

Do you look forward to retirement? Motivational biases in pension decisions

Tehila Kogut*

Momi Dahan†

Abstract

This research examines the relationship between positive and negative perceptions of pensions and motivation to engage in the decision process of choosing a private pension plan, as well as satisfaction from the chosen pension plan, among trained economists. A sample of 134 economists completed a self-report survey examining the decision process of different decision contexts in life, including pension decisions. Overall, participants showed low motivation to engage in the process of choosing a private pension plan, compared to their motivation to engage in other decision tasks. However, economists invested more in the decision process and showed greater satisfaction from their decision regarding their pension plan when they had a more positive perception of pensions. This perception is represented by higher subjective likelihood of receiving pension allowances for a long period, and by a profitable view of the balance between current payments and expected incomes from pension saving.

Key words: Pension decisions, subjective perceptions, motivational biases.

1 Introduction

Studies have demonstrated that people show low motivation to engage in the process of choosing a pension plan as expressed by their minor involvement in the process (e.g., Benartzi & Thaler, 1999; Hedesstrom, Svedsater, & Garling, 2007). As a result, they tend to settle on a default choice (Johnson, Hershey, Meszaros, & Kuhnreuther, 1992), show passivity and procrastination in decision-making (Choi et al., 2001, 2003), and sometimes avoid making the decision (Iyengar & Lepper, 2000). Lusardi (1999, 2002) has found that most people have given very little thought to retirement even when they are just a few years away from leaving the workforce. Benartzi and Thaler (2007) reviewed empirical works on lay people's heuristics and biases in their savings for retirement decisions. They show that lay people are slow to join advantageous plans, make infrequent changes, and adopt naïve diversification strategies when establishing their portfolio. In addition, they rely on non-experts' advice (spouses and friends) and tend to be influenced by framing manipulations.

Nowadays, people are living longer than ever, and retirement is becoming more and more expensive as the cost of living (especially medical care and prescription drugs) continues to increase. Planners are more likely to experience a satisfying retirement because they have greater financial resources to rely on after they stop work-

ing (Lusardi, 2002). Therefore, it is important to understand the lack of motivation to engage in the process of choosing a pension plan as well as to find ways to increase involvement and motivation.¹

One of the reasons for lay people's low involvement might be that most people simply do not have the knowledge and the capacity to interpret the information presented to them by employers and governments regarding private pension plans. They do not know how to appropriately evaluate and balance these choices, and make a decision based on weighing of the alternatives. When given a default option (such as knowing the pension plan most people choose, or suggested by the employees' committee), lay people may use it to make a quick decision and put the issue aside (even when this pension plan may not be the best for them personally). When people are confronted with a large number of options, the more options they are given, the less likely they are to be engaged in the choice task (Iyengar, Jiang, & Huberman, 2004; Iyengar & Lepper, 2000), especially when the alternatives are seen as relatively similar and they are not able to understand the variations among them.

Lack of relevant knowledge and understanding may be a major reason for peoples' low involvement in pension decision processes (Chan & Stevens, 2004; Beshears, Choi, Laibson, & Madrian, 2005; Munnell, 2006). On the other hand, if lack of knowledge is the main reason

*Department of Education, Ben-Gurion University of the Negev, Beer-Sheva, Israel 84105. E-mail: Kogut@bgu.ac.il.

†School of Public Policy, The Hebrew University of Jerusalem.

¹The important question of the relationship between financial state and psychological well being is beyond the scope of this paper. Our aim is to examine whether people give enough care to one of the most important financial decisions that may allow them to have adequate resources in their retirement.

for people's low interest, we would expect experts, such as well-educated economists who do have the knowledge, the resources, and the understanding, to behave differently by showing real efforts to make the best decision regarding their future incomes.

In spite of the above assumption, behavioral decision research suggests that even with the required knowledge people might not act according to rational models by systematically examining the different options and their relevant attributes (Gilovich & Griffin, 2002; Kahneman & Frederick, 2002). Experts, like lay people, are also prone to simplifying heuristics and biases (e.g., Dawes, 1997; Kahneman, 2003; Zajac and Bazerman, 1991). Moreover, when a choice task is complex, includes many objects, and when the objects are relatively similar in some of their attributes, the tendency to use intuitive simplifying strategies increases. Besides simplifying heuristics, emotional reactions towards the task might also affect decisions of both experts and lay people.

Specifically, perception and feelings towards pension as a concept may affect the decision maker's attitude toward the task. The affect as information hypothesis (Clore, Schwarz & Conway, 1994; Schwarz & Clore, 1983) suggests that judgments are affected by the positive and negative feelings towards the decision target (other people, places, objects, as well as words, memories, etc.). Positive or negative emotions toward the decision task might directly affect the decision process. Negative emotions towards pension and retirement might be a result of unpleasant thoughts and negative images of the future raised at the time of pension decisions, such as financial dependence, ill health, death, aging, or disabilities (Weber, 2004). Such thoughts may be psychologically threatening and anxiety provoking, causing "retirement anxiety" (e.g., Hayslip, Bezerlein, & Nichols, 1997), which may not be restricted to older adults. Interestingly, Hayslip et al. have found that younger adults showed even greater anxiety about retirement than older adults. Indeed, the results of Neukam and Hershey (2003) suggest that lay people who experience retirement anxiety are less likely to plan and save for the future.

In addition, since people see their pension expenses in their pay slips every month, and the incomes are expected only in the distant future, they might perceive their contributions as greater than (discounted) future income streams. Benartzi and Thaler (1999) suggest that people may experience "myopic loss aversion" in their saving for retirement decisions by being hypersensitive to short-term losses. Such negative perceptions may decrease people's motivation to invest in the decision, increasing heuristics and biases in the decision process.

Some people may believe that they would not enjoy their pension for many years, and therefore might perceive a pension as an expense with only little gain. Op-

timistic people, with the same objective life expectancy, who believe that they will receive their pension payments for a longer period of time, are expected to have a more positive attitude towards their pension. Their thoughts about their future as well as their pension fund evaluation are expected to be more positive, as living longer means receiving more money from pension plans. These positive views held by more optimistic people may enhance the motivation to engage in the decision process, which may produce better satisfaction from the chosen pension plan.

In summary, positive and negative perceptions of pension as a concept are likely to guide emotional reactions toward the decision task at the time of the decision and therefore are expected to influence the motivation to invest in the decision process. Low motivation to invest in the decision process may lead to insufficient search for information, set on a default option, or other shortcuts that may lead to a decision that departs from the decision maker's best interest.

We suggest two main factors that may shape these subjective perceptions of pensions: First, optimistic and pessimistic subjective views of the likelihood to receive pension payments for at least 20 years. Pension decisions may be fundamentally different for people who believe that saving today will allow them to secure their standard of living in the future, as opposed to people with pessimistic perceptions that have the same expected longevity. People who perceive the likelihood of enjoying their pension for many years as higher are expected to care more about not having adequate financial means in their old age, since the possibility to experience that need is more concrete and real for them. Therefore, optimistic people are more likely to make efforts and show greater motivation to invest in their pension decision. We note that the use of the terms optimism and pessimism all through the paper refers to the subjective evaluation of the likelihood to receive pension payments for at least 20 years, rather than as a general personality trait.

Second, perceptions of the balance between gains and losses in pension payments: This balance might represent a positive perception of pensions when people believe that future (discounted) benefits would be greater than the current (and discounted future) contributions, and a negative perception if the reverse.

We hypothesize that motivation to invest in pension decisions would be greater for people who have a positive view of pensions and retirement (caused by one or both of the above factors). These people are expected to be more involved in the decision process, examining a larger number of alternatives before choosing a pension plan and searching for more information about the chosen plan. Thus, we posit that subjective perceptions of pensions may influence people's pension decision as well

as satisfaction from the chosen pension plan and welfare in old age.

1.1 The pension decision in Israel

All public employees hired after April 2002 in Israel have to select a private pension (DB) or private provident fund (DC) to invest their pension savings, replacing the previous public pay-as-you-go program.² The enrollment in pension savings is mandatory. An employee has to choose from a list of 20 pension/provident funds, which also includes a blank place for those who opt for a pension/provident fund outside that list.³ This is a typical list that is also provided by private employers. For example, the Israel branch of *Intel* provides a similar list to its newly hired workers. Employees are granted up to two weeks to fill out a form with their selected pension/provident fund; otherwise they do not receive their salary slip. Note that employees are not offered a default retirement plan by the employer, the government, or by their union.

There is a large variation in both financial rates of return and managerial fees. Based on *pension net* data (taken from the Ministry of Finance web site), the financial rate of return in the last five years in pension funds ranges from 4.3% to 8.8% (with a standard deviation of 1.1%). The managerial fees contain two parts: one component is linked to deposits to pension funds and the other component is related to the accumulated assets. The first portion varies between 2.79% and 5.46% of the deposits (with a standard deviation of 0.90%), where the other portion of the managerial fees ranges from 0.31% to 1.93% of the accumulated assets (with a standard deviation of 0.60%). This implies that investment in pension decisions might be rewarding and suboptimal decisions could be very costly.

Pension policy in Israel as well as in many other countries (e.g., UK, USA) is strongly influenced by rational models and by ideologies of individual responsibility and the freedom of choice. Given that intuitive decisions and low motivation to invest in the decision process can seriously affect individuals' welfare in old age, it is important to examine how people actually make the decision and whether they invest time and resources and have the necessary information at the time of the decision. In order to examine motivation to choose and the role of intuitive and emotional biases in pension decisions, we control for lack of knowledge or accessibility to information by choosing experts as the participants of the study and investigating their private pension decision process. We assume that

²Most workers (including economists) choose to invest their pension saving in private pensions.

³Recently that form has been changed and no pension funds appear on the new form.

even having relevant knowledge and access to information, many people would show low motivation by making little effort in their pension decision process. We suggest that the extent to which decision makers show motivation to invest in the decision, when having the required knowledge and capacity, is largely dependent on their subjective value perception of pension and retirement (as something positive or negative).

2 The study

This study explores these predictions by examining experts' personal decision processes regarding their private pension plans. We chose experts as the participants in order to reduce biases that might accrue from lack of knowledge. The participants in the study are 136 economists working in the Israel Ministry of Finance (38 of them work in the Capital Market, Insurance and Pension Division, and are frequently engaged in regulating the pension market and designing pension reforms). They are all experienced, well trained economists who are supposed to be familiar with the relevant attributes of pension plans, and have access to the information needed. All have a bachelor's or master's degree in economics, accounting, or business administration. They are recruited after a relatively long screening process and are perceived as the elite of the public service in Israel.

We examine participants' motivation to invest in the decision process, including the number of pension plans examined and the extent to which participants searched for relevant information, as well as their satisfaction from their final choice. Our main interest is in the way that each of these behaviors is influenced by the subjective positive/negative perceptions of pension. We examine two variables that may represent positive and negative perceptions of pensions: optimistic/pessimistic views of the probability to receive pension payments in the future and the perceived balance between gains and losses in pension saving. In order to show that low motivation, expressed by low investment, is specific to pension decisions, rather than a general tendency, we compared participants' pension decision behaviors with their decisions about other types of important choices in life, such as buying an apartment, and purchasing a car or an expensive electric appliance. Although these types of decision contexts are not fully comparable, the number of possible pension plans is greater than the number of options usually available in the other decision contexts. Moreover, the decision's implications and significance for the long run are greater in the context of pension decisions; thus, it is even more remarkable if people do not look at more options in the context of pensions than in the other contexts.

3 Method

One hundred and thirty-six economists working in various departments in the Israel Ministry of Finance (30% females) participated in the main study. One hundred and thirty-four of them completed the pension section of the questionnaire and were included in the analysis. Participants' ages ranged from 23 to 48 years old ($M=31.5$); period of service in their jobs ranged from 2 to 20 years ($M=4.3$). In order to disguise the main concern of our research, respondents were told that the survey examines different choices. The questionnaire was organized in four sections; each concerning a different decision context. Similar questions appeared in each of the four sections, referring to its relevant decision context. The first section deals with the decision process of buying an apartment, the second is concerned with car purchase, the third section includes the pension decision; finally, the last section asked about purchasing an expensive electric appliance. Participants were instructed to complete the questionnaire without referring to previously completed pages and to skip sections of the questionnaire that are not relevant to them. (For example, one should complete the section concerning apartment purchase only if s/he has bought an apartment within the last ten years.) The first part in each of the four sections of the questionnaire examines motivation to learn about available options in order to make a more thoughtful decision (hereafter, *search for information*). At the beginning of this part, participants were asked to rate on a seven-point scale the extent to which they searched for the relevant information before making each decision. Three statements were given for each decision, describing relevant information needed in the context of each decision. For example, for the apartment purchase decision, participants were asked whether they searched for information about the prices, the neighborhood qualities, and mortgage interest rates. For the pension decision, participants were asked about the extent to which they searched for the information about the pension plan's management fee, the financial rate of return, and the demographic rate of return. Next, participants were asked for the **number of options** they considered before making their final decision, and rated on a seven-point scale their agreement to the sentence: "I would be happier if I had more of the relevant information at the time of the decision." The second part in each section of the questionnaire examines participants' **satisfaction with their final decision**. Participants were asked to rate the extent to which they feel that they made the right decision for each of the four decision issues, each rating on a seven-point scale.

Finally, the two last questions examined subjective positive/negative perceptions of pensions. The first question examined subjective perceptions of expenses com-

pared to expected incomes from one's pension plan. Participants were asked to rate their feelings towards the balance between their pension monthly payments compared to expected incomes in the future, on a seven-point scale, ranging from 1—the expenses are higher than the expected incomes, to 7—the expected return is larger than the expenses (hereafter, **gain-loss perception**). The second question examined **optimism vs. pessimism** in predictions of the probability to receive pension payments for at least 20 years.⁴ Participants were asked to evaluate the likelihood of receiving pension payments for at least 20 years after retiring, on a scale ranging from 0% to 100% (the age of retirement for men in Israel is 67).

4 Results

The results are described in two domains: First, motivation to learn about pension plans in order to make a better decision was examined by two types of variables, (a) the extent to which participants searched for relevant information about the chosen option before making the decision, and (b) the number of options examined before the decision. The second domain was satisfaction with the chosen option.

In order to have a comparative view on pension decisions relative to other choice tasks in life, we looked at participants' pension decisions compared to the other three decisions examined (apartment, car, and electric appliance purchase).

Finally, we examine the influence of positive and negative subjective perceptions of pensions on the motivation to choose and satisfaction from the chosen pension plan, measured by the two types of subjective perceptions: (a) optimism, participants' subjective perception of their likelihood to receive pension payments; and (b) "gain-loss perceptions", subjective perception of expenses compared to expected benefits from the pension plan.

4.1 Motivation to engage in the process of choosing a pension plan

4.1.1 Searching for relevant information

Means of participants' reports of the extent to which they searched for the relevant information regarding the pension decisions are all below the mid-point of the scale (ranging from 1 to 7), management fee ($mean=3.74$), financial rate of return ($mean=3.63$), and demographic rate of return ($mean=2.43$). Specifically, the mode of these three self-reported measures is 1, such that between 26%

⁴We note again that the use of the terms optimism and pessimism throughout the paper refers to the subjective evaluation of the likelihood to receive pension payments for 20 years, rather than as a general personality trait.

Table 1: Participants' motivation to choose and satisfaction from the chosen option for each of the four types of decisions (including the 38 participants who completed all 4 parts of the questionnaire).

	Pension plan	Electric appliance	Car	Apartment
Information search (mean of the three questions)	3.35	4.91	4.39	5.99
Number of options examined	2.16	3.82	3.13	5.76
Satisfaction with chosen option	4.17	5.15	5.51	6.18

and 36% of the participants have hardly searched for the most relevant information for their pension decision. Comparing the extent to which participants searched for relevant information before making the decision about their pension plan and the other three decisions (mean ratings of the three above questions compared with mean ratings of the three questions examining relevant information searched for in each of the three other decision tasks), reveals that search for information was significantly lower for the pension decision (mean=3.35) than for the other decisions (car, mean=4.39; electric appliance, mean=4.91; and apartment, mean=5.99); $F(3, 36)=31.34, p<.001$, in a repeated measure analysis conducted on the thirty-eight participants who completed all four parts of the questionnaire (Table 1).

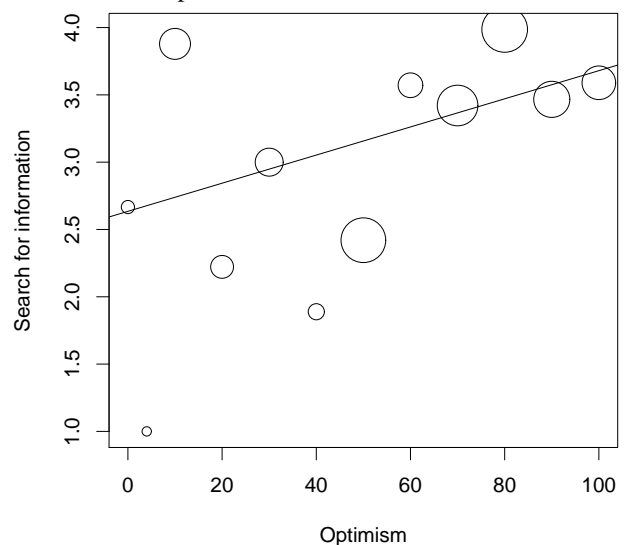
In order to examine the role of positive and negative subjective perceptions of pension in predicting participants' information search, a simple multi-variable regression analysis was conducted. The dependent variable was the search for information (means of the extent to which participants searched for the relevant information in the three pension items). The explanatory variables were the two measures of subjective perceptions of pension (gain-loss and optimism). Results show that the model significantly predicts the extent to which participants searched for the relevant information ($F(2, 131)=5.156, p<.01$). Both gain-loss perceptions ($t=2.504, \beta=.212, p<.05$) and optimism ($t=1.911, \beta=.162, p<.05$) significantly contributed to the model (raw correlation between gain-loss perceptions and participants' information search was $r=.218, p<.05$, and between optimism and participants' information search, $r=.162, p=.06$; see Figure 1, and for dichotomous means see Tables 2 and 3).

In sum, economists who have positive subjective perceptions of pension tend to search more for information about the pension plans under consideration, emphasizing greater motivation to engage in the decision task.

4.1.2 Number of options examined

The mean number of pension plans participants reported examining before choosing their pension investment was 2.46 (SD=1.6). Specifically, 50 of the participants (37%) examined only one pension plan. A comparative look

Figure 1: Search for information (mean of the three questions) as a function of the perceived likelihood to receive pension payments for at least 20 years after retirement (optimism). Circle areas represent the number of observations at each point.



at thirty-eight of the participants who completed all four parts of the questionnaire shows clearly that in all other decisions, participants examined, on average, significantly more options before making their choice than before making the decision regarding their pension; $F(1, 37)=38.114, p<.001$, in a repeated measures analysis on the mean number of options examined before making the four types of decisions. As can be seen in Table 1, the largest number of options examined was reported for the apartment decision (mean=5.76), more than the electric appliance decision (mean=3.82) and the car purchase (mean=3.13); finally, the smallest number of options examined was reported for the pension plan decision (mean=2.16).

Looking at the role of the two measures of subjective positive/negative perceptions of pension in predicting the number of plans examined, the same regression analysis was conducted with optimism and gain-loss perceptions as predictors (the two predictors were entered together in

Figure 2: Satisfaction with the chosen pension plan as a function of the extent to which participants searched for the relevant information. Circle areas represent the number of observations at each point.

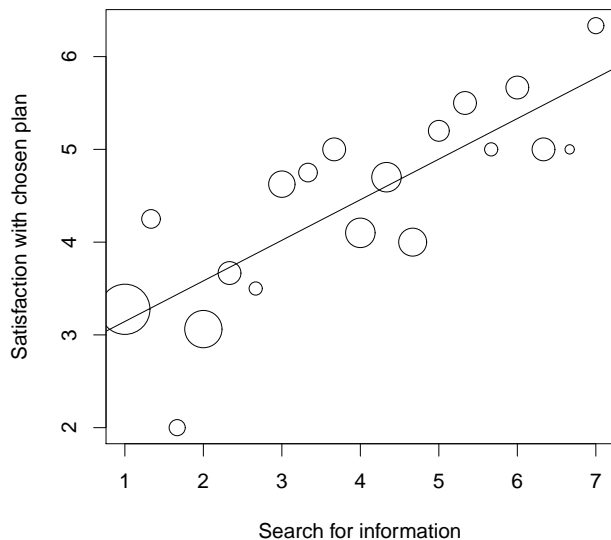
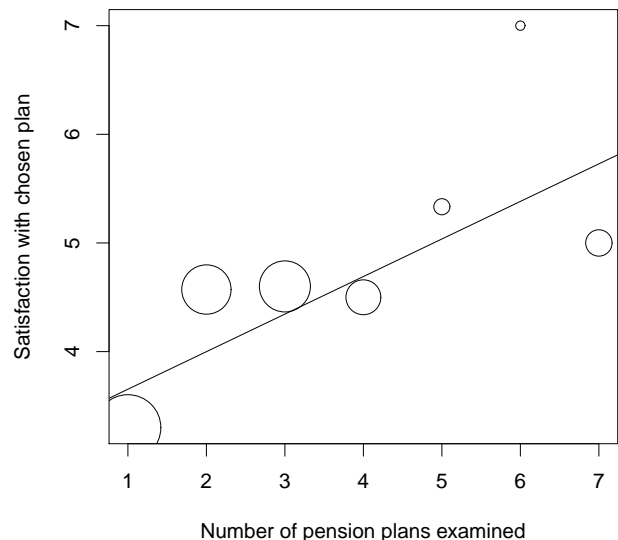


Figure 3: Satisfaction from the chosen pension plan as a function of the number of pension plans examined before the decision. Circle areas represent the number of observations at each point.



the model). The contribution of the model in explaining the number of options examined approached significance, $F(2, 128)=2.30, p=.10$. Only the gain-loss perception comes out significant in explaining the number of options examined: $\beta=.176, t=2.023, p<.05$. Optimism did not make a significant contribution to the model (but shows the same pattern as can be seen in Table 2; similarly only the raw correlation between gain-loss perceptions and the number of options examined was significant $r=.178, p<.05$). For a dichotomous look at the differences between optimistic and pessimistic responses, see Table 2; for the different perceptions, see Table 3.

4.2 Satisfaction with the chosen option

We compared participants' satisfaction with their chosen pension plan to their satisfaction with the other three choice decisions (among the thirty-eight participants who completed all four parts of the questionnaire) and found a significant difference between mean reported satisfaction ($F(1,38)=12.837, p<.001$). Participants rated their satisfaction from the chosen options significantly lower for the pension decision (mean=4.17) than the other three decisions (electric appliance, mean=5.15; car, 5.51; and apartment, mean=6.18) see Table 1.

Moreover, a significant correlation was found between the extent to which participants searched for the relevant information at the time of the decision and their satisfaction with their pension decision ($r=.481, p<.001$), suggesting that the more information they had about their pension plan's attributes, the more they felt satisfied with

their choice (see Figure 2). Similarly, a significant correlation was found between satisfaction from the chosen plan and the number of pension plans examined ($r=.339, p<.001$; see Figure 3). These correlations reveal that not making enough effort to examine different pension plans and to search for information regarding the chosen plan decreases satisfaction from the decision. In addition, these correlations are inconsistent with the argument that experts in the domain of pension already have the relevant information, and therefore they do not need to search for it. Seemingly, the positive correlation between level of satisfaction and investment in the decision might be the result of cognitive dissonance (the need to justify one's own actions). Subjects who do search for information and spend more time on the decision process may convince themselves that they feel better regarding their decision. However, the fact that we do not find the same positive correlation (between satisfaction with the decision and effort) with regard to the other three decisions (apartment, car, and expensive appliance) weakens this possibility.⁵

Turning next to the role of subjective perceptions of pension in predicting satisfaction from the chosen pension plan, results of a simple regression analysis

⁵The correlation between the number of options examined and satisfaction is $r=.117, NS$ for the apartment decision; and $r=.178, NS$ for the car purchase. Similarly, the correlation between the extent to which participants searched for the relevant information and satisfaction is $r=-.076, NS$ for the apartment decision; and $r=.125, NS$ for the car purchase.

Table 2: Motivation to choose and satisfaction from the chosen pension plan as a function of optimism.

	Pessimistic (N=55)	Optimistic* (N=78)
Number of pension plans examined	2.28	2.60
Information search (mean of the three questions)	2.73	3.64
Satisfaction with chosen pension plan	3.69	4.49

* "Optimistic" includes participants who evaluated the likelihood to receive pension payments for at least 20 years after their retirement as higher than 50%; 'Pessimistic' are the rest of the participants, evaluating that likelihood as 50% or lower.

Table 3: Satisfaction with the chosen option.

	Loss perception (N=32)	Neutral (N=57)	Gain perception (N=46)
Number of pension plans examined	1.79	2.35	2.93
Information search (mean of the three questions)	2.83	3.05	3.90
Satisfaction with chosen pension plan	3.65	3.38	5.28

* Gain perception includes ratings 5–7, incomes are higher than expenses; loss perception includes ratings 1–3, expenses are higher than the expected incomes; Neutral reflects the midpoint rating 4.

with ratings of optimism and gain-loss perceptions (entered at step one to the model), reveal significant results ($F(2,131)=24.341$, $p<.01$). Both ratings of gain-loss perceptions ($t=6.464$, $\beta=.485$, $p<.05$) and optimism ($t=2.373$, $\beta=.178$, $p<.05$) significantly contributed to the prediction of satisfaction from the chosen pension plan (both raw correlations were significant: $r=.494$, $p<.001$, for the correlation between gain-loss perceptions and satisfaction; and $r=.196$, $p<.05$, for the correlation between optimism and satisfaction).

Optimism did not significantly predict satisfaction from any of the other chosen options (apartment, car, or electric appliance). This could be explained by the fact that pension is the only decision (among the four examined) that is made for the distant future and therefore the only decision in which our satisfaction is dependent on our prediction regarding our longevity.

We would expect to find a significant correlation between the two variables that examine subjective perceptions of pensions (gain-loss and optimism); if you believe that you will receive pension payments for many years, your expected total benefits should be evaluated as larger (the same monthly contributions multiplied by a larger number of years). Surprisingly, although the two variables each predict motivation to learn about pension plans and satisfaction from the decision, the correlation between them was very low ($r=.039$) and far from being significant ($p=.658$). Possibly other factors that affect pension benefits such as inheritance may explain this lack of correlation since people can adjust their pension benefits so that they leave more or less to their heirs. How-

ever, research on the status quo bias suggests that people stick to their choices and are reluctant to change the status quo (e.g., Baron & Ritov, 2004; Kahneman, Knetsch, & Thaler, 1991; Samuelson & Zeckhauser, 1988). Specifically in the context of pension decisions, Kempf and Ruenzi (2006) found that people maintain the plan they had previously, even if it is no longer the optimal choice. In our study as well, 73% of the participants reported that they had never made any changes in their pension portfolio. Thus, it might be that the low correlation between gain-loss perceptions and optimism reflects participants' intuitive (rather than rational) reaction to those questions.

In addition, the correlations between age and the two predictors (gain loss perceptions $r=-.136$, NS; and optimism to receive pension for at least 20 years $r=-.100$, NS) were not significant. According to objective statistics, the probability to reach older ages increases with age. The life expectancy of a male at age 23 in Israel (the youngest economist in our sample) is around 78.5 years compared to 80.6 years for a male at the age of 48 (the oldest person in our sample).⁶ Therefore an older person should have objectively greater probability to receive pension benefits for at least 20 years. The lack of positive correlation between age and perceived probability to receive pension payments for 20 years further suggests that these evaluations are intuitive and affective rather than rational.

⁶This information was taken from the Israel Central Bureau of Statistics and can be found at http://www.cbs.gov.il/webpub/pub/text_page_eng.html?publ=35&CYear=2009&CMonth=1

5 General discussion

The results described demonstrate experts' intuitive behavior and low motivation to invest in their private pension decision. Although the participants were experienced economists who are capable of making knowledgeable decisions, they showed low motivation to invest in their pension decision compared to the other private decisions examined. First, participants examined a relatively small number of plans before choosing their private pension plan, compared to the number of options examined before making other decisions. The tendency to examine an insufficient number of options is extreme for the 37% of the participants who examined only one pension plan. Decision-making literature has shown that examining one option without comparisons may lead to biased decisions. Research on preference reversals between separate and joint evaluation reveals that evaluation of a single option tends to be dominated by spontaneous affective reactions (Ritov & Kahneman, 1997; Slovic, Finucane, Peters, & MacGregor, 2002) and by easily evaluable features (Hsee, 1996; Nowlis & Simonson, 1997). Although comparative decisions may also lead to biases by making some dimensions of the options prominent even when it is not warranted, options' attributes in the context of pension decisions can only be evaluated in a comparative view. Examining one pension plan isolated from a comparative context may enhance spontaneous and biased decisions that may not serve the decision maker's best interest.

Second, participants did not search for information regarding pension plans' relevant features that are necessary for the decision. About 30% of the participants reported that they have hardly searched for the most relevant information. The extent to which participants searched for information regarding their pension plan was lower than the extent to which they searched for relevant information for the three other decision contexts examined. Finally, both the number of plans examined and the search for information significantly correlated with participants' satisfaction from their final choice, suggesting that participants could have felt happier with their chosen pension plan had they invested more in the decision process by searching for other options and for more information regarding the options' features.

Although overall, participants show low motivation to choose a private pension plan, positive perceptions of the decision context enhanced both involvement and satisfaction from the chosen plan. Two variables that may increase positive perceptions of pension plans examined in this study were: a positive view of the balance between gains (expected incomes in the distant future) and losses (current monthly payments), and optimism regarding the probability of receiving pension payments for at least 20

years after retirement.

Positive vs. negative perceptions of the decision context may frame the decision as a choice between preferred or less preferred options. This type of framing may have a great influence on the decision process as well as satisfaction from chosen options. Botti and Iyengar (2004) posit that while choosing among less preferred options people are more likely to experience psychological pain and are likely to feel less satisfied with their final choice. In the present research, positive views of pension as profitable for the long run enhance motivation to be involved in the decision process and satisfaction from the chosen pension plan. Similarly, participants show greater motivation to choose a pension plan when they believe that the probability to enjoy their investment is high. Research has shown that people get gratification from thinking about domains that they feel promise high rewards. Greater optimism or positive perceptions of the domain encourage people to think about it. For example, investors tend to recheck the value of their brokerage account more frequently when their trades are making money than when they are losing money (Karlsson, Loewenstein, & Seppi, 2009).

Our results suggest some implications for pension policy. We showed that negative perceptions of pension leads to low motivation to engage in the pension decision process. This low motivation enhances intuitive processes and lowers satisfaction from pension decisions. Making positive aspects of pension more dominant at the time of the decision might increase motivation and involvement in the decision process. Our research raises two possible channels through which positive perceptions may be enhanced: optimism regarding the probability to receive pension payments for many years, and a positive view of the balance between losses and gains in pension payments. These two perceptions toward pension could be used by governments and employers when recruiting new employees in order to de-bias their decisions. For example, simple statistics such as the (average) expected retirement period and life expectancy, and the derived expected income, might be provided at the time of the decision. Making this type of information salient at the time of the decision may not change people's general perception of pensions, but it might influence their temporal attitude toward the decision task and enhance motivation to choose.

References

- Baron, J., & Ritov, I. (2004). Omission bias, individual differences, and normality. *Organizational Behavior and Human Decision Processes*, 94, 74–85.
- Beshears, J., Choi, J. J., Laibson, D., & Madrian, B.

- C. (2005). *The importance of default options for retirement saving outcomes: Evidence from the United States*. Center for Research on Pensions and Welfare Policies Working Paper 43/05.
- Benartzi, S., & Thaler, R. H. (1999). Risk aversion or myopia? Choices in repeated gambles and retirement investments. *Management Science*, *45*, 364–381.
- Benartzi, S., & Thaler, R., H. (2007). Heuristics and biases in retirement savings behavior. *Journal of Economic Perspectives*, *21*, 81–104.
- Botti, S., & Iyengar, S. (2004). The psychological pleasure and pain of choosing: When people prefer choosing at the cost of subsequent outcome satisfaction. *Journal of Personality and Social Psychology*, *87*, 312–326.
- Chan, S., & Stevens, A. H. (2004). Do changes in pension incentives affect retirement? A longitudinal study of subjective retirement expectations. *Journal of Public Economics*, *88*, 1307–1333.
- Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2001). *Defined contribution pensions: plan rules, participant decisions, and the path of least resistance*. National Bureau of Economic Research Working Paper No. 8655.
- Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2003). *Passive decisions and potent defaults*. National Bureau of Economic Research Working Paper No. 9917.
- Clore, G. L., Schwarz, N., & Conway, M. (1994). Affective causes and consequences of social information processing. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 323–417). Hillsdale, NJ: Erlbaum.
- Dawes, R. M. (1997). Behavioral decision making, judgment and inference. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 497–548). Boston: McGraw-Hill.
- Gilovich, T., & Griffin, D. (2002). Heuristics and biases: Then and now. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 1–18). Cambridge, UK: Cambridge University Press.
- Hayslip, B., Bezerlein, M., & Nichols, S. (1997). Assessing anxiety about retirement: the case of academicians. *International Journal of Aging and Human Development*, *44*, 15–36.
- Hedesstrom, T. M., Svedsater, H., & Garling, T. (2007). Determinants of the use of heuristic choice rules in the Swedish Premium Pension Scheme: An Internet-based survey. *Journal of Economic Psychology*, *28*, 113–126.
- Hsee, C. (1996). The evaluability hypothesis: An explanation for preference reversals between joint and separate evaluations of alternatives. *Organizational Behavior and Human Decision Processes*, *67*, 247–257.
- Iyengar, S., Jiang, W., & Huberman, G. (2004). How Much Choice is Too Much? Contributions to 401(k) Retirement Plans. In O. Mitchell and S. Utkus (Eds.), *Pension Design and Structure: New lessons from behavioral finance* (pp. 83–97). Oxford, UK: Oxford University Press.
- Iyengar, S. S., & Lepper, M. R. (2000). When choices are demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, *79*, 995–1006.
- Johnson, E. J., Hershey, J., Meszaros, J., & Kuhnreuther, H. (1992). Framing, probability distortions, and insurance decisions. *Journal of Risk and Uncertainty*, *7*, 35–51.
- Kahneman, D. (2003). A perspective on judgment and choice: Mapping bounded rationality (Nobel Prize lecture). *American Psychologist*, *58*, 697–720.
- Kahneman, D., & Frederick, S. (2002). Representativeness revisited: Attribute substitution in intuitive judgment. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases* (pp. 49–81). New York: Cambridge University Press.
- Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). Anomalies: The endowment effect, loss aversion, and status quo bias. *Journal of Economic Perspectives*, *5*, 193–206.
- Karlsson, N., Loewenstein, G., & Seppi, D. (2009). The ostrich effect: Selective attention to information. *Journal of Risk and Uncertainty*, *38*, 95–115.
- Kempf, A., & Ruenzi, S. (2006). Status quo bias and the number of alternatives: An empirical illustration from the mutual fund industry. *Journal of Behavioral Finance*, *7*, 204–213.
- Lusardi, A. (1999). Information, expectations, and savings for retirement. In H. J. Aaron (Ed.), *Behavioral dimensions of retirement economics* (pp. 81–116). Washington, DC: Brookings Institution Press and Russell Sage Foundation.
- Lusardi, A. (2002). Preparing for retirement: The importance of planning costs. *National Tax Association Proceedings*, 2002, 148–154.
- Munnell, A. H. (2006). Employer-sponsored plans: The shift from defined benefit to defined contribution. In G. L. Clark, M. Feldman, & M. S. Gertler (Eds.) *Oxford handbook of pensions and retirement income* (pp. 359–380). Oxford, UK: Oxford University Press.
- Neukam, K. A., & Hershey, D. A. (2003). Financial inhibition, financial activation, and saving for retirement. *Financial Services Review*, *12*, 19–37.
- Nowlis, S. M., & Simonson, I. (1997). Attribute-task compatibility as a determinant of consumer preference reversals. *Journal of Marketing Research*, *34*, 205–218.

- Ritov, I., & Kahneman, D. (1997). How people value the environment: Attitudes versus economic values. In M. H. Bazerman & D. M. Messick (Eds.), *Environment, ethics, and behavior: The psychology of environmental valuation and degradation*. San Francisco: New Lexington Press.
- Samuelson W. and Zeckhauser R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1, 7–59.
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution and judgments of well-being: Information and directive function of affective states. *Journal of Personality and Social Psychology*, 45, 513–523.
- Slovic, P., Finucane, M., Peters, E., & MacGregor, D. (2002). The affect heuristic. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 397–420). Cambridge, UK: Cambridge University Press.
- Weber, U. E. (2004). Who's afraid of a poor old-age? Risk perception in risk management decisions. In O. S. Mitchell & S. P. Utkus (Eds.), *Pension design and structure: New lessons from behavioral finance*. Oxford, UK: Oxford University Press.
- Zajac, E. J., & Bazerman, M. H. (1991). Blind spots in industry and competitor analysis: implications of inter-firm (mis)perceptions for strategic decisions. *Academy of Management Review*, 16, 37–56.