# Fatalism and Savings

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**Abstract**

An individual's decision about how much to save depends on her perception of how current savings affects future well-being. Fatalistic individuals believe that they have little or no control over future outcomes. We develop a theoretical model linking fatalism to savings and test the predictions using data from the National Longitudinal Survey of Youth (NLSY). The model predicts that fatalism decreases savings for moderately risk averse individuals, but actually increases savings for highly risk averse individuals. Furthermore, fatalism decreases effort in learning about savings and investment options. The empirical results support the theoretical predictions of the model and are robust to the inclusion of a number of additional control variables.

**Keywords:** Fatalism; Saving; Risk Aversion

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# 1 Introduction

Fatalism, the notion that individuals believe that they lack the ability to determine their outcomes, is an important phenomenon in modern society. In the 1992 round of the National Longitudinal Survey of Youth, 11% of individuals agree or strongly agree with the statement "I have little control over the things that happen to me".[1] In this paper, we develop an economic model of fatalism and apply it to a still open question in the economics literature: why do people save so little?

A large body of evidence shows that many households do not save optimally and enter retirement with little or no savings (Lusardi 2001, Choi, Laibson, and Madrian 2004, and Banks, Blundell and Tanner 1998). The savings decision clearly depends on one's perception of the future *and* one's perception of how his or her current actions affect the future. Amidst the current economic downturn, these perceptions have become more important, as the misbehavior of financial institutions and credit ratings agencies have increased doubts about the the usefulness of gathering information and advice from experts.

We examine a simple theoretical model in which consumers choose both savings and effort to improve their investment portfolio. Fatalism is modeled as a belief that the returns to effort are lower than the actual market returns. We find that fatalism will decrease savings, but only for individuals with sufficiently low risk aversion. For more risk averse people, fatalism will actually *increase* savings. In addition, fatalism will unambiguously decrease effort. We test these hypotheses using data from the National Longitudinal Survey of Youth (NLSY) and find general support for the model.

There is a large literature analyzing fatalism, mostly in disciplines outside of economics. In epidemiology, there is evidence that those who are most at risk for certain diseases are often the least likely to get preventive screens for them (Kash and Dabney (2001) and Wu (2003)). In disaster preparedness, McClure, Allen and Walkey (2001) show that people are less likely to prepare for earthquakes and other disasters if they believe that their preparedness levels will not have a meaningful effect on the expected damages that actually occur. In political science, Goodwin and Allen (2000) demonstrate strong relationships among fatalism, attitudes toward democracy, and democratic participation in several republics of the former Soviet Union. The common

[1] This figure is based on the authors' tabulations of data used for this study.

theme among these studies is that those with fatalistic tendencies believe that their current and past actions have limited or no effect in determining future outcomes, and their choices reflect this.

Within the economics literature, the concept of fatalism has been used to explain differences between the U.S. and Europe. Alesina and Angeletos (2005) show how a system with more (less) redistribution can arise when individuals are less (more) likely to believe that effort determines income. Benabou and Tirole (2006) relate fatalism to the psychology literature and the notion of a "belief in a just world" (Lerner 1982) in order to examine the interaction between ideology and redistribution systems. Wu (2005) finds evidence from the Survey of Consumer Finances that those who believe luck plays an important part in their financial affairs are less likely to save. Kimball and Shumway (2009) demonstrate that there is a strong negative correlation between a measure of fatalism and savings in a survey they conducted. We use a model to understand this correlation in detail in the NLSY, showing that high risk aversion may reverse the result.

Our work also ties in to the growing literature on why consumers save so little. Several papers suggest that households aren't well informed about benefits (e.g. Gustman and Steinmeier (2005)) and that financial education can stimulate savings (Bernheim and Garrett (2003) and Duflo and Saez (2003)). Other models, such as Allen and Carroll (2001) and Reis (2004), argue that financial planning is too costly. Many recent papers use behavioral arguments to explain under-saving. Laibson, Repetto and Tobacman (1998) and Diamond and Koszegi (2003) use hyperbolic discounting to formally model the self-control problem in relation to the empirical findings on household savings behavior and Madrian and Shea (2001) show that default options drive individual saving behavior.

The paper proceeds as follows. Section 2 introduces the theoretical model. Section 3 explains the data and empirical methodology. Section 4 discusses the empirical results and section 5 concludes.

# 2 The Model

Consider a simple savings problem in which there are two periods. In period one, consumers choose an amount to save and make an effort that influences future returns. In period two, the returns are realized and consumers consume their savings. We write this formally as a maximization problem:

$$\max_{e,s} u(I-s) - \frac{1}{2}e^2 + \delta\{(p+\gamma e)u(R_H s) + (1-(p+\gamma e))u(R_L s)\}$$

where $\delta$ is the discount factor, $I$ is period one income, and $p$ is the minimum probability that there will be a high return $R_H$ to savings (and $1-p$ is the maximum probability that there is a low return to savings $R_L$). The choice variables of the consumer are savings ($s$) and effort ($e$), where $e \in [0, \frac{1-p}{\gamma}]$. The utility function $u(\cdot)$ is assumed to be increasing and concave.

A larger effort can increase the probability of receiving a high return on savings. Larger effort is costly, however, and must be exerted in period one. For simplicity, we assume that effort is separable in the period one utility function and that the cost of effort is quadratic. Investment in effort may occur in a number of ways. It could involve direct planning for the future through investigating different investment opportunities, hiring a financial consultant, or using computer software to analyze investing needs. In addition, an individual may acquire more education or training such as taking investment related courses or attending financial planning seminars.

Fatalism is defined as the belief that one has little control over future actions, i.e. luck, rather than personal actions, determines one's fate. In terms of the model, a fatalist is someone who perceives or believes that the return to effort is lower than it truly is. The parameter $\gamma$ measures the returns to effort and hence fatalism is represented by a $\gamma$ less than the actual return $\gamma_{true}$.[2] Individuals with low $\gamma$'s believe they have less control over the probabilities that will influence their future outcomes than they actually do. This may be because they believe that financial planning is not effective, that returns to savings and investment have little variability, or that the returns are unpredictable.

The consumer optimally chooses an effort level and savings amount that maximizes her utility. We assume that there is a unique optimum, which is equivalent to assuming that for all parameters:

$$-u''(I-s) - \delta\{(p+\gamma e)R_H^2 u''(R_H s) + (1-(p+\gamma e))R_L^2 u''(R_L s)\} \quad \text{(A1)}$$
$$-(\delta\gamma\{R_H u'(R_H s) - R_L u'(R_L s)\})^2 > 0$$

[2]Benabou and Tirole (2006) also take the approach of using the returns to effort to capture individual ability to determine one's future, but they are concerned with how this return is learned (from outcomes) and transmitted (through parents) over time.

The optimal solution $(e^*, s^*)$ is given by the two first order conditions:[3]

$$\begin{aligned} -e^* + \delta\gamma\{u(R_H s^*) - u(R_L s^*)\} &= 0 \\ -u'(I - s^*) + \delta\{(p + \gamma e^*)R_H u'(R_H s^*) + (1 - (p + \gamma e^*))R_L u'(R_L s^*)\} &= 0 \end{aligned}$$

The consumers' degree of risk aversion will be an important part of understanding the results. Label the coefficient of relative risk aversion $RRA = \frac{-cu''(c)}{u'(c)}$. The following lemma is a step that is necessary for describing the solution.

**Lemma 1** *(i) If* $0 < RRA < 1$ *for all* $s$*, then* $R_H u'(R_H s) - R_L u'(R_L s) > 0$.
*(ii) If* $RRA > 1$ *for all* $s$*, then* $R_H u'(R_H s) - R_L u'(R_L s) < 0$.

**Proof.** First, suppose $0 < RRA < 1$ for all $s$. This implies that $\frac{-Rsu''(Rs)}{u'(Rs)} < 1$ for all $s$, or $u'(Rs) + Rsu''(Rs) > 0$. The second expression is equivalent to $\frac{d}{dR}(Ru'(Rs)) > 0$, which gives the result. We can use a similar argument for the second result. ■

Now we examine the effects of fatalism on the choices of savings and effort. We refer to a "rational" consumer as one who knows the true rate of return to effort.

**Proposition 2** *Given that assumption A1 holds,*
*(i) Fatalists invest strictly less effort than rational consumers.*
*(ii) If* $0 < RRA < 1$ *for all* $s$*, Fatalists save less than rational consumers. If* $RRA > 1$ *for all* $s$*, Fatalists save more than rational consumers.*
*(iii) Risk neutral and risk loving fatalists save the same amount as rational consumers.*

**Proof.** Define $F(e, s)$ to be the left hand side of equation A1 and $P(s) = R_H u'(R_H s) - R_L u'(R_L s)$.
For all of the results we use the implicit function theorem on the equation:

$$-u'(I - s^*) + \delta\{(p + \gamma e^*(s^*; \gamma, \delta)))R_H u'(R_H s^*)$$

$$+(1 - (p + \gamma e^*(s^*; \gamma, \delta)))R_L u'(R_L s^*)\} = 0$$

[3]Note that borrowing, or $s < 0$, would be possible if we assumed there was period two exogenous income. We have assumed it away for simplicity.

where $e(s;\gamma,\delta) = \delta\gamma\{u(R_H s^*) - u(R_L s^*)\}$.
The results for a change in the fatalism parameter are:

$$\frac{ds^*}{d\gamma} = \frac{2\delta e P(s)}{F(e,s)}, \frac{de^*}{d\gamma} = \delta\{u(R_H s^*) - u(R_L s^*)\} + \delta\gamma P(s)\frac{ds^*}{d\gamma}$$

It is clear that when $0 < RRA < 1$ holds, Lemma 1 implies that $P(s) > 0$ and consequently both $\frac{ds^*}{d\gamma} > 0$ and $\frac{de^*}{d\gamma} > 0$. Similarly, when when $RRA > 1$ holds, $P(s) < 0$, implying that $\frac{ds^*}{d\gamma} < 0$ and $\frac{de^*}{d\gamma} > 0$.

Lastly, risk neutral consumers have linear utility and therefore the choice of savings either hits the lower bound of 0 or the upper bound of $I$. This doesn't (locally) depend on fatalism. Risk loving consumers also hit a corner solution as the interior solution minimizes their utility. ■

Fatalists unambiguously invest less effort than rational consumers since they have a lower perceived return to effort. The impact of fatalism on savings, however, depends on the degree of risk aversion of the consumer. Risk neutral and risk loving individuals either save all of their income or none of it. Therefore varying perceptions over the return to effort don't affect their savings. For risk averse individuals, who have an interior solution and save a fraction of their income, the degree of fatalism matters. Consider lowering the perceived returns to effort (and holding effort fixed). There are two competing effects influencing an individual's savings choice. The first is the fact that expected returns to savings are lower, so a consumer would want to save less. The second is the fact that the low outcome in the second period is more likely to occur. A risk averse individual would thus like to save more in order to smooth income between the states in period two. Therefore, for moderately risk averse consumers (who have $0 < RRA < 1$), the first effect dominates and being fatalistic means that they want to save less so as to avoid the low return to savings. On the other hand, for very risk averse consumers (who have $RRA > 1$), the second effect dominates and being fatalistic means that they want to save more to better smooth their income.

A few caveats apply here. First, we have not fully characterized all consumers, as it may be possible that a consumer has $0 < RRA < 1$ for some levels of savings, and $RRA > 1$ for other levels. Even the most sophisticated survey questions have not been able to solicit a difference like this, so we will leave this issue on the sidelines. Second, there is a long-standing struggle

in the macroeconomics and finance literatures to distinguish the coefficient of relative risk aversion from the intertemporal elasticity of substitution.[4] Indeed, for power preferences (i.e. $u(c) = c^{\theta}$) they are the inverse of one another. They are also the inverse of each other for time separable, homothetic preferences. We have assumed time separability, but haven't assume homotheticity, so indeed they may be different in our model.

# 3 Data and Methodology

The primary data used for this study are derived from the 1979 National Longitudinal Survey of Youth (NLSY79), a survey of young men and women born between the years 1957-1964. This survey gathers information at multiple points in time on the labor market activities, outcomes, and other significant life events of respondents. We use this data because it is one of the only data sets that combines information about: (1) attitudinal variables such as perceived degree of control over one's situations and optimism towards life; (2) risk preferences; (3) the propensity to save; and (4) effort spent planning for retirement. Although this is a panel survey, many of the key variables of interest for this study are only asked in a particular wave. Therefore, we will treat the data as one cross-section. Aside from the demographic characteristics, most of the other variables of interest are taken from the most recent round of the survey conducted in 2006, though the measure of fatalism is taken from an earlier wave (1992).[5] There are slightly over 4,000 individuals with non-missing information for most variables, though only a subset of the respondents answered questions regarding retirement and retirement planning.

Our first prediction of the model is that fatalistic individuals are less likely to spend time and effort in making savings and investment decisions. Although the NLSY does not contain any variables that exactly measure the degree to which individuals spend effort in making general financial decisions, there are a couple of variables related to the efforts spent on retirement planning, and these questions are asked to a subset of the sample. Therefore, we estimate the following probit equation:

[4] For example, see Giuliano and Turnovsky (2003).

[5] The fact that the fatalism measure is not concurrent with our dependent variables has the benefit of reducing the reverse causality problem.

$$P(effort = 1) = \beta_0 + \beta_1 fatalism + \beta_2 X + \varepsilon$$

In this equation, our proxy for effort is taken from the respondent's answer to the following question from the NLSY: "People begin learning about and preparing for retirement at different ages and in different ways. Have you [or] [Spouse/partner's name] ever calculated how much retirement income you would need at retirement?" We estimate a regression where the dependent variable is a dichotomous variable equal to one if the individual responds "yes" to this question. We also conduct a similar regression where the dependent variable is the answer to the question "Have you [or] [Spouse/partner's name] read any magazines or books on retirement planning?"

To measure fatalism, we use the answer to the following question in the NLSY, "I have little control over the things that happen to me."[6] Respondents can answer along a 1-4 scale, ranging from "strongly disagree" to "strongly agree", where higher values represent a higher degree of fatalism.[7] The vector X represents a set of demographic and economic variables that include age, race, gender, marital status, number of children, education, and self-reported health status. One might argue that those that are fatalistic may have a more negative outlook on life, which could explain the lack of effort in planning for the future. To distinguish fatalism from a general sense of pessimism, we also include a variable that represents how strongly survey respondents agree or disagree with the statement "I take a positive attitude toward myself". Our theoretical model predicts that the coefficient $\beta_1$ will be negative since fatalists are less likely to engage in any effort to learn about saving and investment options.

The second hypothesis that we test is how fatalism affects an individual's propensity to save. Thus, we estimate the following equation:

$$Percent\_Save = \beta_0 + \beta_1 fatalism + \beta_2 X + \varepsilon$$

Recall that the results of our model imply that correlation between fatalism and the propensity to save depends on one's risk preferences. The NLSY asks the following question about preferences towards risk: "Suppose you have been given an item that is either worth nothing or worth $10,000.

[6] This is one of the questions used in the NLSY from what is known as the Pearlin Mastery Scale, which measures individuals perceptions about themselves and the world.

[7] Although the regressions shown in the tables include the fatalism variable linearly, using separate indicator variables for the different categories yields similar results.

Tomorrow you will learn what it is worth. There is a 50-50 chance it will be worth $10,000 and a 50-50 chance it will be worth nothing. You can wait to find out how much the item is worth, or you can sell it before its value is determined. What is the lowest price that would lead you to sell the item now rather than waiting to see what it is worth?" For this question, holding all else constant, lower values imply a greater degree of risk aversion, while a value of $5,000 would imply an individual is risk neutral. Because a response of zero indicates an infinitely risk averse person and a response of 10,000 indicates an infinitely risk loving person, we trim the sample to exclude those with responses at these very extremes.[8]

We use the response to this question to create two different measures of risk preferences. Our first is a simple one: we separate the sample into individuals that require more than $5,000 (risk loving), individuals that require between $3,000 and $5,000 (moderately risk averse), and those that require less than $3,000 (very risk averse). Our second measure explicitly calculates the cutoff RRA=1 for each individual. We do this using the individual's reported wealth and the assumption that individuals have constant relative risk aversion. Specifically, having constant RRA=1 implies having log-utility. It is easy to show that an individual with log utility and assets $w$ will answer the risk question with the dollar amount $\sqrt{w(w+10,000)} - w$. Therefore if an individual with assets $w$ answers a number lower than this amount, we classify them as having RRA>1, and if an individual with assets $w$ answers a larger amount (but less than or equal to 5,000) we classify them as having an RRA between 0 and 1. We keep the classification of risk loving individuals as those who answer more than $5,000.

We then use OLS to estimate separate regressions for each of the groups using each different measure, where the dependent variable is equal to the percentage of money one would save if he or she received the amount of money specified in the response to the question discussed above (somewhere between 0 and $10,000). The measure of fatalism is the same as before and similar demographic controls are included.

There are a few remarks about the data that we must make. Although a response of $5,000 should correspond to someone who is *exactly* risk neutral, we include these "borderline" individuals in the moderately risk averse category. The reason is that the great majority of people respond with this

[8]Results for the entire sample (including those individuals at the two extremes) are qualitatively similar, though the coefficients are less precisely estimated.

precise answer and other research shows that the great majority of individuals are moderately risk averse. A study by Dohmen et al. (2005) finds that 78 percent of the subjects of their experiment are risk averse. In Barsky, Juster, Kimball, and Shapiro (1997), 87.2% of the sample is risk averse. Guiso and Paiella (2008) have a sample with 96% self-reporting positive risk aversion. Chetty (2006) also finds that most individuals have RRA between 0 and 1. Given that over 60 percent of our sample answers $5,000 for this question, including this group in the risk loving/risk neutral category seems inappropriate.

For the asset variable, a number of people report negative or zero assets. Because we cannot use the risk question to estimate a coefficient of RRA for those with zero or negative wealth, we add the amount of money they would be willing to receive today (the answer to the "risk" question) to assets and then calculate rates of relative risk aversion using this amount of wealth. This is reasonable given that the savings question assumes that the individual has been given the amount in the answer to the "risk" question already.[9] We then drop individuals who still have zero or negative wealth after this adjustment and also include as a control variable an indicator for "zero or negative wealth", where this is equal to one if the unadjusted wealth is zero or negative.

Although the NLSY is a panel survey, this question on fatalism is not asked in other years. Thus, it is difficult to determine whether a change in an individual's perception of control has a causal impact on that same individual's attitudes toward saving and saving habits. However, the argument for reverse causality is not entirely convincing. It seems much more likely that one's degree of fatalism would affect her effort towards gathering information about savings and the propensity to save, rather than the other way around. We also address the problem of omitted variable bias by controlling for economic, demographic and behavioral characteristics as discussed above.

# 4 Results

Table 1 shows the summary statistics of the variables used in the analysis. The NLSY samples young individuals who were between the ages of 14-22 in the year 1979. This implies that by the time of the 2006 wave, the age

[9] We also did a separate version where we add $2,000 to everyones assets and then discard those at zero or below, and the results are the same.

range is between 41 and 49 years. Roughly half of the sample is female, while 60 percent of respondents are married and 23 percent are black. Many respondents "disagree" or "strongly disagree" with the statement "I have little control over what happens to me" (mean of 1.81 on a 1-4 scale, where 1 represents "strongly disagree" and 4 represents "strongly agree").

Table 2 presents the results of two probit regressions that predict the degree of effort people put into planning for retirement. The dependent variable in the first regression is equal to one if the respondent has ever calculated the amount of money needed for retirement. Married and more highly educated people are more likely to have made retirement calculations, while Hispanics and those in poor health are less likely to have done so. Our main independent variable of interest is fatalism, or one's perceived control over future events. More fatalistic people are less likely to spend effort in calculating the amount of money necessary for retirement. The coefficient in column 1 indicates that an increase in one point (along a 4 point scale) in the degree of perceived fatalism decreases the likelihood of making retirement calculations by roughly 9 percent. This coefficient is statistically significant at the 1 percent level.

We get the same result for the second regression in Table 2, which uses the likelihood of reading books or magazines about retirement planning as the dependent variable. Column 2 of Table 2 shows that a one point increase in the level of fatalism decreases an individual's probability of reading about retirement by 6.7 percent and this coefficient is significant at the 5 percent level. These results are consistent with the theoretical prediction of our model.

We now turn to the savings decision. Recall from our model that the sign of the coefficient on fatalism depends on the risk preferences of individuals, and specifically on the coefficient of relative risk aversion. To split the sample, we use the answer to a question that asks respondents the minimum amount necessary to forgo a 50-50 risk of receiving either \$10,000 or nothing. As discussed above, lower values represent higher degrees of risk aversion. In Table 3a, we estimate equation 2 for three groups separated by our first measure for risk aversion: individuals that require more than \$5,000 (risk loving), individuals that require between \$3,000 and \$5,000 (moderately risk averse), and those that require less than \$3,000 (very risk averse).

Recall that the model predicts that for risk loving individuals, there should be no effect of fatalism on savings behavior because they are at corner solutions. The results confirm this claim. Column 1 shows that for risk loving

individuals, there is no appreciable effect of fatalism on the likelihood of saving. The point estimate is extremely small and the coefficient is not close to being statistically significant. Column 2 shows a negative and statistically significant coefficient for moderately risk averse people (p-value of 0.051). An increase of one point on the scale of fatalism decreases the propensity to save by 2.7 percentage points for those that are moderately risk averse. Finally, we see in column 3 that for highly risk averse people, the relationship between fatalism and savings is positive. For highly risk averse people, a one point increase in the scale of fatalism increases the propensity to save by over 12 percentage points, and this coefficient is significant at the 1 percent level.

In Table 3b, we incorporate our second measure of risk aversion, where we calculate using an individual's assets whether they have an RRA greater than 1 or not. This gives us three categories of people: those with RRA between zero and one, and those with RRA greater than one, and those who require more than $5,000 to not take the gamble (risk loving). Once again, the results strongly support the predictions of the theoretical model. For risk loving individuals, there is no statistically significant relationship between fatalism and saving. For moderately risk averse people (RRA between zero and one), fatalism is negatively correlated with the propensity to save (p-value of 0.06), while for highly risk averse people (RRA greater than one), fatalism is positively correlated with the propensity to save (p-value of 0.01).[10]

# 5 Conclusion

A variety of disciplines including medicine, psychology, sociology and political science have shown fatalism to be an important determinant of human behavior. This paper shows that fatalism can also partly address an important question in the economics literature: why do people save so little? We have developed a theoretical model that predicts that fatalistic people are less likely to spend time in gathering information about returns to financial

[10] The results in table 3a and 3b are sensitive to how we categorize those who require $5,000 to take the gamble. As discussed earlier, we have included them in the moderately risk averse category. If we instead include them in the risk loving category, fatalism continues to be statistically insignificant in predicting savings for risk loving individuals. However, eliminating them from the moderately risk averse category renders the coefficient on fatalism to be statistically insignificant for this group (though still with a negative sign).

investments. The sign of the relationship between fatalism and the probability of saving depends on the risk aversion of consumers. Savings decisions are not affected by fatalism for risk loving individuals, but for modestly risk averse individuals (RRA between 0 and 1), fatalism is negatively related to saving and for highly risk averse individuals (RRA over 1), fatalism is positively related to saving.

The empirical results support these hypotheses. Specifically, evidence from the NLSY shows that those who feel they have little control over the things that happen to them are less likely to engage in retirement planning. Further, the relationship between fatalism and savings depends on individual risk preferences as predicted in the model: fatalism is negative correlated with savings for moderately risk averse individuals and positively correlated with savings for highly risk averse individuals.

One policy implication is that in an effort to influence savings behavior, it may be just as important (if not more) to affect people's perceptions of their level of control and autonomy as it is to increase their level of information regarding savings and retirement. Furthermore, the way that information about saving is presented may be equally or more important than the actual content. With respect to fatalistic individuals, it may be helpful to provide indications how saving a little today can lead to much better retirement years and to show how small actions today can greatly affect the future. The idea is to get people to believe that they have more "control" of their well being during future retirement years than they might initially think in order to combat fatalistic beliefs. As economists continue to incorporate findings in the psychology literature in modeling savings behavior, policy makers will be better equipped to address the issues surrounding retirement and the well being of the elderly.

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Table 1: Summary Statistics

| Variable | Mean | Std. Dev. |
|---|---|---|
| Married | 0.61 | 0.49 |
| Female | 0.49 | 0.50 |
| Age at time of 2006 Wave | 44.74 | 2.24 |
| Number of Children | 1.96 | 1.43 |
| Black | 0.23 | 0.42 |
| Hispanic | 0.13 | 0.33 |
| Highest Grade Completed | 13.33 | 2.55 |
| Self-Reported Health (1-5 Scale, 5 is excellent health) | 2.30 | 0.99 |
| Optimism (1-4 scale, 4 is most optimistic) | 3.39 | 0.58 |
| Amount of money required to forego 50-50 risk | 4,884.51 | 3,450.69 |
| Percent saved out of money received | 49.34 | 38.11 |
| Assets | 174,679 | 456,071 |
| Have Little Control over Life? (1-4 scale, 4 is most fatalistic) | 1.81 | 0.67 |
| Observations | 3,271 | |

Table 2: Fatalism and Effort Spent on Retirement Planning
Marginal Effects of Probit Regressions

| | Dependent Variable | |
|---|---|---|
| Independent Variable | Calculated Amount Needed for Retirement? | Read Books, Magazines on Retirement? |
| Black | 0.031 | 0.099** |
| | (0.043) | (0.047) |
| Hispanic | -0.106** | -0.078 |
| | (0.043) | (0.051) |
| Age | 0.012* | -0.002 |
| | (0.007) | (0.008) |
| Number of Children | -0.010 | -0.016 |
| | (0.012) | (0.013) |
| Female | -0.017 | -0.031 |
| | (0.034) | (0.037) |
| Married | 0.110*** | 0.048 |
| | (0.036) | (0.040) |
| Highest Grade Completed | 0.036*** | 0.062*** |
| | (0.007) | (0.008) |
| Very Good Health | -0.031 | 0.015 |
| | (0.043) | (0.048) |
| Good Health | 0.004 | 0.060 |
| | (0.049) | (0.055) |
| Fair Health | -0.095 | 0.024 |
| | (0.062) | (0.078) |
| Poor Health | -0.197** | -0.254** |
| | (0.087) | (0.111) |
| Optimism | 0.029 | 0.065** |
| | (0.029) | (0.031) |
| Little Control over Life | -0.090*** | -0.068** |
| | (0.027) | (0.029) |
| Observations | 787 | 787 |
| Pseudo R-Squared | 0.09 | 0.11 |

Notes: Omitted category for health status is excellent. *Significant at 10% level. **Significant at 5% level. ***Significant at 1% level. Standard errors are in parentheses.

Table 3a: Fatalism and Saving
Ordinary Least Squares
Dependent Variable is Percentage of Money Received One Would Save

| Independent Variable | Risk Loving<br>Value Needed>5000 | Moderately Risk Averse<br>3000<=Value<=5000 | Highly Risk Averse<br>Value<3000 |
|---|---|---|---|
| Black | 4.509 | -1.000 | 1.060 |
| | (2.771) | (2.120) | (6.156) |
| Hispanic | 7.136** | 5.256** | 4.180 |
| | (3.422) | (2.502) | (7.518) |
| Age | 0.744 | 0.320 | 0.114 |
| | (0.516) | (0.361) | (1.058) |
| Number of Children | -0.288 | -0.809 | -1.873 |
| | (0.918) | (0.624) | (1.732) |
| Female | 2.003 | 1.270 | -5.314 |
| | (2.308) | (1.644) | (4.915) |
| Married | 5.905** | 0.355 | -0.763 |
| | (2.648) | (1.888) | (5.564) |
| Highest Grade Completed | 0.798 | 0.772** | 0.988 |
| | (0.521) | (0.342) | (0.976) |
| Very Good Health | 0.128 | -5.782*** | -4.606 |
| | (3.002) | (2.128) | (6.213) |
| Good Health | -5.474 | -2.918 | -8.585 |
| | (3.329) | (2.402) | (7.030) |
| Fair Health | 1.574 | -8.660** | -29.918** |
| | (5.198) | (3.550) | (11.668) |
| Poor Health | -8.398 | -8.871 | 11.210 |
| | (8.031) | (6.168) | (24.168) |
| Optimism | -1.368 | 3.365** | 2.697 |
| | (2.164) | (1.469) | (4.169) |
| Zero_Assets | -3.664 | -1.947 | 0.290 |
| | (3.193) | (2.385) | (6.558) |
| Little Control over Life | 0.687 | -2.650* | 12.445*** |
| | (1.802) | (1.358) | (3.898) |
| Constant | 13.011 | 25.903 | 9.935 |
| | (25.122) | (18.231) | (52.396) |
| Observations | 875 | 2,052 | 285 |
| R-Squared | 0.03 | 0.02 | 0.07 |

Notes: Omitted category for health status is excellent. *Significant at 10% level. **Significant at 5% level. ***Significant at 1% level. Standard errors are in parentheses.

Table 3b: Fatalism and Saving
Ordinary Least Squares
Dependent Variable is Percentage of Money Received One Would Save

| Independent Variable | Risk Loving | Moderately Risk Averse 0<=RRA<=1 | Highly Risk Averse RRA>1 |
|---|---|---|---|
| Black | 4.509 | -1.169 | 0.683 |
| | (2.771) | (2.134) | -5.831 |
| Hispanic | 7.136** | 5.279** | 3.533 |
| | (3.422) | (2.533) | -6.854 |
| Age | 0.744 | 0.376 | -0.144 |
| | (0.516) | (0.365) | -0.969 |
| Number of Children | -0.288 | -0.808 | -1.857 |
| | (0.918) | (0.630) | -1.612 |
| Female | 2.003 | 0.749 | -0.98 |
| | (2.308) | (1.668) | -4.455 |
| Married | 5.905** | 0.364 | 0.197 |
| | (2.648) | (1.905) | -5.192 |
| Highest Grade Completed | 0.798 | 0.800** | 0.753 |
| | (0.521) | (0.348) | -0.876 |
| Very Good Health | 0.128 | -6.262*** | -3.142 |
| | (3.002) | (2.176) | -5.429 |
| Good Health | -5.474 | -3.160 | -6.95 |
| | (3.329) | (2.451) | -6.144 |
| Fair Health | 1.574 | -8.820** | -27.012** |
| | (5.198) | (3.603) | -10.474 |
| Poor Health | -8.398 | -9.178 | 10.409 |
| | (8.031) | (6.182) | -23.757 |
| Optimism | -1.368 | 3.384** | 3.179 |
| | (2.164) | (1.495) | -3.717 |
| Zero_Assets | -3.664 | -1.928 | -0.798 |
| | (3.193) | (2.389) | -6.426 |
| Little Control over Life | 0.687 | -2.581* | 9.094** |
| | (1.802) | (1.378) | -3.539 |
| Constant | 13.011 | 23.487 | 26.304 |
| | (25.122) | (18.497) | -47.579 |
| Observations | 875 | 1,994 | 343 |
| R-Squared | 0.03 | 0.02 | 0.05 |

Notes: Omitted category for health status is excellent. *Significant at 10% level. **Significant at 5% level. ***Significant at 1% level. Standard errors are in parentheses.