DEFAULT BIAS OR NO DEFAULT BIAS? EVIDENCE FROM DECISIONS REGARDING OCCUPATIONAL PENSION FUND ENROLLMENT IN ITALY

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Abstract

If forced to choose a supplementary pension fund, people will decide not to decide, accepting decisions made for them by others (default bias), reaching a status quo position. This study analyses whether the status quo position achieved via the default option in Italian occupational pension funds is later changed over the period studied (2007-2011), and the factors influencing any change.

Keywords: Decision Making; Pension Funds; Default Option; Status Quo Bias

JEL classification: G02; G11; G23

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1. Introduction

The picture portrayed by the Organisation for Economic Co-operation and Development (OECD) survey on supplementary pension systems up to 2007[1] reveals significant differences between European countries. In the Anglo-Saxon countries, the Netherlands and Switzerland, where supplementary pension systems are well established, assets under management in pension funds represent about 70% of GDP. On the other hand, in countries such as Italy, Spain and France where supplementary pension systems are less developed, assets under management in pension funds represent only about 10% of GDP. In these countries therefore, when calculating the 'substitution ratio'[2], public welfare plays a very relevant and significant role.

In many countries important regulatory changes were introduced in 2007, with the aims of furthering the spread of supplementary pension systems, strengthening the rules regarding pension fund government and improving communication between pension funds and participants. Some of the resulting intervention will be applied in future years. For example, in the U.K. the 2008 Pension Act introduced a mechanism for automatic enrollment with supplementary pension funds unless the employee expresses his/her intention to opt out. This mechanism is similar to that introduced in the U.S. under the Pension Protection Act, approved in 2006 and in force since 1 January 2008. The most important part of this reform is the mechanism of automatic enrollment of employees on 401(k) plans, unless the employee expresses a contrary intention, thus opting out. The aim of this reform is to increase participation in supplementary pension systems, especially by younger workers with lower incomes[3].

With reference to Italy, on 1 January 2007 the Government introduced an important and wide-ranging reform of the pension system[4], designed primarily with employees in mind and having the aim of increasing and developing the supplementary pension scheme. The reform, which was explained to employees by means of flyers and announcements in the mainstream mass media, basically presented workers with three alternatives to choose from, two explicit and one tacit. The two possible expressed alternative options are:

a) to indicate the name of the pension fund the employee wants to enroll with. This pension fund will collect the employee's and the employer's contributions and accumulated severance pay;

b) to declare his/her willingness to leave accumulated severance pay with the employing company and therefore decide not to enroll with any

[1] 'Pensions at a Glance 2007: Public policies across countries', OECD, June 2007
[2] The 'substitution ratio' is the ratio between the first year of retirement and the final salary.
[3] About 1/3 of U.S. workers do not enroll with supplementary pension funds. United States Department of Labor, The 2006 National Summit on Retirement Savings, "Saving for your golden years: trends, challenges and opportunities", Washington D.C., 1-2 March 2006
[4] 'Regulation of complementary pension schemes', Legislative Decree n. 252 of 5 December 2005

pension fund. In this case, if the company has more than fifty employees, the employer must switch the accumulated severance pay to the 'Treasury fund' held by the National Social Security Institute (INPS)[5].

If the employee does not express any choice, the tacit option works by providing automatic enrollment with, and depositing of accumulated severance pay in, one of the following alternative options:

1) the pension fund identified by collective agreement or by company agreement;

2) if point 1 does not apply, the pension fund that has the highest number of company employees;

3) if points 1 and 2 do not apply, the INPS Fund[6], created and managed by INPS.

After choosing the pension fund with which to enroll, either explicitly or tacitly, the worker is asked to choose one or more investment lines[7]. Again, if the employee decides not to decide, the law[8] identifies the guaranteed line without any risk (no-risk investment line) as the default option.

Looking at the distribution of enrolled workers in the no-risk investment line from 2007 to 2011, it is possible to identify an average rate of about 25% of tacit members in Italian occupational pension funds[9]. This is a particularly high level, and this paper aims to examine which characteristics or factors are common to, or affect, tacit members; in addition, the analysis tries to explore whether tacit members change their position over the years, i.e. whether they opt out of the no-risk investment line with an explicit decision, and which factors influence this change of status quo.

This paper makes a significant contribution to the literature on the topic of bias in the supplementary pension fund field, considering a generally unexplored market (that of Italy). Moreover, as the Italian pension fund scheme enrollment policy is similar to those in force in other countries, this paper adds to the existing literature on status quo and subsequent changes.

The paper is organized as follows: Section 2 presents the most important literature related to default bias and status quo with special reference to pension fund and retirement plan participant enrollment decisions; Section 3 presents the sample and the methodology used to test default bias and status quo changes; Section 4 presents the results obtained from the analysis and Section 5 concludes the paper.

[5] The National Social Security Institute is the Italian social security institution responsible for paying pensions and social security welfare.

[6] The INPS Fund is a pension fund created by law.

[7] All pension fund statutes establish the number and the types of lines in which the workers can invest. Moreover, the statutes stipulate whether it is possible to diversify across lines or not.

[8] 'Regulation of complementary pension schemes', Legislative Decree n. 252 of 5 December 2005.

[9] COVIP Annual Rapport, December 2007.

2. Literature review

When considering asset allocation portfolio choices, including retirement plans, the first decision a person must take concerns the choice of the investment instrument from those available. However, many people decide not to decide. In this case the introduction of a default choice (default bias) ensures a bypassing of the inertia effect, producing the result of an expressed decision, so that default is not neutral (Camerer, 2000).

Papke (2004) found that having the ability to direct the asset allocation of contributions to a specific savings plan leads to a large (36%) increase in the probability of participating. Madrian and Shea (2001) analyzed the 401(k) savings behaviour of employees in a large U.S. corporation. Before the 401(k) plan change, employees were required to opt into the plan. After the plan change, employees were automatically and immediately enrolled in the 401(k) plan unless they actively opted out. The authors find that 401(k) participation is significantly higher under automatic enrollment.

The default bias exists: the phenomenon of omission bias has been identified and refers to the preference for options that require no action (Spranca et al., 1991). Indeed, according to Spranca, Minsk and Baron (1991) and Ritov and Baron (1992), individuals hold themselves responsible for the negative consequences of commissions but not for those of omissions. Thus, inaction in the decision-making process is easier to justify than action (Kahneman and Tversky, 1982; Gilovich et al., 1995). According to Kahneman and Miller (1986), the omission bias occurs because individuals anticipate more regret when they have actively made a (wrong) choice. Combining this assumption with loss aversion (Kahneman and Tversky, 1979), people tend to avoid taking action (Baron and Ritov, 1994) to avoid altering the status quo (Samelson and Zeckhauser, 1988; Kahneman et al., 1991; Hartman et al., 1991). Yaniv and Schul (2000) demonstrate that acceptance and elimination procedures create different perceptions of the status quo in decision makers. The default bias plays an important role in a wide range of settings: organ donation decisions (Johnson and Goldstein, 2003; Abadie and Gay, 2004), car insurance plan choice (Johnson et al., 1993), car option purchase (Park et al., 2000), in mortage market (Campbell, 2013) and consenting to receive email marketing (Johnson et al., 2003). According to Masatlioglu and Ok (2005) this is due to the fact that a decision maker may have an initial reference point which can be interpreted as a default option.

Besheas et al. (2007) have shown the importance of the default bias in 401(k) U.S. plans in every step of the saving lifecycle: saving plan participation, contributions, asset allocation, rollovers and decumulation. Madrian and Shea (2001) and

Choi et al. (2003, 2005) show that automatic enrollment increases 401(K) participation rates and participants tend to stay with the default contribution rate and fund allocation. The phenomenon of inertia in asset allocation choices within pension plans was examined by O'Donoghue and Rabin (1999, 2001) and confirmed in the study by Agnew et al. (2003); the latter examined about 7,000 retirement accounts from 1994 to 1998 and confirmed the existence of a strong tendency towards the status quo or high inertia related to initially-defined asset allocation. Mitchell et al. (2006a, 2006b) also draw the same conclusions. The strong influence of the default bias in retirement decisions can be explained by a generally widespread lack of willpower. Indeed, Mitchell and Utkus (2004) explain that saving for retirement necessitates similar behavior to that required for dieting or giving up smoking. It would seem that while people intellectually 'understand' the benefits of a specific behaviour they have difficulty in implementing their intentions. This phenomenon is called 'bounded self-control', according to which, in this case, people accept the default choice.

In 2006, the Pension Protection Act introduced the lifecycle management approach within 401(k) plans as a default option in the U.S. Mitchell et al. (2007) have demonstrated how the default bias has contributed to the development and to the increase of this management activity, avoiding the inertia that previously characterized 401(k) plans over time. With this methodology a fund manager takes over all responsibility for selecting asset holdings and rebalancing the portfolio over time. A typical target maturity date (TM) lifecycle fund invests in equities for younger employees, and as the target date approaches, the TM fund's equity is gradually reduced towards a more conservative mixed portfolio.

When individuals make a decision (whether explicit or tacit) they achieve a status quo position (Kahneman and Tversky, 1984). In any situation where this risks being altered, the decision-making procedure is adjusted (Tversky and Kahneman, 1981; Sonnemans et al., 1994) in order to keep it (almost) unvaried (Kahneman and Tversky, 1979; Cao et al., 2011). This behavior is due to 'exchange resistance' (Loomes et al., 2009), justified by the individual's preference for the status quo and which acts as a defence mechanism through which subjects reduce anxiety and reinforce self-control (Bovey and Hede, 2001).

In the financial decision-making process gender also plays an important role. Many studies (Powell and Ansic, 1997; Byrnes et al., 1999; Schubert et al., 1999; Eckel and Grossman, 2008; Lusardi and Mitchell, 2008; Cardak and Wilkins, 2009; Croson and Gneezy, 2009; Fan and Zhao, 2009) reveal that women have a higher degree of risk aversion and a lower propensity to undertake risky projects than men. Barber and Odean (2001) demonstrate that men trade significantly more than women. In this field of analysis, marital status also can influence financial decisions. In general, Lupton and Smith (2003) show that single individuals are more risk-averse than married people, but few studies consider gender and marital status jointly when analyzing financial decision implications. Sundén and Surette (1998), examining asset allocation in retirement saving plans, demonstrate that single women tend to be more risk-averse. Agnew et al. (2003), considering 7,000 retirement saving accounts, show that men, married investors, and investors with higher earnings and more job seniority are risk-seeking. Bertocchi et al. (2011), using a dataset drawn from the 1993 to 2006 Bank of Italy Survey of Household Income and Wealth, show that married women have a higher propensity to invest in risky assets than single women, while there is no difference between married and unmarried men.

Bearing in mind the literature related to default bias, this study aims to discover what factors are common to, or have affected, Italian occupational pension fund tacit members since the pension fund system reform (2007); in addition, building mainly on the works of O'Donoghue and Rabin (1999, 2001), Agnew et al. (2003) and Mitchell et al. (2006a, 2006b), the analysis attempts to explore whether tacit members change their position over the years, that is, if they opt out of the no-risk investment line by making an explicit decision, and which factors influence this change of status quo.

3. Data and methodology

3.1 Sample selection

The sample used in this paper was created from the list of occupational pension funds existing at the end of 2007 (a total of 35), the year of the introduction of Italian pension reform, and identified and recognized by the Pension Funds Supervision Commission (COVIP). Those no longer operating at the end of 2011[10] were eliminated (two funds). The occupational pension funds existing before 2007 which did not provide a guaranteed investment line had to introduce one in order to be able to enroll the so-called 'tacit worker' or 'tacit member' as provided for by law[11]. For this reason 2007 represents a year of strong discontinuity with the past.

For each occupational pension fund, we analyzed the balance sheets from the years 2007-2011 in order to gather information about: a) the number and the types of investment lines offered in each fund; b) the total number of subscribers at the end of each examined year; c) the number of new subscribers during each year; d) the total number of 'tacit members' at the end of each examined year; e) the number of 'tacit members' during each examined

[10] COVIP Annual Report 2007 and 2011.

[11] 'Regulation of complementary pension schemes', Legislative Decree n. 252 of 5 December 2005.

year; f) the number of labor unions subscribing to each pension fund agreement; g) the number of firms enrolled with each pension fund; h) the number of people enrolled in each pension fund and i) the product category or the market sector in which each pension fund is enrolled. Therefore the occupational pension funds whose balance sheets did not show the distinction between tacit and explicit members, or the total number of 'tacit members' at year-end or the number of 'tacit members' during the years examined were eliminated. After this selection, of the original 33 Italian occupational pension funds representing 1,988,639 members, our final sample included 24 occupational pension funds (that is to say 72.72%), representing 1,732,530 members (87.12%) at the end of 2007.

3.2. Methodology and variables

The analysis is divided into two steps. ***Step 1*** tests which factors affect Italian workers who decide not to decide regarding the occupational pension fund enrollment process; ***Step 2*** explores whether tacit members change their position over the years studied (2007-2011), opting out of the no-risk investment line by making an explicit decision, and which factors influence this status quo variation.

3.2.1. Step 1

To test which factors influence the workers' decision not to decide, and thus to accept the default option established by law, the panel regression analysis used in this study is as follows:

$$\text{default\_end\_year} = \alpha\text{nlaborunion} + \beta_1 cat_1 + \beta_2 cat_2 + \beta_3 cat_3 + \beta_4 cat_4 + \beta_5 cat_5 + \gamma\text{Nline} + \delta\text{Nfirms} + \lambda\text{male} + \tau_1 t_1 + \tau_2 t_2 + \tau_3 t_3 + \tau_4 t_4 + \tau_5 t_5 + \varepsilon \quad (1)$$

The variables used in the model are summarized and described in Table 1.

Table 1. Model variables description

Variable	Description
Dependent variable:	
default_end_year	Total number of tacit employees (tacit members) at the end of each year per occupational pension fund.
Independent variables:	
Nlaborunion	Number of labor unions that subscribed to each occupational pension fund. This information is obtained from the statue of each occupational pension fund examined. It is difficult establish whether there is a positive or a negative impact on the dependent variable.
Nline	Number of investment lines presented in each occupational pension fund.
Nfirms	Number of firms enrolled on each occupational pension fund. This information is obtained from the statute of each occupational pension fund examined. It is difficult establish whether there is a positive or a negative impact on the dependent variable.
male	Gender variable, % of men enrolled on each occupational pension fund.
cat_1, cat_2, cat_3, cat_4, cat_5	5 macro-categories based on market sector classification by the Italian fiscal authorities (building, distribution, industry production, mixed and transport).
t_1, t_2, t_3, t_4, t_5	time dummies (t_1=2007; t_2=2008; t_3=2009; t_4=2010; t_5=2011)

Source: Variables from Italian occupational pension funds balance sheets (years 2007- 2011).

Italian occupational pension funds offer a number of investment lines (Nline) to workers, from a minimum of two to a maximum of five, including the no-risk investment line (default option), as shown in Table 2.

Table 2. Number of Italian occupational pension funds per number of investment lines

No. investment lines	No. occupational pension fund plans examined
2	6
3	11
4	5
5	2

Source: data from Covip Annual Reports (2007-2011)

Table 2 shows that the majority of Italian occupational pension funds offer two and three investment lines, while there are still relatively few with five or more investment lines. Overall, however, Italian workers have a fair choice. The aim of a wide range of investment lines is to enable each worker to select the one most appropriate to his/her risk profile. For this reason the expected contribution to the dependent variable is negative; the greater the number of investment lines the fewer the number of tacit members in each one.

Since each occupational pension fund is allocated to a single product category, in order to avoid any problems of multi-collinearity in the analysis, the 24 categories were aggregated and reduced to five macro-categories (building, distribution, industrial production, mixed and transport) based on the market sector classification established by the Italian fiscal authorities.

3.2.2 Step 2

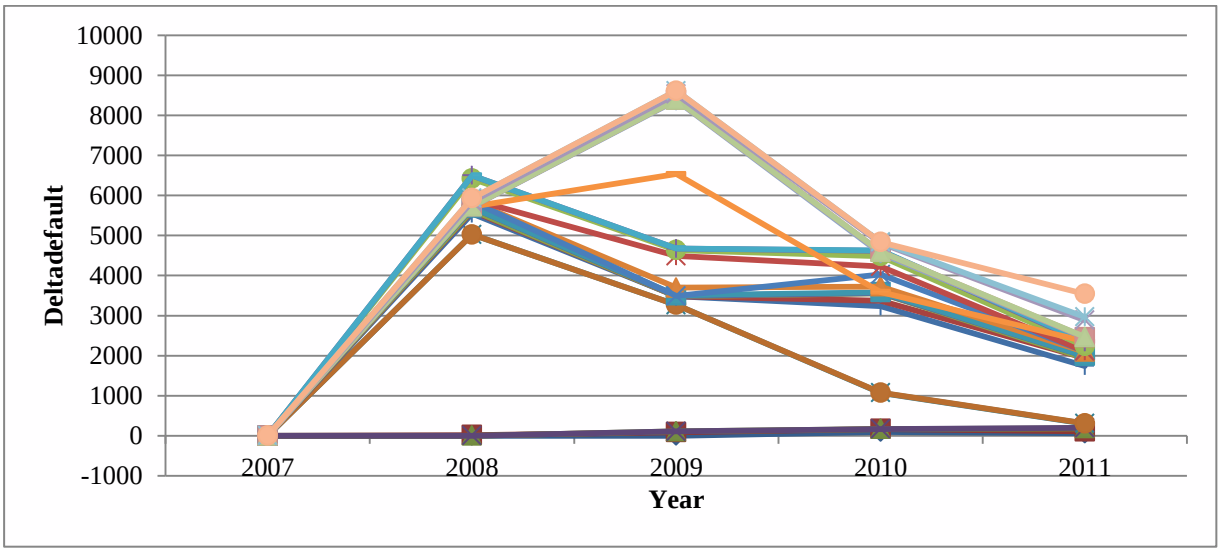
Workers acquire a status quo position as no-risk investment line members via the default option. However, over the years, tacit members could decide to leave the no-risk investment line, switching to another. The variation in the number of tacit members (deltadefault) for each occupational pension fund for each year is calculated starting from the number of tacit members at the end of year t-1, adding the new tacit members enrolled during the year t ($new\_default_t$) and considering the total number of tacit members at the end of the year t ($default_t$) as follows:

$$deltadefault = defaul_{t-1} + new\_default_t - default_t \quad (2)$$

Figure 1 shows the number of tacit member variations for each Italian occupational pension fund calculated from 2007 to 2011. It shows 2008 and 2009, a few years after the introduction of the reform, as being the years in which tacit members most frequently opted out of the no-risk investment line.

Figure 1. Variation in the number of tacit members (deltadefault) for each Italian occupational pension fund (2007-2011)

Workers acquire a status quo position as no-risk investment line members via the default option. However, over the years, tacit members could decide to leave the no-risk investment line, switching to another. The variation in the number of tacit members (deltadefault) for each occupational pension fund for each year is calculated starting from the number of tacit members at the end of year t-1, adding the new tacit members enrolled during the year t ($new\_default_t$) and considering the total number of tacit members at the end of the year t ($default_t$) as follows: $deltadefault = defaul_{t-1} + new\_default_t - default_t$. This figure shows the variation in the number of tacit members.



Source: data processed by the author

The model variables used to test which factors influenced the tacit members in their decision to change (deltadefault) are summarized and described in Table 3.

Table 3. Model variables for testing variation in tacit members' change in investment choice

(status quo variation)

Variables	Description	Expected sign
Dependent variable:		
deltadefault	Number of tacit members that took an expressed decision to switch from the no-risk investment line.	
Independent variables:		
action	Act of persuasion exercised by occupational pension fund representatives to push tacit members into becoming explicit deciders	Positive
Nline	Number of investment lines in each occupational pension fund	Positive
male	Gender variable: % of men enrolled on each occupational pension fund	
returnBTP10y	The difference in performance between the no-risk investment line and an Italian 10-year Treasury Bill.	Negative
out_end_year	Number of dismissed and retired workers per year	
cat_1, cat_2, cat_3, cat_4, cat_5	5 macro-categories based on market sector classification determined by the Italian fiscal authorities (respectively: building, distribution, industrial production, mixed and transport)	
t_1, t_2, t_3, t_4, t_5	time dummies (t_1=2007; t_2=2008; t_3=2009; t_4 = 2010; t_5=2011)	

Source: data elaborated by the author

Exit from the no-risk investment line could be determined by some physiological situation such as retirement and contract termination. To confirm that the tacit members' opt-out is really an explicit desire to alter the status quo, a control variable (out_end_year) is inserted into the model. This variable is calculated as the annual variation for all enrolled workers at the end of each year per occupational pension fund.

Moreover, the analysis takes into consideration the annual no-risk investment line's performance compared to the Italian 10-year Treasury Bill returns per year (returnBTP10y).

This benchmark is considered with reference to medium/long-term pension fund asset allocation; it is a guaranteed investment and so its annual return is comparable to that of the no-risk investment line.

Action is the act of persuasion exercised during the year by occupational pension fund representatives in order to push tacit members into becoming explicit decision-makers. Each occupational pension fund's balance sheet states that during the year the action of persuasion to encourage tacit members to become explicit decision-makers continued.

Therefore the equation used in the ologit analysis is as follows:

$$\text{deltadefault} = \alpha\text{action} + \beta_1\text{cat1} + \beta_2\text{cat2} + \beta_3\text{cat3} + \beta_4\text{cat4} + \beta_5\text{cat5} + \gamma\text{Nline} + \lambda\text{male} + \rho\text{returnBTP10y} + \varphi\text{out\_end\_year} + \tau_1 t1 + \tau_2 t2 + \tau_3 t3 + \tau_4 t4 + \tau_5 t5 + \varepsilon \quad (3)$$

4. Results

Consistent with the description above, our results are also presented in two steps.

4.1 Step 1 results

Table 4 shows the results from the panel regression analysis (1), i.e. which factors influence a worker's decision not to decide and to accept the default option established by law. The results are very helpful for reaching a deeper understanding of a tacit member's behaviour.

Table 4. Panel regression analysis of default option

The table shows the results from the panel regression analysis i.e. which factors influence a worker's decision not to decide and to accept the default option established by law. The results are very helpful for reaching a deeper understanding of a tacit member's behavior.

	Random effects	Fixed effects
nlaborunion	-332.0*	-723.1***
	(195.6)	(95.16)
Nline	2,108***	2,482***
	(582.7)	(621.1)
cat2	3,652	8,728*
	(6,920)	(4,437)
cat3	4,000	2,301
	(5,318)	(11,847)
cat4	5,493	7,568
	(6,139)	(13,018)
cat5	5,951	0
	(6,087)	(0)
NFirms	1.119***	1.162***
	(0.135)	(0.159)
male	-10,032	-40,727*
	(8,299)	(22,857)
t2	190.4	-49.52
	(522.3)	(532.3)
t3	905.8*	680.9
	(516.5)	(525.0)
t4	1,011*	750.5
	(517.9)	(532.2)
t5	669.0	398.6
	(524.4)	(539.6)
Constant	-2,381	19,306
	(9,091)	(21,634)
Number of observations	120	120
R2	0.5991	0.9725

Note: *** p<0.01, ** p<0.05, * p<0.1 (Standard errors in parentheses)

Firstly, it is demonstrated that the default bias is not restricted to a specific market sector or product category; default bias is therefore a cross-sector phenomenon relating to all employees.

Secondly, a very significant result is that the number of tacit members is positively influenced by the number of investment lines available in each occupational pension fund. The greater the number of investment lines from which to choose, the fewer choices workers made. This result is contrary to expectations; it reveals that a greater number of investment lines generates a fear of making mistakes and therefore some workers decide not to decide. This result confirms the studies by Spranca et al. (1991) and Ritov and Baron (1992).

Table 4 also shows that the greater the number of firms enrolled on each occupational pension fund, the greater the number of tacit members. This could be merely a statistical phenomenon but there may be a logical explanation. If the number of firms is not high, the occupational pension fund representatives may carry out a more targeted recruitment strategy, by spending more time with workers and illustrating the importance of the decision that they have to make more clearly. In this case workers are guided to reach a better personal solution. Vice versa, if there are many firms enrolled in an occupational pension fund, the time available to devote to workers is reduced and resources are dispersed. In this case, the worker may feel left alone to face a very crucial decision for his/her future wealth level, so he/she may decide not to decide. This result agrees not only with the studies by Spranca et al. (1991) and Ritov an Baron (1992), but also with those by Kahneman and Miller (1986), Kahneman and Tversky (1982), and Glovich et al. (1995). On the contrary, Table 4 shows that the greater the number of labor unions enrolled on each occupational pension fund, the fewer the number of tacit members. The reasoning that justifies this result is similar to that illustrated above but the opposite.

Another result which emerges from Table 4 is related to gender. In fact, when considering the fixed effect regression analysis, the greater the number of male members, the lower the number of tacit members. Thus women tend not to decide, to not choose, more than men.

In the literature a plethora of studies demonstrates that women are, in general, more risk-averse than men and our result confirms this hypothesis.

4.2 Step 2 results

The results obtained using equation (3) in the ologit analysis are shown in Table 5.

First, the results obtained demonstrate that tacit members' opt-out decisions are not influenced by retirement and/or contract termination (out_end_year is not statistically relevant). Thus the analyzed phenomenon is really a desire to alter the status quo position.

The results obtained are very interesting. Contrary to rational thought and expectations, the no-risk investment line's performance - compared to that of an appropriate benchmark - is not statistically significant in terms of the number of members opting out. Rationality would suggest the opposite, that is to say the lower the returns achieved by the guaranteed line, the greater the number of tacit members opting out. This inverse correlation is identified in the analysis result (in fact the returnBTP10y coefficient is negative) but it is not a factor that influences the tacit members' choice to switch to other investment lines[1], i.e. an objective factor such as the performance of the no-risk line does not influence the tacit members' choice to opt out from the default option.

This result confirms previous studies according to which once people have made a decision they tend to prefer to maintain the status quo, even if it does not represent the optimal solution for them.

Moreover, the phenomenon of shifting from being a tacit to an explicit member does not depend on the workers' gender or category. Nor is the number of investment lines available in the same occupational pension fund a factor that influences the decision to switch from the no-risk investment line.

Instead, it is surprising to observe that the choice to switch from the guaranteed line is affected by the action of persuasion exercised by the Italian occupational pension fund representatives with the aim of convincing the tacit members to become explicit members. In fact, after 2007, many occupational pension funds (as reported in some balance sheets) carried out awareness-raising activities involving face-to-face meetings and fliers aimed at the tacit members, in order to convince them to become explicit members. The most significant results of this activity were found for 2008 and 2009, a few years after the introduction of the Italian pension fund reform, as shown in Figure 1. The action of persuasion principally consists in exploiting some psychological elements, such as the tacit member's family's future prospects, including the possibility of maintaining their standard of living after retirement. The reasons for switching from a no-risk investment line also include factors such as a longer period contributing to the occupational pension fund as a result of the raising of the retirement age as established by Italian law.

The integrated interpretation of the results presented in Table 5 highlights the fact that many tacit members decide not to decide without reflecting adequately on the consequences of the (non) choice they make. Thus, tacit members' switching depends more on psychological factors than purely financial elements.

[1] The results presented in Table 5 are unvaried when the investment line is compared with another guaranteed benchmark investment such as the Italian 1-year Treasury Bill.

Table 5. Status quo variation analysis: ologit results

Table shows that tacit members' opt-out decisions are not influenced by retirement and/or contract termination (out_end_year is not statistically relevant). Thus the analyzed phenomenon is really a desire to alter the status quo position.
Contrary to rational thought and expectations, the no-risk investment line's performance - compared to that of an appropriate benchmark - is not statistically significant in terms of the number of members opting out.
The choice to switch from the guaranteed line is affected by the action of persuasion exercised by the Italian occupational pension fund representatives with the aim of convincing the tacit members to become explicit members.

	Random effects	Fixed effects
action	471.7**	488.7**
	(186.6)	(228.9)
Nline	54.58	-98.85
	(141.0)	(237.4)
cat2	166.9	-33.12
	(537.8)	(1,537)
cat3	158.0	-822.4
	(437.8)	(4,350)
cat4	207.4	195.9
	(486.0)	(1,609)
cat5	-97.73	-467.2
	(489.6)	(4,774)
male	4.741	-2,247
	(726.7)	(8,768)
returnBTP10y	-1,472	-1,152
	(2,415)	(2,497)
out_sub_year	-0.0123	0.00865
	(0.0185)	(0.0231)
t2	522.7**	512.9**
	(223.0)	(246.7)
t3	542.0***	580.4**
	(206.9)	(229.1)
t4	310.5	380.8
	(220.2)	(246.7)
t5	344.9	398.6
	(237.8)	(264.3)
Constant	-765.0	1,507
	(888.1)	(8,354)
Number of observations	120	120
R2 overall	0.1629	0.4510

Note: *** p<0.01, ** p<0.05, * p<0.1 (Standard errors in parentheses)

5. Conclusions

How individuals make decisions is a very important and interesting field of study, especially in the light of the consequences that may ensue. Specifically, in this study choices regarding supplementary pensions are subject to careful analysis because of the wide gap between the moment in which the choice is made and the future time of 'enjoyment'. In fact, wrong or unsuitable asset allocation choices in terms of pension fund options could seriously compromise the maintaining of living standards after retirement. By introducing this choice, the pension fund reform introduced in Italy in 2007 represents a strong discontinuity with the past and a necessary step towards coming into line with other European countries.

The supplementary pension system reform introduced a default option in the enrollment process for occupational pension funds, and identified the possible presence of a default bias in choices made by workers. This paper analyzes and explains which factors influence the default bias and the worker's subsequent status quo position.

The results obtained show a positive correlation between the number of firms enrolled in each occupational pension fund and the number of tacit members; the same result is observed when the number of investment lines available in each occupational pension fund is considered. This means

workers are not behaving rationally, in that they tend not to choose when faced with a variety of opportunities. The paper also identifies a minimal but significant difference between men and women; women seem to be more hesitant than men, tending not to decide more frequently.

The paper demonstrates that the no-risk investment line status quo obtained via default bias is not a satisfying solution for many tacit members. These members decide to become explicit members, exchanging the default option for another investment line about two years after they were automatically enrolled. The only factor demonstrated in this study as being able to alter the tacit members' desire to maintain their status quo is the action carried out by occupational pension fund representatives with the aim of persuading tacit members to opt out of the guaranteed line, emphasizing the importance of the psychological aspect of a hoped-for future wealth level.

We believe these results could provide valid support for regulators aiming to improve the occupational pension fund enrollment process. Certainly a default option is a necessary solution to ensure the enrollment of more workers, but the question is whether the no-risk investment line represents the most efficient solution, or whether life-cycle investment lines, for example, might be more appropriate. Further studies and debate could usefully focus on these issues.

References

1. Abadie, A., and Gay, S. (2004). The impact of presumed consent legislation on cadaveric organic donation: a cross-country study. *Journal of health economics*, 24 (4), 599-620.
2. Agnew, J., Balduzzi, P., and Sundén, A. (2003). Portfolio Choice and trading in a large 401(k) plan. *The American economic review*, 93 (1), March, 193-215.
3. Barber, B., and Odean, T. (2001). Boys will be boys: gender, overconfidence, and common stock investment. *Quarterly journal of economics*, 116 (1), 261-292.
4. Baron, J., and Ritov, I. (1994). Reference points and omission bias. *Organizational behavior and human decision processes*, 59, 475-498.
5. Bertocchi, G., Brunetti, M., and Torricelli, C. (2011). Marriage and other risky assets: a portfolio approach. *Journal of banking and finance*, 35, 2902-2915.
6. Besheas, J., Choi, J., Laibson, D., and Madrian, B. (2007). The importance of default options for retirement saving outcomes: evidence from the USA. In S. Kay, and T. Sinha, *Lessons from pension reform in the Americas*, Vol. 25, September, p. 59-87. Oxford University Press.
7. Bovey, W., and Hede, A. (2001). Resistance to organizational change: the role of defence mechanism. *Journal of manegiarial psychology*, 16, 534-548.
8. Byrnes, J., Miller, D., and Schafer, W. (1999). Gender differences in risk taking: a meta analysis. *Psychological bulletin*, 125, 367-383.
9. Camerer, C. (2000). Prospect therory in the wild: evidence from the field. In D. Kahneman, and A. Tversky, *Choice, value and frames*, p. 288-300. Cambridge University Press.
10. Campbell, J.Y. (2013). Mortage market design, *Review of finance*, 17 (1), 1-33.
11. Cao, H., B., H., Hirshleifer, D., and H.H., Z. (2011). Fear of unknown: familiarity and economic decisions. *Review of finance, 15 (1)*, 173-206.
12. Cardak, B., and Wilkins, R. (2009). The determinants of household risky asset holdings: Australian evidence on background risk and other factors. *Journal of banking and finance*, 33, 850-860.
13. Choi, J., Laibson, D., Madrian, B., and Metrick, A. (2003). Optimal default. *American economic review*, 93, 180-185.
14. Choi, J., Laibson, D., Madrian, B., and Metrick, A. (2005). Passive decisions and potent defaults. In W. D. (Ed), *Analysis in the economics of aging*, Vol. August, p. 59-78,. University of Chicago Press.
15. Croson, R., and Gneezy, U. (2009). Gender differences in preferences. *Journal of economic literature*, 47, 448-474.
16. Eckel, C., and Grossman, P. (2008). Forecasting risk attitudes: an experimental study using actual and forecast gamble choices. *Journal of economic behavior and organization*, 68, 1-17.
17. Fan, E., and Zhao, R. (2009). Health status and portfolio choice: causality or heterogeneity? *Journal of banking and finance*, 33, 1079-1088.
18. Gilovich, T., Medvec, V., and Chen, S. (1995). Commission, omission, and dissonance reduction: coping with regret in the "Monty Hall" problem. *Personality and social psychology bulletin*, 21, 182-189.
19. Hartman, R., Doane, M., and Woo, C.-K. (1991). Consumer rationality and the status Quo. *Quarterly journal of economics*, 106, 141-162.
20. Johnson, E., and Goldstein, G. (2003). Do defaults save lives? *Science*, 302, 1338-1339.
21. Johnson, E., Bellman, S., and Lohse, G. (2003). Default, framing and privacy: why opting in - opting out. *Marketing letters*, 13 (1), 5-15.
22. Johnson, E., Hershey, J., Meszaros, J., and Kunreuther, H. (1993). Framing, probability distortions and insurance decisions. *Journal of risk and uncertainty*, 7 (1), 35-53.
23. Kahneman, D., and Miller, D.T. (1986), Norm theory: comparing reality to its alternatives. *Psychological review*, 93, 136-153.
24. Kahneman, D., and Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica*, 47, 263-291.
25. Kahneman, D., and Tversky, A. (1982). The psychology of preferences. *Scientific american*, 246, 160-173.
26. Kahneman, D., and Tversky, A. (1984). Choices, values and frames. *American psychologist*, 39.
27. Kahneman, D., Knetsch, J., and Thaler, R. (1991). The endowment effect, loss aversion, and status quo bias. *Journal of economic perspectives, 5 (1), Winter*, 193-206.
28. Loomes, G., Orr, S., and Sugden, R. (2009). Taste uncertainty and status quo effects in consumer choice. *Journal of risk and uncertainty*, 39, 113-135.
29. Lupton, J., and Smith, J. (2003). Marriage, assets and savings. In S. Grossbard-Shecht, *Marriage and the*

economy: theory and evidence from advanced industrial societies. Cambridge: Cambridge University Press.
30. Lusardi, A., and Mitchell, O. (2008). Planning and financial literacy: how do women fare? *American economic review*, 98, 413-417.
31. Madrian, B., and Shea, D. (2001). The power of suggestion: inertia in 401(k) participation and saving behavior. *Quarterly journal of economics*, 116 (4), 1149-1187.
32. Masatlioglu, Y., and Ok, E. (2005). Rational choice with status quo bias. *Journal of economic theory*, 121, 1-29.
33. Mitchell, O., and Utkus, S.P. (2004), Lessons from behavioral finance for retirement plan design. In Mitchell, O., Utkus, S.P. (Eds.), pp. 3-41. *Pension design and structure*, Oxford University Press.
34. Mitchell, O., Mottola, G.R., Utkus, S.P., and Yamaguchi, T. (2006a). The inattentive participants: portfolio trading behavior in 401(k) plans. Pension research council working paper, 05, Philadelphia, P.A.: Wharton School.
35. Mitchell, O., Mottola, G.R., Utkus, S.P., and Yamaguchi, T. (2006b), Winners and losers: 401(k) trading and portfolio performance. Pension research council working paper, 26, Philadelphia, P.A.: Wharton School.
36. Mitchell, O.S., Mottola, G.R., Utkus, S.P., and Yamaguchi, T. (2007), The dynamics of lifecycle investing in 401(K) plans. Pension research council paper, October.
37. O'Donoghue, T., and Rabin, M. (1999). Procrastination in preparing for retirement. In H. (. Aaron, *Behavioral dimensions of retirement economics.* Booking Institution Press and Russell Sage Foundation.
38. O'Donoghue, T., and Rabin, M. (2001). Choice and procrastination. *Quarterly journal of economics*, February, 121-160.
39. Papke, L. (2004). Individual financial decisions in retirement saving plans: the role of participant direction. *Journal of public economics*, 88 (1-2), January, 39-61.
40. Park, C., Jun, S., and Macinnis, D. (2000, May). Choosing what I want versus rejecting what I do not want: an application of decision framing to product option choice decisions. *Journal of marketing research, 37* (2), 187-202.
41. Powell, M., and Ansic, D. (1997). Gender differences in risk behaviour in financial decision-making. An experimental analysis. *Journal of economic psychology*, 18, 605-628.
42. Ritov, I., and Baron, J. (1992). Status-quo and omission biases. *Journal od risk and uncertainty*, 5, 49-61.
43. Samelson, W., and Zeckhauser, R. (1988). Status quo in decision making. *Journal of risk and uncertainty*, 1, 7-59.
44. Schubert, R., Brown, M., Gysler, M., and Brachinger, H. (1999). Financial decision-making: are women really more risk-averse? *American economic review*, 89, 381-385.
45. Sonnemans, J., Schram, A., and Offerman, T. (1994). Public good provision and public bad prevention. The effect of framing. Working paper, University of Amsterdam.
46. Spranca, M., Minsk, E., and Baron, J. (1991). Omission and commission in judgment and choice. *Journal of experimental social psychology*, 27, 76-105.
47. Sundén, A., and Surette, B. (1998). Gender differences in the allocation of asset in retirement saving plans. *American economic review*, 88, 207-211.
48. Tversky, A., and Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211.
49. Yaniv, I., and Schul, Y. (2000). Acceptance and elimination procedures in choice: noncomplementary and the role of implied status quo. *Organizational behavior and human decision processes*, 82 (2), 293-313.