to a multipillar and contributive system with a still primary role of the public pillar (the first pillar replacement rate is less generous but still high, 60%) and the private market which should compensate the drop in public replacement rate.

When subscription is not provided by employer, workers can choose between PF (Pension Funds) or PIP (Private Pension Plans[1]): with both these instruments subscribers are free to make changes (the monthly amount of contribution, the composition of one's portfolio etc.) and to move easily(at least in theory) from one insurance company to another.
The Italian Government, in order to support the private pension market, provides a large set of favorable conditions to individuals. Most of them are fiscal.

There are three different types of tax benefit to all (occupational and individual) plan members, which are distributed along the entire chain saving-payouts and which follow the ETT fiscal rules (Exemption in contribution, low Taxation of returns and (very) low Taxation of private pension provision). In detail:

- contributions paid to private pension plans are deductible up to 5,164 euros per year. This implies a tax reduction of up to 2,220 euros, depending on the amount saved every year and the taxpayer's marginal income tax rate, which is determined by each taxpayer's income level. As a matter of fact it consists in an implicit interest rate linked to the subscriber's personal income. So it should be a very attractive stimulus on its own and should encourage private pension savings demand.
- yields are taxed at a rate of 11%, while yields on other types of investment are taxed at 20%, except for government bonds that remain at 12.5%.
- at retirement, a private pension is subject to a decreasing flat tax rate (from 15% to a minimum threshold of 9%) depending on the number of years of membership in the pension plan (reduction of 0.30% for each year after the 15th). It is worth noting that this third incentive is particularly generous: the supplementary income generated by the private pension plan is subtracted from progressive nature of the personal income tax and is subject to a proportional and very low tax rate.

Section 2 - Effects of fiscal incentives: empirical evidences on the regulatory framework

Using IT-SILC[2] microdata (wave 2010), a General Additive Model (GAM) investigates the main factors a wide literature indicates as drivers in the individuals saving decisions. According to disposable data, the model links the propensity to enroll in a private pension plan to age, gender, education level, financial wealth, geographical location, and potential tax benefit[3] achievable

1 PIP products can be both unit-linked and traditional products. In the unit-linked one, the financial risk is borne entirely by the investor, while in traditional PIP the financial risk can be borne by the counterpart.

[2] The Survey IT-SILC (Statistics on Income and Living Conditions) provides a good set of information to test the efficacy of fiscal benefits for private pension savings. This survey collects data on a representative sample of 19,147 Italian households, split into two datasets; one at individual (40,836 statistic units) and the other at household level. Besides information on income, wealth, employment status, and other drivers of household savings decisions, it also contains specific details on private pension plans membership and contributions.

[3] It was estimated the effect of the first tax benefit, the one at the contribution phase since it is not possible at the moment to evaluate the effect of the other two fiscal benefits.

according to the individual's labor income level (and, by so, the taxpayer's marginal income tax rate). The latter is split in five classes according to the five labor income tax brackets to catch heterogeneous effects.
In the following results are shown:

Table 1 - Results

Coefficients:	**Estimate**	**Std. Error**	**Pr(>|z)**
(Intercept)	-4,27E+00(***)	0,197	< 2e-16
ws: non.empl vs empl.	-1,31E-02	0,087	3,37E-14
ws:self.empl vs empl.	4,86E-01(***)	0,064	5,58E-13
education	6,22E-02(***)	0,009	4,56E-03
sex: f vs m	-1,69E-01(**)	0,060	1,61E-09
geog.macroarea: NE vs C	4,29E-01(***)	0,071	7,46E-02
geog.macroarea: NO vs C	1,35E-01(.)	0,076	1,22E-12
geog.macroarea: SI vs C	-6,08E-01(***)	0,086	3,31E-09
tax.benefit (0,1.19]	9,30E-01(***)	0,157	5,66E-14
tax.benefit (1.19,1.39]	1,23E+00(***)	0,163	2,59E-16
tax.benefit (1.39,1.96]	1,39E+00(***)	0,170	1,75E-12
tax.benefit(1.96,2.12]	1,54E+00(***)	0,219	1,52E-13
tax.benefit (2.12,9]	1,72E+00(***)	0,232	1,61E-09

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

As can be observed in the maximum likelihood estimates, all the variables included in the model are statistically significant[4]. Therefore the tax benefit at the contribution phase seems to be noticeable and heterogeneously effective: the higher the tax benefit, the bigger the effect on the propensity of taking out a private pension. This is due to the Regressive nature the deduction which provides a greater benefit to higher incomes (Gale, Gruber and Orszag, 2006). So rational "able to save" individuals should, every year, save in private plans an amount at least equal to the deductibility threshold, in order to maximize the tax rebate.

Considering the second tax benefit (low taxation on yields) it is worth noting that no other financial activity in Italy faces a so low level of taxation: even Government bonds are taxed at an higher rate. But, the point here is that the same portfolio, if managed as a "traditional" financial activity would be taxed at an higher mean tax rate than if were managed as a private pension plan product. This means that rational "able to save" individuals should not only take out a private pension plan and fill his/her account anytime he/she can, but also move in every other pre-existing savings invested in "non-pension linked" financial activities.

The third tax benefit is at the same time the most faraway in time and the most generous incentive: the supplementary income generated by the private pension plan is subtracted from progressive nature of the personal income tax and is subject to a proportional and very low tax rate. The advantage, expressed in terms of the difference between the actual and the personal income marginal tax rate which would be adopted if there were not for that facility, varies from a minimum

[4] Therefore, the variables age and the level of other financial saving are confirmed to be non-linear.

of 8 to a maximum of 34 points, depending on the accumulation period length and the individual's income level.
Again, rational "able to save" individuals should take in strong consideration even this future advantage and open a supplementary private plan account.

Compared to what we have seen so far the market for supplementary pensions in Italy should be one of the few examples in which, given the strong need of individuals to cope with future pension adequacy problems and the huge efforts of public intervention in trying to achieve indirectly that social objective that is no longer able to pursue directly, it should be easy to predict the individual behavior under rational utilitarian assumptions. Individuals are expected to react positively to fiscal stimulus, through both a high participation rate and a level of contributions paid maximizing the tax advantage. It is also expected strong crowding-out effect in the market, with resources invested in "traditional" financial products moving to supplementary pension plans.
Nevertheless, the pension saving market has not taken off yet, especially among young people (the ones who this kind of product is designed for).

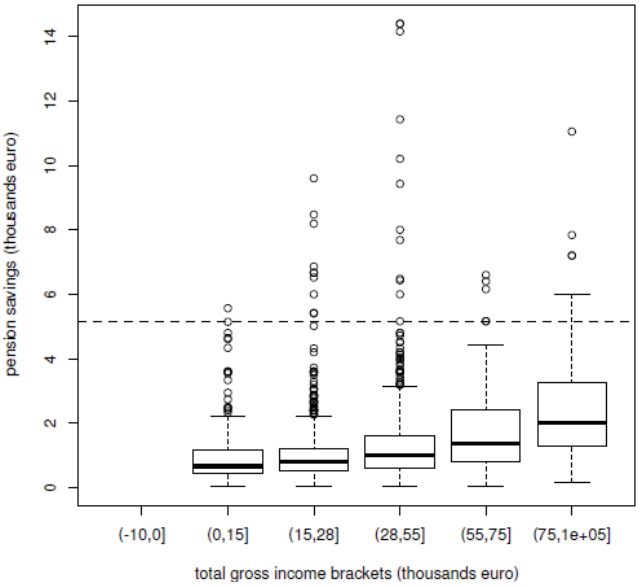
With respect to the three main expected results:

Participation - the latest data available on the private pension market development published by Covip[5] (2012) show that only one in four workers joins a supplementary pension scheme. Among those under 35, the percentage drops to 18%. And those who suspend payments are on the rise. Countries with a similar Mediterrean welfare state like Portugal and Spain perform better than Italy.
As far as participation is concerned the employment trend is having a negative impact on the development of adhesions to the pension funds, which in the period 2009-2011 have been reduced by almost -2.5 percent, compared to a reduction in employment by -1.9%. According to the projections by Prometeia (Di Lorenzo and Fornasari, 2012), membership may improve only from 2014.

Saving flow - by using evidences from IT-SILC Survey 2010, we find out that the potential advantage of the tax incentive seems not to be exploited; in fact, contributions - even among wealthy subscribers - are almost always well below the deductibility threshold and, as a consequence, the actual benefit is not maximized[6] (Graph 1). Results are in line with Paiella and Tiseno (2013) who, using a sequence of cross-sections data from the Bank of Italy Survey of Household Income and Wealth (SHIW), find out that fiscal incentives have little, if any effect on household saving flows.

Graph 1 – Boxplot: pension savings by total gross income level

[5] COVIP - Commissione di vigilanza sui fondi pensione – Commission for the Supervision on pension funds.
[6] A similar suboptimal level of saving is detected by Choi, Laibson and Madrian (2007) for 401k pension plan in USA.



The only expected effect which finds empirical evidence is the effect on the allocation of saving, with a substantial substitution effect of non-tax-favored non-retirement savings for tax-favored pension funds, since contributors have reduced their liquid assets (accounts and bonds) by 12% of their average total financial wealth (Paiella and Tiseno, 2013). However, this effect can be seen as a local effect, since the very low level of take up rate.

Section 3 - Explaining Ineffectiveness

In a few words, in the Italian case tax incentives are "significant but unsuccessful" (Busana Banterle, 2002). Which factors can explain this failure? Why the individuals' behavior is so different from what expected? A wide literature on the topic suggests several causes which, in this work they are split in classical rationality factors and bounded rationality factors, since the first are coherent with conventional models of economic rationality and the second ones are coherent with the idea that utility or profit maximization good approximations of real people's behavior.

Classical rationality factors

- **Transaction costs and transparency**: according to Cesari, Grande and Panetta (2007) fees, especially in individual plans, could be so high as to transfer fiscal advantages on contribution from the policyholder to the insurer. Moreover, in the Italian market, which is characterized by a low fee competition among funds, higher levels of cost seem not to be justified by higher fund performances (Marinelli, 2009; Fornero, Fugazza, Ponzetto, 2004).
- **Risk aversion:** there are several risks reducing the attractiveness of the private pension products supply; some depends on external conditions as the one linked to the labor market health status. Since work career discontinuity represents a huge brake, especially for younger cohorts, in participating a pension plan, worsening the procrastination problem. Another source of risk affecting the enrollment is a trust risk: individuals may not bet on the stability of the regulatory framework over a very long time. The problems of Italian public finances, traditionally addressed by Governments mainly by increasing taxes (o reducing tax reliefs) rather than cutting the public expenditure do not help to consolidate a climate of trust

in the future permanence of the ongoing tax incentives. As an example, recently the tax advantages of life insurance policies – a similar but non retirement designed product, have been drastically reduced by the Italian Government, in order to find the need resources to cover the suspension of the taxation on properties. The fiscal incentives are halved, even retroactively for premiums paid in 2013 and are almost erased from 2014 on. Other sources of risks for individuals are strictly connected to the nature of this kind of saving activity: financial and demographic risks (Antolin, Payet, 2011).
In DC plans the financial risk is borne entirely by policyholders (Grande, Visco, 2010) making the exercise of choice among pension plans alternatives a difficult task. This complexity can discourage adhesions. Moreover, financial downturns can even burn part of the contributions paid. If this happens when individuals are close to retirement, there can be no room for counterbalancing the losses with future positive market performances. Demographic risk, and in particular, longevity risk is borne in DC plans, by the insured. This implies that the amount saved during work-life will be distributed over a longer period, making the adequacy problem worse.

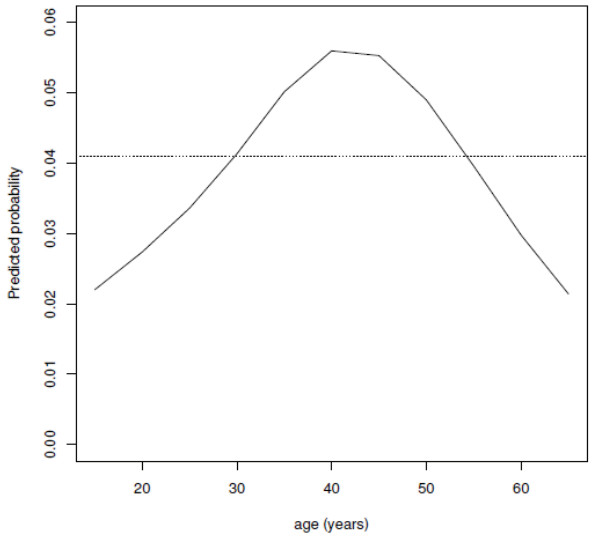
The last risk on individuals pertains the payout phase, where annuities are defined on the basis of life expectancy. If the policyholder has a positive bequest motive and he is sufficiently risk averse, he should not purchase annuities (Bommier. Le Grand, 2012), because if he dies prematurely the annuities left are not transferable to the policyholder's heirs. From the one hand, annuities is the sole tool that is consistent with the paternalistic role of the State previously introduced and, for this, has social positive consequences. On the other hand the bequest motive implies strong motivations at the private (family) level.

Bounded rationality factors

- **The role of Expectation**: people, in particular those who will retire with the pure DC system, tend to overestimate their expected replacement rate. According to Zanghieri (forthcoming), who analyzes the role of Expectations and Financial Literacy in fostering Participation to Pension Funds in Italy using data from SHIW, wave 2010, individuals, especially from younger cohorts, trust in a replacement rate of their future public pension up to 12% higher than the true value. This may lead people think erroneously a private pension plan is simple not needed. Guiso, Jappelli and Padula (2010) find out that if the expected replacement rate increases by 10 points the probability to subscribe a pension plan fall by one point.
- **The role of time in a hyperbolic discounting framework**: hyperbolic discounting can be seen as an incorrect evaluation between the future benefits (both of additional income at retirement and favorable taxation) and the costs (at the present time) of savings. When inter-temporal choices are at stake, as in consumption-savings decisions, the larger the time distance, the lower the discounting factor (Frederick, Loewenstein and O'donoghue, 2002). Since in the pension saving framework the saving activity (which can be seen as a present cost, as it reduces the present consumption capacity) results in a benefit which will be disposable in a very distant point in time, individuals overweight the present and tend to postpone the decision to enroll. This is what commonly is recalled as a **myopia and procrastination** problem: as an example,

the predicted propensity to enroll in a private pension plan is well under the mean value for those who are less than 30 years old and is maximized around the age of 40[7] (Graph 2).

Graph 2 – Age: effect on participation



Moreover the hyperbolic discounting framework, helps explaining why the set of tax incentives is not effective: looking at the third tax incentive it could be argued that, even if it represents the most generous tax advantage, it may even not be included in the individuals' decision making process, since the associated benefit will be disposable only in a very distant future. and, because of that, individuals discounting factor decreases with time.

Even if individuals enroll in a pension plan, hyperbolic discounting still can affect decision making process, resulting in a suboptimal level of saving. Optimality can be evaluated on two sides: tax rebate maximization and compensation target. Since there is no objective evidence that links the deductibility threshold value (5.164,57 euro) to a reasonable estimate of a minimum annual saving target in order to achieve a specific compensation objective[8,] we can be sure only that subscribers do not maximize their potential tax benefit. However, myopistic behavior let us reasonably suppose they don't even set the optimal amount of savings according to a compensation rule offsetting the drop of public pension with the private future provision.

- **The framing effect**: people change easily their mind depending on how the decision problem is framed: with regard to social security topics, Brown, Kapteyn and Mitchell (2013) show how framing affects the claiming age, Agnew and oth. (2008) show how gender reaction to framing relatively to the choice of annuitization.

[7] The evidence emerges from an at sample means approach developed on the basis of the generalized additive model introduced previously and carried out by using IT-SILC data for 2010.

[8] It is much more likely that the threshold has been established by the government on the basis of a financial sustainability issues rather than of specific individuals' compensation targets.

Section 4 - What can be done

When thinking of possible ways to face the several issues identified in the previous section, we must keep in mind that there are two actors at stake: the Government and the insurance industry. So, we try to point out some action the two players can undertake to foster both participation rate and saving flows. In some cases the same tool could be effective more than a factor[9].

Inform: first of all the Government should provide individuals information about each citizen's future pension, in order to minimize room for distorting expectations. In Sweden the information process is accomplished through the so-called "Orange envelopes": each spring every citizen receive a document that summarizes both his public and private pensions situation. In this way each individual can consciously recalibrate his/her saving strategy.

Then, both the Government and the insurance industry can concentrate their efforts on ensuring transparency. Particularly suitable is the example of the Chilean case in which the government created an *ad hoc* information website (SCOMP), in which people can compare products, simulate and estimate the saving ratio and the accumulation process under different hypotheses.
The SCOMP helps reducing search costs for individuals, raising competition among suppliers and diminishing room for manipulation by brokers (Larray, Morales, 2010). On the other hand the industry should provide any information required to keep the information in the website up to date and they can even start by themselves in reducing product complexity by providing clear and simple information to individuals. In particular operating costs should be seriously enlighten.
Regarding specifically transaction costs, the only thing the Italian Government did is setting by law the faculty to easily move pension accounts from a company to another. This tool, although needed, seems not sufficient in boosting competition among providers.

Improve Financial Literacy: the role of financial literacy is wide known in literature[10] The Government should then promote on a national basis financial education programs designed for specific targets, enlarging what has been going on for a couple of years on a small and local scale: as an example, several private insurance firms or public-private organizations have developed financial education programs for secondary school students. These activities can be seen just as a good starting point since they are not systematic. The Spanish Government, for example, has set a financial-education strategy focused on schoolkids which will be run in 2016.

Reduce risks: The theme of uncertainty is quite challenging, particularly for what concerns the financial risk. On the one hand people do not subscribe to supplementary pension insurance policies because the weight of any negative performance of the financial markets burden entirely upon their shoulders, on the other hand, the insurance industry cannot bear the financial risk because otherwise it would not work in a profitable market.
A tool to resolve the impasse consists of a public guarantee of a minimum return. The guarantee works as a put-option: if the rate of return gained by the fund is lower than a fixed rate the

[9] For a detailed review of types of tools, see Kooreman and Prast (2007).

[10] See, for example Lusardi (2007) and Fornero and Monticone (2011).

policyholder can exercise the guarantee and the State is obliged to fill the gap between the actual return rate and the guarantee threshold. The public guarantee, in Life-cycle investment strategy, would ensure citizens, especially those close to retirement, a protection from financial risk. But it would also help providers by improving the market attractiveness and the chance to make profits. The public guarantee on minimum return has been generally adopted in Latin-American countries, where pension systems are completely private. However, several works in literature have stressed the need and the affordability of a public guarantee even in countries where a public system still holds. Grande and Visco (2010) and Munnel and oth. (2009) use time series data on market equity returns to show for Italy and the U.S. respectively that if there had been a guaranteed minimum return in the past, the State would have been able to cover the costs arising in the (very few) periods in which the guarantee had been exercised.

With regard to the risk of death and the consequent non-transferibility of the non perceived annuities to heirs, a step forward has been made: in fact, as an alternative to full annuitization, subscribers can choose to receive up to 50% of the amount accumulated as a lump-sum and the rest in the form of annuities. Despite this solution does not solve completely the problem, it appears a good compromise between the private and the social interests at stake.

Reduce adverse selection: in order to foster participation among low-middle earners, matching contributions seems to be the most effective solution: in Germany, for example, the Government ruled out in 2001 the Riester Pensions: people investing in this product products at least 4% (upon 2.100 euro per year) of his/her annual income receive government subsidies of 154 euro (308 euro for married couples). An additional subsidy up to 300 euro can be received if subscribers have children. Alternatively, all Riester savings up to 2.100 € (including subsidies) can be claimed as a special expense deduction in the worker's annual income tax return if that is more profitable for the Riester saver than receiving the subsidies. If savings are below 4% of annual income, the government pay-out will is proportionally reduced. In ten years, nearly 15 million Riester contracts were taken out (Ziegelmeyer, Nick, 2012). Since this solution implies a very large amount of additional public expenditure, which, given the stringent constraints of public finance, matching contributions are impossible to implement in Italy as in other countries. At any rate, some other actions can be undertaken: first of all, the Government should reshape the incentive at the contribution phase, because a regressive incentive is in stark contrast to one of the fundamental objectives of the state which justify its role in modern market economies: the redistributive goal. By switching the tax benefit on contributions from deduction to detraction, the State would at least ensure fiscal equity among potential subscribers. Then, the perverse effect that private savings have on the public goods and services accessibility (when access is subject to means testing) can be solved simply by excluding the amount saved in pension schemes from the algorithm used to define the household's economic condition[11].

Contrasting hyperbolically discounted preferences: forcing more or less directly adherence to the supplementary pension plans by law. The more drastic solution consists in adopting a mandatory enrollment rule. Italy has tried in the past to force enrollment trough an automatic enrollment plus an opt-out option. From 2006 onwards, the severance pay for new employees who

[11] Despite simplicity, it does not seems to be on the Government "must do" list because of the strong budget constraint.

don't exercise the opt-out option within 60 days from the beginning of the new job, are automatically assigned to supplementary pension schemes. Although the empirical evidence shows the effectiveness of defaults strategies in boosting saving (Choi, Laibson, Madrian and Metrick, 2004), since people tend to choose not to choose, the automatic enrollment in Italy didn't work.

Conclusions

The public pension system in Italy, in response to adverse demographic conditions, is becoming significantly less generous after 1995 Dini's reform and the development of a private component is now really compelling. Nevertheless, in spite of generous fiscal incentives, private pension plans, never develops. Data show how only few subjects contribute and even fewer fully exploits the fiscal advantage. Our analysis underlines that in evaluating fiscal incentives Italian savers are influenced by a wide range of heuristics. So there is room for skillful public and private decision makers to reach the goal of increasing the private pension pillar taking advantage of the way people really take their decisions.

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