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## **Will Investors Change Their Superannuation Fund Given the Choice?**

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## **Will Investors Change Their Superannuation Fund Given the Choice?**

### **Abstract**

A large number of Australian investors have been granted the right to choose where their superannuation fund contributions will be invested but it is difficult to ascertain whether investors will exercise this choice. While expected utility maximising investors might tend to change their fund once given the choice, loss averse investors would favour the status quo. Using a survey of over 1600 Australian investors, conducted by Finmetrics early in 2005, we find support for inertia (status quo) in our sample suggesting that, with respect to superannuation choice, individual Australian investors are loss averse.

## **1. Introduction**

Virtually all developed nations face the problem of ensuring adequate provision is made for an aging population and in some countries, including Australia, compulsory savings schemes have been set up to meet this need. In the 1980s the Australian Labor government expanded a rather limited Government and corporation based superannuation system to create the present national superannuation scheme. Generally superannuation funds are established as trusts and the trustees of the fund are responsible for the investment and management of the assets of the fund. Initially, the ultimate beneficiaries had little say in where their contributions were invested. It was the employer or union group representatives, acting as trustees, who were responsible for investment and management of superannuation contributions. These rather complex principal/agent relationships are discussed in the academic literature (Drew and Stanford, 2003) though rarely identified in the financial press. One decision over which investors have gained some control is the right to choose where their superannuation contributions are invested. Recent changes in Australian law have resulted in a large proportion of these beneficiaries<sup>1</sup> being given the right to choose their superannuation fund rather than leave this decision to their employer or union. The question that we address in this paper concerns how individuals will react to the provision of this choice. Will they remain with their existing superannuation funds or will they move their superannuation investments elsewhere?

It is difficult to argue that investors do not have enough information to make an informed super fund choice. There is extensive information provided in the daily press and personal investment journals and specialist advice is available from a range

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<sup>1</sup> The Australian Government expect that 4.82 million of Australia's 9.8 million employees will be eligible to choose their superannuation fund from the 1 July 2005.

of professional advisers. Nevertheless, recent behavioural literature indicates that investors may make relatively poor investment decisions, even investors who spend considerable time on research such as those in share clubs (Barber, Chip and Odean, 2003, Barber and Odean 2000, 2002).

The Australian Government is sensitive to the UK experience with privatisation of its superannuation schemes and it has moved to educate investors and to regulate financial advisers concerning their role in the introduction of personal choice to superannuation investment. The professional financial advisers are also aware of the importance of this change and their professional body has taken considerable action to ensure that their members do not recommend unnecessary changes in superannuation. Finally, the existing Australian funds that provide superannuation products are concerned about the introduction of choice. They could lose high net wealth investors to other funds, particularly self-managed funds if investors are given choice and choose to exercise that choice.<sup>2</sup>

Superannuation and superannuation choice has been the subject of research in Australia with particular emphasis on the choice that was offered to members of the Australian Superannuation Scheme for Australian Universities (SSAU) (Clark-Murphy and Gerrans, 2001, 2004). This scheme offered its members a one-off choice between remaining with the existing defined benefit plan or selecting one of four investment accumulation accounts. The actual decision to remain with the defined benefit scheme, the status quo, was made by default (31.6%) or by completion of the choice form (35.1%) with the remainder choosing the investment accumulation accounts alternative (33.3%). Many of the respondents to a follow up survey issued to the academics stated that they felt that they did not understand the choices properly

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<sup>2</sup> The recent dramatic growth in self-managed funds provides a particularly important superannuation alternative for high net wealth investors. This alternative is less suitable for smaller investors who would generally find self-managed funds too costly to set up and manage.

and that they found the decision quite difficult (Clark-Murphy and Gerrans, 2001, Clark-Murphy, Kristofferson and Gerrans, 2002). This lack of understanding is also apparent in the broader community based research (Beal and Delpachitra, 2004).

Yet, there is little attempt in this literature to explain these results in terms of behavioural models of decision-making. For example, why would a lack of understanding lead investors to remain with their existing fund? Investors who suffer from inadequate information or understanding could just as easily choose to change their investment. Behavioural theory may improve our understanding of superannuation investment choice, particularly with respect to the inertia or status quo effect observed in recent Australian superannuation choice literature. Behavioural theory predicts that loss averse individuals prefer the status quo when faced with decisions concerning the disposition of an endowment (Kahneman, Knetsch and Thaler, 1991, Knetsch, 1989, Tversky and Kahneman, 1991) and that this inertia may be reinforced as the complexity of the underlying decision increases (Sethi-Iyengar, Huberman and Jiang, 2004).

We analyse the impact of the introduction of individual investment choice in the Australian superannuation industry using a unique questionnaire administered by Finmetrics to readers of an investment magazine (Personal Investor) early in 2005 with 1647 useable responses. Most investors stated that they were not considering exercising their right to change their superannuation fund and the results of our analysis support the status quo effect predicted by recent behavioural theory. Section 2 focuses on possible responses to this decision, drawing on recent behavioural theory. While Section 3 discusses the survey responses, Section 4 describes the results of our analysis and Section 5 summarises the results of the study.

## 2. The Investor Decision

While there are a number of alternative theories of choice that could be applied to analysis of this decision (Machina, 1987) we rely on recent behavioural theory (Kahneman and Tversky 1979, 1984) to model how investors will respond to the introduction of choice. This theory is found to explain many individual decisions that do not fit well with traditional theories of choice. Examples include consumer choice (Thaler, 1980), the disposition effect (Odean, 1998), labour supply (Camerer, Babcock, Loewenstein and Thaler, 1997), money illusion (Shafir, Diamond and Tversky, 1997), pricing decisions (Kahneman, Knetsch and Thaler, 1986) and an explanation of the equity premium (Benartzi and Thaler, 1995).

The Kahneman and Tversky theory is not driven by preferences over total wealth, which is the case with the traditional expected-utility based approaches. Choice is modelled in terms of gains or losses, where loss-averse individuals make their decisions with respect to a particular reference point. Aversion to losses is evident in a number of experiments, with individuals being found to weight losses over twice as much as they weight gains (Tversky and Kahneman, 1992). There is also evidence that individuals do not weight probability in the linear fashion assumed in expected utility theory (Tversky and Fox, 1995). These differences help to explain the inconsistencies that have been noted between an individual's observed behaviour and behaviour predicted by expected utility. We draw on prospect theory which models decision making in terms of the product of a value function and a non-linear probability weighting function (Kahneman and Tversky, 1979). The prospects associated with different choices are calculated using the function:

$$\sum_{i=1}^I \pi(p_i) v(x_i) \tag{1}$$

The non-linear probability weighting function,  $\pi(p_i)$ , is applied to probability,  $p_i$ , and the value function,  $v(x_i)$ , is the function applied to payoff,  $z_i$ , relative to the reference point,  $r$ , where  $x_i = z_i - r$ . The value function is concave above the reference point and it is convex below the reference point. This function is expressed in terms of gains,  $x_i^+ = z_i - r \geq 0$ , or losses,  $x_i^- = z_i - r < 0$ . Further,  $v'(x_i^+) > 0, v''(x_i^+) < 0$  and  $v'(x_i^-) < 0, v''(x_i^-) > 0$  with the value function having the steepest slope at the reference point (Kahneman and Tversky, 1979).

It is important to note that Prospect theory refers to gains and losses with respect to a particular reference point or benchmark. It does not imply that wealthy investors will be any less concerned about superannuation fund choice than other investors and it does not impose the same restrictions on risky choice that expected utility theory imposes. Wealthy investors may be just as concerned about losing an additional dollar as poor investors. In fact, they could be more concerned, depending on their unique utility function parameters.

A important prediction from this model is the disposition effect (Odean, 1998) where investors tend to hold onto loss making shares too long and sell profitable investments too soon. Essentially, investors behave as if they are loss averse. Let us assume that the investor's reference point is their current share portfolio and that they review their investment at a particular time. If a share is making losses then the convex value function over losses predicts that an investor will prefer a gamble to a realised loss and so they will tend to continue to hold the share while there is still some probability of positive returns in the future. The concave value function over profits predicts that the investor will prefer a sure gain to a gamble and so there is a tendency to sell the shares once gains are made rather than continue to hold the shares



in the hope of even greater future gains. As superannuation profits cannot be realised until retirement, the opportunity to immediately realise gains is not available and so this will tend to exaggerate the already strong incentives for inertia.

Further, the existence of mental accounting, (Thaler, 1999), can lead to the segregation of decisions according to the nature of the decision. Thaler argues that individuals treat money differently depending on how they allocate it to a particular use. Cash is generally used for immediate consumption unless it is allocated to saving or some particular future use. Individuals appear to bracket particular types of investments into categories with losses and gains compared only for assets that fall within the particular category. Cash, allocated to saving, tends to remain untouched while cash, allocated for immediate consumption, is used quickly. Assuming that this behaviour is common amongst Australian investors then these investors will tend to view long term savings invested in a superannuation fund differently from cash available for immediate consumption.

The status quo effect is perhaps the most salient for the superannuation choice literature. It is found that when individuals are provided with a default choice they are more likely to remain with the default and that the likelihood of remaining with the default choice increases as the range of alternatives increases (Johnson, Hershey, Meszaros, and Kunreuther, 1992, Kahneman, Knetsch, and Thaler, 1991, Tversky, and Kahneman, 1986). This result can be tied back to the prospect theory model of investor choice and in this case the reference point is the current superannuation plan. The shape of the prospect theory value function suggests that the expected benefits from changing superannuation fund would need to be substantial, relative to the expected losses, before an investor would choose to change funds. Yet, it is generally found that Australian superannuation funds return are reasonably symmetric in nature

and do not appear to be correlated with past performance (Bilson, Frino and Heaney, 2004, 2005, Bird, Chin, and McCrae, 1983, Drew and Stanford, 2003, Hallahan, 1999). Thus, the main prediction that can be drawn from recent behavioural theory is that investors, in general, will choose to remain with their existing fund, even when they may not be particularly happy with the performance of their fund. Thus there is a tendency for inertia; investors prefer the status quo. This behaviour is also evident in the analysis of the SSAU choice (Clark-Murphy and Gerrans, 2001, 2004) though loss aversion has not been raised as a possible explanation for this behaviour in the literature. The Australian literature has generally recommended improved education as a response survey results (Beal and Delpachitra, 2004, Clark-Murphy and Gerrans 2001, 2004) though there is little attempt to explain the behaviour in terms of a decision making theory such as Prospect theory.

Given the nature of superannuation, a loss averse investor will tend to do nothing when given the choice to change funds. This is consistent with the weighting attached to losses being much greater than the weighting attached to gains and it also ties in with the status quo effects that are noted in the literature. Further, there is a tendency for investors to do nothing when faced with a complex decision. The introduction of choice for superannuants suddenly places the individual in a position of choosing amongst a bewildering array of investment alternatives, each with differing levels of past investment performance, differing benchmark portfolios and differing advertised objectives. Further, in early survey work respondents indicated that superannuation decisions were difficult (Clark-Murphy, Kristofferson and Paul Gerrans, 2002). Inertia is expected in the face of such complexity (Sethi-Iyengar, Huberman and Wei Jiang, 2004). Finally, in Thaler's model of individual financial

accounting, it is predicted that investors will separate their superannuation investment, isolating these investments from their normal consumption spending (Thaler, 1980).

While recent behavioural theory predicts that the introduction of choice will be marked by investor inertia there is one group of investors who may change their fund. These are investors who have changed their investment benchmark or reference point. They may have selected a more ambitious reference point requiring transfer to a fund that is perceived to be more likely to meet their new financial goals for example. The young informed investors referred to in the SSAU study may fall within this group (Clark-Murphy and Gerrans, 2001). The key determinants of change in this group include investor knowledge of and experience with financial assets as well as the identification of better performing fund/s that could replace the existing fund as a reference point. This group of investors is of particular interest to regulators as there has been considerable effort put into avoiding the situation that arose in the UK where financial advisers recommended that investors change funds on the basis of inflated levels of expected fund performance. If financial advisers or competitor superannuation funds can convince an investor that their current investment is under performing and that they should update their investment reference point then it is likely that these investors will change their fund.

### **3. Data**

The Finmetrics questionnaire responses were obtained from readers of the business magazine, Personal Investor. The Finmetrics survey has been run for a number of years though the 2005 survey completed in March 2005 is the subject of analysis because it specifically addresses investor attitude to the introduction of superannuation choice. The questionnaire covers a wide range of topics including

investor attitude to risk, investment choice, financial planning and superannuation though we focus on those questions that are most closely related to the decision to change superannuation fund.

We rely on demographic information to gain a sense of the representativeness of the sample. While only 54.46% of the sample provided detailed demographic information, of these 84.06% of respondents were male, 65.11% had a university degree or higher qualification, 75.82% earned \$50,000 or more per annum and 85.18% had net assets valued at \$250,000 or more.<sup>3</sup> Virtually all of the participants (98%) who completed the demographics questions were married. This is unusual because the proportion of married participants who completed the demographic questions has generally been less with 77%, 74% and 79% in 2002, 2003 and 2004 respectively (Table 1). Finmetrics argue that incidence of married individuals that completed the demographic data was plausible. Certainly, there has been variation in the response rates for the demographic questions over the last four years with responses to the marriage question standing at 52% of the sample in 2002, 82% in 2003, 83% in 2004 and 53% in 2005. In short, completion of these questions is not compulsory and so Finmetrics argue that variation in the completion rate for demographic questions is to be expected.

[Insert Table 1 about here]

Table 2 gives some insight into the impact of the response to demographic questions. A series of t-tests for differences in the non-demographic questions is conducted and reported in this table. The tests identify five questions with statistically significant differences in the mean response between those that completed the demographic questions and those that did not complete the questions (A1, A4,

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<sup>3</sup> Detailed frequency and descriptive statistics are available on request for responses to the questions concerning demographics, attitude to investing, financial position, attitude to superannuation and the key question for this paper concerned with the investor's attitude to changing superannuation fund.

A15, A22 and A23). The variation between the two groups is certainly worthy of consideration as dropping those participants that chose not to complete the demographic questions does appear to result in the loss of important variation in the data.

[Insert Table 2 about here]

As indicated in the responses summarised in Table 3 there is evidence of inertia, or status quo effects, with respect to investor attitude to changing superannuation fund. Over 50% of the respondents indicate that it is either unlikely (17.55%) or very unlikely (33.58%) that they will change superannuation fund. A further 13.54% indicate that they are ambivalent (neither likely nor unlikely to change) while 16.51% chose not to respond to the question. Only 9.29% of the participants state that they are fairly likely to change and 9.53% indicate that they are very likely to change their superannuation fund with the introduction of choice. It is important to note that these results are not too dissimilar from those reported by the superannuation administrators, SuperPartners, who found that only 9% of investors that they surveyed said that they would definitely change their superannuation fund (Anonymous, 2005), with about 12% indicating that they would probably change.

[Insert Table 3 about here]

#### **4. Analysis**

The basic question addressed in this paper concerns whether investors will choose to change their superannuation fund if given the opportunity. One question directly addresses this issue (Table 3) but due to the nature of the question there are just five possible values that participants may choose, very likely, fairly likely, neither likely nor unlikely, fairly unlikely and very unlikely. While these responses are

naturally ordered the responses are not continuous in nature. Thus, ordinary least squares regression is not appropriate for analysis of this data and so we draw on the ordered response model (Greene, 2003) designed to deal with naturally ordered or ranked dependent observations. In this model we initially allocate numbers to each of the five categories such that the response to changing superannuation fund ( $y_i$ ) might be written as:

$$y_i = \begin{cases} a - \text{very likely} & 1 \\ b - \text{fairly likely} & 2 \\ c - \text{neither likely nor unlikely} & 3 \\ d - \text{fairly unlikely} & 4 \\ e - \text{very unlikely} & 5 \end{cases} \quad (2)$$

While the dependent variable is not continuous it is assumed that there is a continuous latent variable,  $y_i^*$ , that underlies the observed ordinal dependent variable,  $y_i$ . The latent variable is modelled using a linear model,  $y_i^* = x_i\beta + e_i$ , with coefficient vector,  $\beta$ , explanatory variable vector,  $x_i$ , and residual,  $e_i$ . The latent variable relates to the observed variable as follows:

$$y_i = \begin{cases} 1 - \text{if } y_i^* < \mu_2 \\ 2 - \text{if } \mu_2 < y_i^* \leq \mu_3 \\ 3 - \text{if } \mu_3 < y_i^* \leq \mu_4 \\ 4 - \text{if } \mu_4 < y_i^* \leq \mu_5 \\ 5 - \text{if } \mu_5 < y_i^* \end{cases} \quad (3)$$

Given the usual assumptions, an ordered logit model can be identified (including the limit points  $\mu_2, \mu_3, \mu_4$  and  $\mu_5$ ) using maximum likelihood (Greene, 2003). Greene notes that interpretation of these models can be quite complex and so we focus our analysis on the underlying latent variable model (Berman and Fry, 2001). We draw widely from the Finmetrics questionnaire to explain participant

attitude to superannuation change with particular reference to the questions that are listed in the Appendix. Some analysis also includes the demographic information.<sup>4</sup>

There were a number of questions that included the response “unsure”. These values were coded as zero. To assess the impact of the “unsure” responses we coded an additional dummy variable with a value of one for those “unsure” participants and zero otherwise. The dummy variable is named by appending “DUM” to the underlying question code. For example, if question A2 includes “unsure” as one of its valid responses then there will be an accompanying variable entitled A2DUM to allow separate analysis of the impact of the “not sure/don’t know” response. We initially estimated the model using all of the questions listed in the Appendix but there were a number of questions that had little statistical impact on participant attitude to choice and so we applied general to specific model selection, based on likelihood ratio tests and z-tests, to focus on those characteristics that were pertinent to the decision. This resulted in dropping a number of the questions from the model as well as the restriction of the 5 categories in  $y_i$  (Question 28) to 3 categories. The responses, fairly likely, neither likely nor unlikely and fairly unlikely, were not clearly differentiated in analysis and so these categories (2, 3 and 4) were combined into one category. The final model takes the form:

$$A28REDUCED_i = \alpha_1 A1_i + \alpha_{15} A15_i + \alpha_{22} A22_i + \alpha_{23} A23_i + \alpha_{26} A26_i + \alpha_{27} A27_i + \varepsilon_i \quad (4)$$

The parameter estimates for this model are reported in Table 4 for both the full sample and for the sample composed of those participants who responded to the demographic questions both including and excluding the variable, net assets. The

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<sup>4</sup> These are biased towards married investors (Table 1) and, as indicated in Table 2, there are some statistically significant differences between those that completed the demographic questions and those that did not complete the demographic information for some of the questions. Finally, inclusion of the demographic information in the model will result in a decrease in the sample size from a maximum of 1647 participants to a maximum of 897 participants.

estimated coefficients are of similar sign and magnitude across the three regression models though the coefficients for the questions A1 and A15 are not statistically significant in the reduced sample based on those participants who reported demographic data. Further, the restriction on the number of categories allowed in the dependent variable (Question 28), 5 or 3, has little impact on the final analysis. We focus on the full data set in the following discussion.

[Insert Table 4 about here]

The coefficient estimated for the response to question A1 concerning the length of time that the participant had been an investor is statistically significant and positive. Apparently, the shorter the period that the participant has been an investor the more they favour changing their superannuation fund.<sup>5</sup> We believe that older loss-averse investors will better understand the inherent volatility of financial markets and the losses that can be incurred. They will be less attracted to the argument that changing their fund will result in improved investment performance as this is by no means guaranteed, even though short-term experience may suggest otherwise. These results provide some support for the inertia effect.

Question A15 asks the participant how their current financial goals compare to those of a year ago. In effect, this question asks whether the participant's investment reference point has changed. The coefficient on this question is statistically significant and negative, consistent with participants looking to change their superannuation fund where they have taken on more ambitious financial goals. Essentially, if their new financial goals are more ambitious then recent behavioural theory predicts that the participants will tend to change their fund.

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<sup>5</sup> A similar result was observed with the survey results reported for the SSAU investment choice where older investors were more likely to remain with their defined benefit scheme Clark-Murphy and Gerrans (2001a).



Question A22 concerns how satisfied the participant is with their superannuation fund. The coefficient on this question is negative consistent with satisfied participants expressing a preference to remain with their superannuation fund. There are very few of the respondents who express strong dissatisfaction with their superannuation fund (26 out 1378 respondents), with the majority satisfied or very satisfied (894 out of 1378), and the remainder ambivalent. The responses to this question again provide support for recent behavioural theory in terms of participant inertia.

It could be argued that the level of investor knowledge about their superannuation fund would have an impact on the decision to change superannuation fund. Question A23 asks how well informed the participant believes they are about their superannuation fund. The negative coefficient for this question suggests that those investors with low levels of knowledge are more likely to change their superannuation fund. Given the recent strong performance of the Australian share market, this response is perhaps not surprising. Relatively ignorant investors may tend to underestimate the downside risk that share markets offers. Thus the greater weighting that this theory attaches to losses may not figure as heavily for uninformed investors as it would for better-informed investors. This lack of knowledge may limit the investor's ability to adequately identify the true return distribution that is offered by superannuation funds. Conversely, well-informed investors are quite aware of the underlying fund return distribution and thus are less likely to change fund. The results reported in recent questionnaires provide some support for this argument (Beal and Delpachitra, 2004, Clark-Murphy and Gerrans, 2001, 2004).

Participant comparison, between their current superannuation fund and alternative funds, is dealt with in question A26 (How does your (main)

superannuation fund compare to the best fund you could choose?) and A27 (Are you aware of any superannuation fund(s) that you would prefer to your current (main) fund?). The positive coefficient for question A27 and the negative coefficient for question A26 are consistent with participants expressing an interest in changing their superannuation fund where they believe that there is a better performing fund available to them. In effect, their new reference point is the alternative fund. If the performance of the alternative fund exceeds the current fund's performance by a sufficient amount then investors will change their superannuation fund. Again, this result supports the predictions of recent behavioural theory.

To gain some sense of how well the model fits the data we compare the predicted participant attitude to superannuation change from the specific model reported in Table 4 with the responses to the three-category response variable for question A28. The Spearman rank correlation between the actual and predicted value is 0.515 and the cross-tabulation, reported in Table 5, between the responses to question 28 (reduced to 3 categories) and the categories predicted by the model suggests a reasonable level of accuracy.

[Insert Table 5 about here]

## **5. Comparison with traditional expected utility predictions**

The most commonly used model of economic choice relies on maximising expected utility using Von Neuman Morgenstern preference functions. Simply put, a risk averse expected utility maximising investor changes their superannuation fund if the new fund increases their expected utility of wealth. In the past employers were responsible for investment decisions yet there was no requirement for them to invest in a way that maximised individual investor expected utility. It is likely that a large

proportion of the previously constrained investors will choose to exercise their right to change their superannuation fund where their preferences are driven by expected utility, merely because the existing fund choice is not tailored to maximise their personal utility function. The survey responses reported in the Australian superannuation literature do not bear out this tendency. The majority of the respondents are either indifferent or not interested in change.

Expected utility functions are generally assumed to be everywhere concave and this implicitly assumes that investors are risk averse and that their level of risk aversion is decreasing in wealth. For example, given a utility function,  $U(W)$ , that is everywhere concave, the first derivative is positive,  $U'(W) > 0$ , and the second derivative is negative,  $U''(W) < 0$ . That is, as the level of wealth increases the additional utility gained with an additional unit of wealth reduces. If we take a natural log utility function of the form  $U(W) = \ln(W)$  then  $U'(W) = 1/W$  then as  $W \rightarrow \infty$  and so  $U'(W) \rightarrow 0$ . If it is assumed that investors are reasonably homogeneous and differ in terms of wealth then traditional expected utility theory suggests that extremely wealthy well-diversified investors will be less concerned about a one-dollar change in total wealth than a less wealthy investor because they are located on a “flatter” section of their preference function. Essentially, expected utility theory predicts that wealthy investors will tend to be less risk averse and so they will be less concerned about the decision to change their superannuation fund than poorer investors (Bowman, Minehart and Rabin 1999, Rabin, 2000).

The level of net assets that an investor holds is identified in the demographic information, completed as part of the survey, and so it is necessary to focus on the reduced data set that includes demographic information (last four columns of Table 4). This reduced data set is somewhat different from the full data set, as discussed

above, though the parameter estimates for the full sample and for the demographics sample are found to be reasonably close in magnitude, if not always with the same level of statistical significance. To test the impact of participant wealth on the fund choice decision, equation (4) is extended to include net wealth and results from analysis of this model are reported in the last two columns of Table 4.

While the other parameters in the model are little changed with the addition of net assets it is apparent that the level of net assets has no statistically significant impact on the superannuation choice decision. Further, the coefficient is positive. It would seem that as the level of participant net assets increases, the participant is less likely to change their superannuation fund. It is difficult to reconcile this result with the behaviour of an expected utility maximising investor though these results are reasonably consistent with prospect theory. There is little evidence of tests similar to this in the literature and this is most likely due to the difficulty of obtaining information on individual investor wealth.

## **6. Conclusion**

The introduction of superannuation choice has raised considerable concern amongst fund managers, investment advisers and regulators yet recent behavioural theory suggests that this decision will be marked by investor inertia. The results of analysis of the Finmetrics survey are consistent with this prediction with few participants in the survey indicating that they are likely to change their superannuation fund. Further, changes in the superannuation fund choice appear to be best explained in terms of a change in the participant's reference point with this change being driven by past experience with the current fund relative to alternative funds.

A reduced data set is used to test one prediction from traditional expected utility theory. It is argued that, given reasonably homogeneous investors, a wealthy expected utility maximiser will be less concerned about changing their superannuation fund than a poorer expected utility maximiser because of the reduction in the level of risk aversion with higher levels of wealth. We find that there is no statistically significant wealth effect on the decision to change superannuation fund. Indeed our estimated coefficient suggests that wealthier investors are less likely to change their superannuation fund than poorer investors.

## **Appendix**

### **Questionnaire items included in analysis**

#### **Panel A: Questions chosen to capture attitudes to investing**

- A1, For how long have you been an investor? (*valid responses: not an investor, < 1 year, 1-2 years, 2-5 years, 5-10 years, > 10 years*)
- A2, How would you rate your understanding of investing and investment markets?  
(*valid responses: Very good, good, fair, poor, very poor, Not sure/don't know*)
- A3, How do you think your understanding compares to that of others? (*valid responses: Above average, About average, Below average, Not sure/don't know*)
- A4, How did your investments perform over the past year? (*valid responses: no investments, Very well, Well, OK, Poorly, Very poorly, Not sure/don't know*)
- A5, How did this performance compare with the expectations you had at the start of the year? (*valid responses: no investments, better than, in line, worse than, Not sure/don't know*)
- A6, How would you rate the performance of investment markets over the past year compared to what you know about long-term averages? (*valid responses: better than, about the same, worse than, Not sure/don't know*)
- A7, How do you think investment markets will perform in the year ahead?  
(*responses: better than, about the same, worse than, Not sure/don't know*)
- A18, Are you now using a financial planner? (*valid responses: yes, no*)

#### **Panel B: Questions chosen to capture financial position**

- A14, How does your current financial position compare to that of a year ago? (*valid responses: Much worse, Somewhat worse, About the same, Somewhat better, Much better*)

A15, How do your current financial goals compare to those of a year ago? (*valid responses: significantly less ambitious, somewhat less ambitious, more or less the same, somewhat more ambitious, significantly more ambitious*)

**Panel C: Questions chosen to capture attitude to Superannuation**

A22, How satisfied are you with your superannuation fund (your main fund if you have more than one)? (*valid responses: Very satisfied, Fairly satisfied, Neither satisfied nor dissatisfied, Fairly dissatisfied, Very dissatisfied*)

A23, How well informed are you about your superannuation fund (your main fund if you have more than one)? (*valid responses: Well informed, Fairly well informed, Fairly uninformed, Very uninformed*)

A24, Excluding changes forced on you by a change of employment, have you ever changed your superannuation fund? (*valid responses: yes, no*)

A25, Were you aware that Super Choice was coming? (*valid responses: yes, no*)

A26, How does your (main) superannuation fund compare to the best fund you could choose? (*valid responses: About the same, Not quite as good, Significantly worse, Not sure/don't know*)

A27, Are you aware of any superannuation fund(s) that you would prefer to your current (main) fund? (*valid responses: yes, no*)

A28. Over the next two years – 2005 and 2006 – how likely is it that you will consider changing to another super fund? (*valid responses: very likely, fairly likely, neither likely nor unlikely, fairly unlikely and very unlikely*)

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**Table 1**  
**Demographics for the Questionnaire Since 2002**

	2002	2003	2004	2005
	%	%	%	%
<b>Sex</b>				
-Male	0.80	0.81	0.76	0.84
-Female	0.20	0.19	0.24	0.16
<b>Education</b>				
-Did not complete high school	0.03	0.05	0.06	0.04
-Completed high school	0.11	0.11	0.10	0.09
-Trade or diploma qualification	0.20	0.22	0.20	0.22
-University degree or higher qualification	0.67	0.62	0.63	0.65
<b>Income</b>				
-Under \$30,000	0.09	0.11	0.13	0.08
-\$30,000 - \$50,000	0.19	0.19	0.22	0.16
-\$50,000 - \$100,000	0.43	0.43	0.41	0.40
-\$100,000 - \$200,000	0.27	0.21	0.19	0.26
-Over \$200,000	0.03	0.06	0.05	0.09
<b>Married or de facto</b>				
-Yes	0.77	0.74	0.79	0.98
-No	0.23	0.26	0.21	0.02
<b>Combined Income</b>				
-Under \$30,000	0.01	0.04	0.05	0.03
-\$30,000 - \$50,000	0.07	0.08	0.10	0.09
-\$50,000 - \$100,000	0.33	0.36	0.38	0.31
-\$100,000 - \$200,000	0.49	0.40	0.36	0.40
-Over \$200,000	0.11	0.12	0.11	0.16
<b>Net Assets</b>				
-Under \$10,000	0.01	0.02	0.02	0.01
-\$10,000 to \$25,000	0.03	0.03	0.02	0.00
-\$25,000 to \$50,000	0.04	0.05	0.03	0.02
-\$50,000 to \$100,000	0.10	0.07	0.05	0.03
-\$100,000 to \$150,000	0.05	0.07	0.05	0.02
-\$150,000 to \$250,000	0.07	0.09	0.06	0.06
-\$250,000 - \$500,000.	0.25	0.19	0.17	0.14
-\$500,000 - \$1,000,000.	0.27	0.26	0.30	0.28
-\$1,000,000 - \$2,500,000.	0.13	0.17	0.25	0.31
-Over \$2,500,000.	0.03	0.04	0.06	0.13

**Table 2**  
**Tests for Differences Between Questionnaires Completed With Demographics**  
**and Questionnaires Completed Without Demographics**

Question	Incl.	Excl.	Diff.	t test	Lower CI	Upper CI
A1. Period as an investor	5.04	4.84	0.21	3.23*	0.08	0.33
A2. Understanding of investing	2.25	2.33	-0.07	-1.77	-0.16	0.01
A3. Understand. compared with others	1.40	1.43	-0.03	-1.05	-0.09	0.03
A4. Invest performance over past year	1.58	1.69	-0.10	-2.56*	-0.18	-0.02
A5. Actual vs expected Performance	1.35	1.40	-0.05	-1.51	-0.11	0.01
A6. Average market performance versus long term average	1.12	1.16	-0.04	-1.79	-0.09	0.00
A7. Expectations for the year ahead	1.76	1.73	0.03	0.81	-0.05	0.11
A14. Change in Financial position	4.14	4.11	0.03	0.81	-0.04	0.11
A15. Change in Financial goals	3.30	3.38	-0.08	-2.12*	-0.16	-0.01
A22. Satisfaction with super fund	2.04	2.17	-0.13	-2.48*	-0.23	-0.03
A23. Knowledge about super fund	1.65	1.81	-0.15	-3.79*	-0.23	-0.07
A24. Super fund changed in the past	1.61	1.60	0.01	0.30	-0.04	0.06
A25. Aware of super choice	1.08	1.11	-0.03	-1.79	-0.06	0.00
A26. Super fund compared with others	1.13	1.15	-0.02	-0.42	-0.10	0.07
A27. Present fund not most preferred	1.76	1.74	0.02	1.03	-0.02	0.07
Risk tolerance	63.61	63.46	0.15	0.21	-1.25	1.54

Note: \* statistically significant at the 5% level of significance. Incl. = mean value for the question for those that chose to complete the demographic information in their questionnaire, Excl. = mean value for the question for those that chose not to complete the demographic information in their questionnaire, Diff. = the difference between the mean value for those that included the data and those that did not include the data, t-tests = test for the difference in the means and these are reported assuming constant variance. Levene's test for equality of variances was also run and where appropriate and adjusted t-statistics were obtained. There was little change in the results, and no change in the statistical significance of the results reported above. Lower CI (Upper CI) is the lower (upper) limit for the 95% confidence limit around the mean difference.

**Table 3**  
**Attitude to changing superannuation fund**

	Very likely	Fairly likely	Neither likely nor unlikely	Fairly unlikely	Very unlikely	Total	Missing	Total
Frequency	157.00	153.00	223.00	289.00	553.00	1375.00	272.00	1647.00
Percent	9.53	9.29	13.54	17.55	33.58	83.49	16.51	100.00

This table summarises the responses to the key question of the survey with respect to this study. This is question A28 and the question asked is “Over the next two years – 2005 and 2006 – how likely is it that you will consider changing to another super fund?”. Both the frequency and the percentage response to the five available responses to the question, very likely, fairly likely, neither likely nor unlikely, fairly unlikely and very unlikely are provided.

**Table 4**  
**Ordered Logit Regression over the variable**  
**Question A28, “Over the next two years – 2005 and 2006 – how likely is it that**  
**you will consider changing to another super fund?”**

Variable	Full sample		Sample inc. dem.		Sample inc. dem. & net assets	
	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic
A1. Period as an investor	0.135	2.86*	0.100	1.54	0.067	0.98
A15. Current financial goals compared with a year ago	-0.151	-1.94+	-0.134	-1.15	-0.118	-1.00
A22. Satisfaction with super fund	-0.726	-8.56*	-0.663	-6.04*	-0.655	-5.97*
A23. Knowledge about super fund	-0.282	-2.92*	-0.406	-3.06*	-0.379	-2.81*
A26. Super fund compared with others	-0.256	-3.07*	-0.224	-1.98*	-0.228	-2.03*
A27. Present fund not most preferred	1.797	10.11*	1.775	7.22*	1.761	7.16*
Net assets					0.060	1.32
Limit Points						
Limit 2	-1.802	-2.96*	-1.900	0.02*	-1.521	0.07+
Limit 3	1.651	2.73*	1.351	0.09+	1.734	0.04*
LR statistic (6 df)	525.43*		261.331*		262.822	
LR index (Pseudo-R2)	0.21		0.192		0.193	
Available observations	1647		897		897	
Number of observations used	1296		708		708	

Note: Models are estimated using the full data set (Full sample), the demographics data set (Sample inc. dem.) and a model extended to include net assets (Sample inc. dem. & net assets) is also fitted to the for the demographics data set. The dependent variable is the response to question A28, “Over the next two years – 2005 and 2006 – how likely is it that you will consider changing to another super fund?” This was initially a five category variable though on further analysis of the model only the very likely and very unlikely break points were consistently statistically significant. As a result the middle categories, fairly likely, neither likely nor unlikely and fairly unlikely were consolidated into one category giving a new three category based variable for question 28 that is used in this analysis. Maximum likelihood estimation is used to estimate the ordered logit models and the number of ordered indicator values is three (3). Huber/White robust covariance estimates are used in statistical tests.  
\* (+) statistically significant at the 5% (10%) level of significance.



**Table 5**  
**Comparison of Model Predictions with Actual**  
**for Attitude to Changing Superannuation Fund (Question A28)**

	A28 = 1	A28 = 2	A28 = 3	Total
Model Prediction = 1	45	32	0	77
Model Prediction = 2	96	419	151	666
Model Prediction = 3	13	172	368	553
Total	154	623	519	1296

Note: This table reports model prediction versus attitude to changing superannuation fund (Question A28) cross tabulations. The Spearman Rank Correlation between A28 and the predicted values from the model reported in Table 6 was 0.515.