

PhD in Economics XXV cycle

**Tell me your portfolio and I will guess who you are: social
incentives for more fitting pension funds**

(Summary)

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Summary

Risk preferences are highly heterogeneous. A lot of studies examined factors shaping different risk preferences that are at the base of the investment decisions. Different leading papers have conjectured that women are more risk averse than men. But the issue is not so clear as it appears because most of the studies are based on a survey approach or an experimental one.

The aim of this paper is to understand the consequences of a sensible public reform, such as TFR pension reform in Italy and the effect on certain categories of individuals. In fact, starting from 1st January 2007 the employee had to choose if holding his TFR in the company or to bring it to a chosen pension fund. Due to the reform also agents with scarce information about finance had to choose about the category of risk fund, a clear example of forced participation. According to previous studies, females are more risk adverse. We want to empirically prove, whether effectively, Italian women are more risk adverse than men when choosing different retirement plans based on risk preferences.

The social issue is linked to the fact that since women choose lower risk funds (that in the long run should yield less), earn lower wages (and so make smaller monthly TFR contributions) and work for less years, they will accumulate a lower end-of-service pay-out, that moreover, it should be used for more years (since average life for women is higher than for men). The consequence could be an insufficient flow to assure an adequate living standard (also called social security risk).

To analyze the Italian case, I take as sample data obtained directly from the Fopen, the pension fund of the Enel Group (and other ex-Enel companies) with 37366 subjects under analysis. This fund gives the opportunity to each member to choose among 6 categories of portfolios (only one till 2003 and only four till 2007). To my understanding, no study has been undertaken on Italian pension funds focusing on gender variable and fund choice. Moreover the dataset is useful not only to extract information about factors affecting aversion to risk but also to model the dynamic of the choice. A natural shock helped us also to understand the choice for individuals forced to participate. Anyway in the period of the analysis (from 2000 to 2012), 2 interesting points of time are been used as shocks: 2003 since the pension structure went from 1 risk category to 4 categories, then 2007 when an invasive reform has been implemented.

In the first kind of test, using a Binomial Logit model we find the main factors affecting the choice to join the most risky category or the less risky one. Results clearly highlights that gender, age, income, geographical factor and trading really affects aversion to risk in line with the previous literature. That is, female are more risk adverse also controlling for many variables. Huge evidence of factors provoking more risk aversion are advanced age and living in less developed geographical areas

(like South or Islands). While propensity to trading, higher income and living in more developed areas are factors affecting risk aversion negatively. Moreover using the same set of data and adding a new dummy variable capturing the date of inscription of each individual before or later an established date, it can be inferred that people with lower interest in financial matter (or less financial knowledge, or merely forced to participate) are more risk adverse even controlling for other factors.

In the second kind of test we go more deeply to the dynamic of the choice, that is, the aim is exploring factors that make the switch toward an higher risk category more or less likely. Using as in the previous test a Binomial Logit model I take into consideration a very large set of switches during the period from 2003 to 2012. This kind of test confirms the first one: women are more likely to change toward a lower risk category even controlling for age, income, trading, wealth and geographical factors. It appears even clearer if we carry on the analysis only on the sample of employees that had to switch in 2003 from the only one available category to one of the new 4 categories.

In a third test, throughout test of hypothesis, we verify the existence of differences in the weight of men and women that change their portfolios within fund categories. This allows to eliminate the notion that part of previous results of the paper are driven by the number of women and men in the sample. When controlled by proxy of income and age, the difference not only persist but slightly increases.

The drawback of the previous literature (using experiments or choices under shocks) ridden over by this paper is that: here behaviors are not elicited in hypothetical setting but reflect individual risk attitudes in actual financial decision. Furthermore, since individual chooses a fix percentage on his income that implies a constant share of risk assets unless he changes to another risk category. Under this prospective we do not exclude the presence of DRRA (decreasing relative risk aversion).

This analysis could support the policymaker to calibrate a suitable appendix to the last TFR reform in order to cover gaps in opportunities among different kind of risk takers mitigating the so called “social security risk”.

In the meantime, it is taken the occasion of such a rich dataset to exploit this sizeable shock in order to test forced (or semi-forced) participation, confirming higher risk aversion for forced participants.