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Anchoring and Reference Prices in Mutual Funds Investors' Decision-Making: An Experimental Approach

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Abstract

We analyze the effect of anchors and contextual information on the evaluation of the willingness to pay and expected quality in the purchase of a mutual funds. The results from two experiments indicate that: (1) individuals form a reference from the contextual information to evaluate the willingness to pay, but not so to estimate the expected quality; (2) when price and quality information of several investment alternatives are available, subjects look for a direct relation between these two variables; (3) with anchors, the reference price obtained from the contextual information to evaluate the willingness to pay loses relevance.

1. Introduction

Consumers use a wide range of financial products to satisfy their needs. For example, they use payment methods like checks, credit cards and debit cards to pay for goods and services; they transfer resources over time to invest in durable goods or human capital, or to finance greater consumption by going into debt. Finally, they use insurance to manage and transfer risks to their person and their assets (J. Y. Campbell, 2006) and (Tufano, 2009).

A complex financial service that has gained importance in recent years are mutual funds. In recent decades mutual funds have been of crucial importance to the growth of the global financial industry, monopolized the attention of researchers in terms of how the industry behaves, its performance and characteristic of delegated portfolio management (Ferreira, Keswani, Miguel, & Ramos, 2013)

These activities require investors to have a high level of knowledge and information to be able to decide optimally on their interaction with the financial market. The evidence of individuals' financial behavior shows that many personal finance decisions are not made using a cognitive or rational process; on the contrary, consumers of financial services often use heuristics or informal procedures that lead them to make wrong decisions (Barberis & Thaler, 2003) and (Guiso & Sodini, 2013). In addition, when taking decisions individuals suffer behavioral biases that cause them to make suboptimal decisions. Those biases towards heuristics can lead to psychological biases and systematic errors (Shefrin, 2006). For example, (Tseng & Yang, 2011) find that mutual fund investors use heuristics based on the size of the fund manager to infer the success/failure of the investments. (Kozup, Howlett, & Pagano, 2008) find evidence that investors use a heuristic based on past performance as a predictor of future performance. (Benartzi & Thaler, 2001), (Hedesstrom, Svedsater, & Garling, 2007), (Elton, Gruber, & Blake, 2007) show the use of heuristics such as downward bias, diversification bias, local bias, momentum, and the 1/n rule to assign assets.

The literature of delegated portfolio management has studied the existing relation between investors and fund managers from an agent-principal relationship, however little is known about the decision making of a household. When a person selects a mutual fund, he is dealing with a product about which he has a low level of knowledge, has little or no experience, and in addition, by the nature of the service there is little involvement in the output of his investment (Van Rooij, Lusardi, & Alessie, 2012) and (Chase & Tansik, 1983). Despite the previous studies, from the point of view of the financial services consumer, understanding of the factors that explain the demand for mutual funds still needs to be improved. This is because there is little evidence in relation to investors' abilities to select mutual funds.

First, the effects of anchors (Tversky & Kahneman, 1973) and the existence of consistency in market information (price-quality ratio, (Sanbonmatsu, Posavac, Kardes, & Mantel, 1998). have not yet been studied directly in the selection of mutual funds. And second, this study investigates what is the effect of contextual information (in terms of price and quality) in the preferences of individual mutual fund investors. To our best understand, this factors has not yet been tested simultaneously in such financial products.

This work endeavors to improve the understanding of what a mutual fund consumer's response is to investment options with differing degrees of consistency in the contextual information, and in the presence or absence of anchor prices based on past experiences. Despite the previous studies, from the point of view of the financial services consumer, understanding of the factors that explain the demand for mutual funds still needs to be improved. Mainly, because there is little evidence in relation to investors' abilities to select mutual funds. How individuals choose complex financial products in the presence of different levels of financial education, heterogeneous reference market prices and complex and at times contradictory information is still poorly understood (García, 2013).

This paper is organized as follows: Section 2 summarizes the literature about anchors and the focal hypothesis together with the hypotheses. Section 3 presents the methodology and the experimental procedures. Section, 4 details the results of two applied studies, and the final section contains the conclusions and discussion of the most important results.

2. Literature and hypothesis

2.1 Reference prices

Studies on past prices, particularly in the area of consumer behavior, reveal that individuals use item prices as standards against which they compare the price of a product or service, which influences their purchase behavior (Monroe, 1973) and (Winer, 1986). This price comparison allows the consumer to make an appraisal, which leads to a perception of the utility (Thaler, 1985); (Bitta, Monroe, & McGinnis, 1981). Depending on the positive or negative level of this utility, the brand choice can be predicted (Urbany & Dickson, 1991).

Reference prices can affect the demand for products. For example, in scanner panel data studies have shown that brand choice decisions are determined not only by the price of the product itself, but also by the reference prices of other products in the same category (Mayhew & Winer, 1992); (Rajendran & Tellis, 1994); (Bell & Lattin, 2000). This provides evidence that consumers build appraisals in the presence of numerous indications of price or contextual information ((Wathieu & Bertini, 2007); (Bertini, Wathieu, & Iyengar, 2012). Recent evidence from (Trautmann & Van de Kuilen, 2015) has found in the context of bids that the information offered in the course of the bids creates reference points in the participants. Appraisals are affected by the clues present in the environment, and they consequently affect consumers' WTP.

Hypothesis

If the reference prices formed from the information available about mutual funds in the same category affect the demand, then the price of a particular mutual fund, in relation to the contextual prices, affects their willingness to pay (Kamins et al., 2004). Therefore, our hypotheses are:

H1(a): Reference price formation: Consumers use the contextual information available to form a reference price that is used to contrast the current price of a mutual fund.

H1(b): Effect on demand: Consumers' WTP for a mutual fund increases (decreases) when the service price offered (O_p) is lower (higher) than the contextual prices (M_p).

2.2 Selective hypothesis testing

Under pressure to make a decision, the consumer must evaluate the alternative(s) available. This evaluation can be done using the existing contextual information, which serves as a guide and evidence that inferences can be made or certain preconceived assumptions confirmed about the relation between the variables. For example, this can take the form of a correlation between two variables. Thus, from data available, a selective processing of this information is done to infer and confirm a hypothesis (Sanbonmatsu et al., 1998). In this study, we used this theory on which to base the processing of information that occurs in a mutual fund consumer, when in light of the information that he has available, he must evaluate a financial service, particularly when this information contains data about the prices and the quality of equivalent services. Thus, we focus our attention on the price-quality heuristic that consumers use to infer the quality of a service (Tellis and Gaeth, 1990).

The price-quality heuristic assumes that the quality of a product is positively correlated with the price, i.e., the higher the price, the better the quality. This heuristic seems to be the expectation that a consumer has when evaluating the information presented in order to judge the covariance between price and quality (Baumgartner, 1995). It has been observed, for

example, that the confidence the consumer attributes to the price as an indicator of quality is moderated by the psychological distance in the quality-price ratio. For example, the impact of the price on inferences about quality is increased when these inferences are made when evaluating a product/service for another person instead of for oneself) (Yan & Sengupta, 2011)

In this study, we suggest that the price-quality heuristic is the one the individual considers as the selective hypothesis to judge the quality of a mutual fund. Thus, when the consumer perceives a high positive correlation between price and quality in the information available, the price acquires significant influence in the purchase decisions (Cronley, Posavac, Meyer, Kardes, & Kellaris, 2005). This means the price acts as a signaling mechanism of the quality, especially when the consumer is confronted with a wealth of information in a categorized order (Kardes, Cronley, Kellaris, & Posavac, 2004) and (J. Campbell, DiPietro, & Remar, 2014).

An individual's price-based inference of quality is possible when these create the assumption, i.e., the contextual information reveals a positive price-quality correlation. This way, the WTP and EXQ are inferred without problems (particularly the latter) (Cronley et al., 2005). Classic economic theory supposes that the quality of a product/service is known with certainty, and that consumers do not comprehend that prices do not transmit the level of quality (Ding, Ross, & Rao, 2010). However, in reality consumers do not have complete information about the quality, particularly of services, and therefore they use the price as an information carrier about the quality.

Under this scenario, it is worth asking what happens when the contextual information does not fit with the assumption. Accordingly, we expect that when individuals have information about the price and quality of mutual funds, they will begin a search process of shaping the positive relation between price and quality. The evaluation of WTP and EXQ will be affected depending on whether the subject confirms this relation or not. If it is confirmed, the mutual fund will be assessed according to the contextual information. Otherwise, this information will be discarded, and consequently the result of the evaluations of WTP and EXQ will be less favorable than in the case where the direct relation between price and quality is confirmed. This could be explained by the phenomenon of adverse selection described by (Akerlof, 1970) and (Levin, 2001), who propose the existence of an inverse relation between the demand for a product and the degree of ambiguity about the market information. This way, when the focal hypothesis (FH) is violated, uncertainty is generated in the consumer who reacts negatively, reducing his WTP in relation to this product. In terms of the EXQ, given the existing ambiguity, this cannot easily be inferred from the price information, which would decrease the consumer's expectations of quality. Therefore, our hypotheses are:

H2(a): A positive (negative) correlation between price and quality in the contextual information produces an increase (decrease) in the WTP of a mutual fund.

H2(b): A positive (negative) correlation between price and quality in the contextual information produces an increase (decrease) in the EXQ of a mutual fund.

2.3 Heuristics and anchors in decision-making

Cognitive-experiential self-theory (Denes-Raj & Epstein, 1994) indicates that the decision-making process with which the people make rational decisions is based on the maximization of pleasure or gains and the minimization of pain or losses. In this theory, subjects use two processing systems: cognitive and experiential. In this vein, (Kahneman, 2003) describes the decision-making process as being associated with a cognitive architecture composed of a fast, automatic and intuitive system that demands low cognitive effort (system 1), and by a system of high cognitive effort, controlled, slow, serialized and neutral (system 2).

People approach complex tasks like determining the chances of an uncertain fact occurring, the result of an election or the future value of the exchange rate using such tools. (Tversky & Kahneman, 1973) contend that many complex decisions and judgments are based on heuristics (system 1) and not on a cognitive process (system 2). This is because individuals trust heuristics related to simple operations or evaluations based on perception and those made intuitively.

(Epley & Gilovich, 2005a) indicate that heuristics like anchors are very useful in certain contexts, but in others they can cause systematic errors; as a result, adjustment from an anchor is insufficient in many cases. In this case, subjects form beliefs adjusting from an arbitrary starting point - the anchor - with which the bias is that the final belief is biased toward the value of the anchor (Epley, Keysar, Van Boven, & Gilovich, 2004) and (Dunning, Griffin, Milojkovic, & Ross, 1990).

An explanation of why most judgments and evaluations are made intuitively, based on heuristics, is the Law of Minimal Mental Effort. (Kool, McGuire, Rosen, & Botvinick, 2010) argue that people are not accustomed to thinking hard. This implies that individuals tend to avoid decisions that involve internal costs when precise and diligent decisional procedures are required, producing suboptimal behaviors when decisions are made (Hauser & Wernerfelt, 1990), (John W Payne, Bettman, & Johnson, 1993), (Shah & Oppenheimer, 2008) and (Smith & Walker, 1993). In summary, an individual's use of anchors as a short cut to more elaborate thinking with greater effort may be the source of these suboptimal decisions.

There is evidence of the use of anchors in financial decisions. In the foreign currency market, (Westerhoff, 2003) has found evidence of misalignments in the exchange rates because traders exhibit anchor-based behaviors. In bond issuance decisions, (Dougal, Engelberg, Parsons, & Van Wesep, 2015) show that in current debt contracts, managers, borrowers and bankers are incapable of not integrating the past into their decisions, using the conditions established in past operations as anchors for current bond issuances. In the same line, but related to IPOs, (Kaustia & Knüpfer, 2008) report that when

underwriting a new initial public offer of shares, investors cannot take a step back and put their past experiences aside in the evaluation of new offers.

Consequently, they tend to assign too much relevance to past results as a decision-making tool compared with a rational decision process. Finally, in terms of investment decisions, (Baker & Wurgler, 2014) find that participants in business mergers and acquisitions focus on peaks in recent prices, particularly the highest price in 52 weeks, that acts as an anchor, i.e., a starting point for negotiations.

Accordingly, we would expect that the behavior of individuals in the decision to choose a mutual fund is dominated by a heuristic system based on anchors when these are present. This way, when the remuneration charged by a mutual fund is similar to the anchor provided, the WTP should be higher than in the situation where there are no anchors, and consequently the subjects assess the WTP from the reference prices. The economic consequence of this is that in this case an increased demand for this mutual fund is observed. This then according to the Law of Minimal Mental Effort, as subjects face complex decisions based on system 1, when they observe that the price charged is similar to the anchor, their decision becomes easier, and as a result they choose the fund whose offered price is closer to the anchor. In the same way, for the case of EXQ in the previous case, we conjecture that this will be greater than in the case where these anchors do not exist.

Therefore, our hypotheses are:

H3(a): The presence (absence) of anchors similar to the price of a mutual fund to be evaluated produces positive (negative) reinforcement in the evaluation of the financial service, promoting a higher (lower) WTP.

H3(b): The presence (absence) of anchors similar to the price of a mutual fund to be evaluated produces positive (negative) reinforcement in the evaluation of the financial service, promoting a higher (lower) EXQ.

3. Method

In order to test the hypotheses mentioned, we conducted two studies. In first hypotheses H1 and H2 studies, whereas in the second H1, H2 and H3 were tested simultaneously to investigate the effect of anchors.

3.1 Study 1

Participants.

For study 1, 317 graduate students from Universidad Adolfo Ibáñez and Universidad Finis Terrae were recruited at random, enrolled in Masters in Finances and Executive Education programs during the course of 2014 (average age = 36.1 years, 23.7% women, 37.9% with a job related to the finance industry, 49.4% have saved in mutual funds at some point). As a way to stimulate participation, those who took part in this study received a bonus on their exam grades.

Materials and experiment

This study was designed to test whether mutual fund investors use contextual prices to form a reference price, and to assess if the information available in terms of price and quality has some effect on the willingness to pay and expected satisfaction in a mutual fund. The experiment was conducted in the classroom under the supervision of two assistants, and the information was provided on paper for each participant.

Study 1 utilized a 3 (contextual prices level: over, equal, below the offered price) x 3 (price-quality correlation: 1, 0.5, -0.5) factor mixed design. The first factor is a representation of the contextual prices offered in the stimulus before assessing the service. This representation is defined as the service price (Offer price – Op)¹ in relation to the mean of the contextual prices (Mp). The three levels of this factor are: a Mp lower than the cost of the service Op, a Mp higher than the Op, and a Mp equal to the cost of the service Op. In addition to receiving information about contextual prices, information was provided about the quality of the service, which comes in three possible levels: high (3 stars), medium (2 stars) and poor (1 star). This way, the subject simultaneously observes the quality of the market services and the respective prices. Thus, the second factor represents the existing correlation between price and quality, which has three levels: a negative correlation of -0.5 (equivalent to a violation of the FH), another positive but weak one of +0.5, and another strong one equal to +1.0. The subjects do not know these levels of correlation, but they can recognize them when observing the prices and qualities of the contextual information (see Appendix 1 for an example of the information given to the participants).

A manipulation check was performed to ensure that treatments of the experiment have the capacity to develop in participants a sense of correlation between price and quality alternatives between the mutual funds offered, and also to develop a perception of cost of service provided in relation to context prices.

To measure the level of perceived correlation according to the contextual information, a simple scale was used between -10 to 10 wherein -10 is a negative correlation (higher fees, lower quality) and 10 represents positive correlation (higher fees, higher quality). The effect of treatment with the three levels of correlation indicated had a significant effect on the perceived correlation ($M_{rho_{-0.5}}=0.67$, $M_{rho_{0.5}} = 3.40$, $M_{rho_1} = 6.58$; $F(2, 54) = 14.10$, $p < .001$).

To measure the cost of the service provided in relation to the fees of the alternatives listed in the contextual information, a simple scale was used between -10 to 10 wherein -10 indicates that the service could be considered very cheap, while 10 indicates that the service could be considered very expensive. The effect of this treatment with the three levels of the offered prices (Ops) in relation to the average price of context (Mp) had a significant effect ($M_{Op < Mp} = 0.67$, $M_{Op = Mp} = 2.85$, $M_{Op > Mp} = 4.56$; $F(3, 54)$, $p = 0.036$). No other primary or interaction effects reached significance.

Procedure

¹ Concerning an Equity Mutual Fund, the service price is equivalent to the annual fee or remuneration. Thus, the information the participant sees are market rates for this type of financial service.

Participants were asked to imagine that they had decided to withdraw their money from their savings account to invest it in the local stock market through a stock mutual fund. They were told that the amount of this investment represented approximately 20% of their assets. The experimenter explained beforehand what a mutual fund is and to make it more real, the prices corresponded to actual prices on the local market.

The information provided on paper by the experimenter included a list of market prices for various mutual fund investment services. This was the contextual information and the subject received before evaluating the service offered. Then, they were given information about the existence of a new stock mutual fund as an option to invest their money. The price of this alternative (Op) was given, but no information was offered about the quality. Then they were asked to evaluate the WTP and EXQ of this new investment option. Both variables were assessed on a Likert scale from 1 to 10, with 1 being very low and 10 being very high.

3.2 Study 2

Participants.

For study 2, 192 graduate students from Universidad Adolfo Ibáñez and Universidad Finis Terrae were recruited at random, enrolled in Masters in Finances and Executive Education programs during the course of 2015 (average age = 36.8 years, 26.5% women, 73.1% with a job related to the finance industry, 46.0% have saved in mutual funds at some point). The precaution was taken that these subjects had not participated in study 1. As in study 1, those who took part received a bonus on their exam grades.

Materials and experiment

Study 2 was exactly the same as study 1, except that the subjects who participated in this variant received the mean of the prices charged for stock mutual funds at the beginning of the experiment as additional information. The aim was to observe if there was difference in the WTP and EXQ in the presence of anchors. The experiment was conducted in the classroom under the supervision of two assistants, and the information was provided on paper for each participant.

Procedure

The procedure was the same as for study 1. However, after asking the participants to imagine they had decided to invest their money in a stock mutual fund, additional (simulated) information from the press was included that indicated that the average annual remuneration from this type of mutual fund in the country was 4.5% - this price acted as the anchor. This value was chosen to be deliberately similar to the offered price (Op) in order to reinforce the effect of the anchor (if indeed

there is one). Thus it was possible to test if the anchor price or a reference price formed from the contextual information, controlling for different degrees of price-quality correlation, is the one that explains the WTP and EXQ of a mutual fund.

4. Results

4.1 Study 1

The grand mean of the WTP for the new mutual fund to evaluate as an investment alternative was 2.79 (SD = 2.11), whereas for EXQ the grand mean was 4.50 (SD = 2.83).

Univariate results

Figure 1-A shows that the WTP evaluations decrease when the price of the offered service (O_p) is higher than the mean of the contextual prices (M_p). Specifically, the WTP means were 3.13 (SD = 2.29) when $O_p < M_p$, 2.68 (SD = 1.92) when $O_p = M_p$, and 2.50 (SD = 1.98) when $O_p > M_p$. This result was expected and confirms consistency in the results; in other words, a demand curve with a negative slope is proven, in which if the service price increases in relation to the market prices, the WTP decreases. This result initially indicates that the contextual information is considered as reference information against which investors contrast the mutual fund price offered to evaluate the WTP.

For the expected quality, the pattern is not clear (see Figure 1 - B). No decrease or increase can be seen in such evaluations for different levels of contextual prices. The means of EXQ are 4.50 (SD = 2.65) when $O_p < M_p$, 4.61 (SD = 2.63) when $O_p = M_p$, and 4.44 (SD = 2.66) when $O_p > M_p$. This would seem to indicate that the contextual information is not taken into account at the point when the quality of a mutual fund is assessed. The opposite is observed with the WTP.

Figure 2-C presents the WTP means for the different levels of price-quality correlation (ρ) present in the contextual information. The WTP means are 2.51 (SD = 2.04) when $\rho = -0.5$, 2.83 (SD = 2.01) when $\rho = +0.5$, and 3.15 (SD = 2.30) when $\rho = +1.0$. This shows that when the evidence in the contextual information increases, from a positive relation between price and quality, the WTP evaluations tend to increase. Something similar occurs with the evaluation of quality. The means of EXQ are 4.22 (SD = 2.87) when $\rho = -0.5$, 4.54 (SD = 2.79) when $\rho = +0.5$, and 4.85 (SD = 2.82) when $\rho = +1.0$. These results find that FH influences consumers' choices of mutual funds.

Multivariate results

In order to test the simultaneous effect of contextual prices and consistency of the price-quality information on the WTP and expected satisfaction, we performed a series of LOGIT estimations, where we defined the dependent variable as a binary variable from the WTP and EXQ responses. Specifically, we defined the dependent variable as having a value 1 if the

subject reports a value equal to or above the median, and 0 otherwise. The median of the WTP and EXQ were 2 and 4, respectively.

Table 1 columns A and C show the LOGIT estimations for WTP and EXQ. First we see that the contextual prices variable is significant ($b = -0.1387$, $p < 0.001$) and negative on WTP. We remember that contextual prices are defined as $Op - Mp$. The offer price (Op) remains constant, and the market price corresponding to the mean of the contextual prices (Mp) can be low, equal or over the Op . The significance of this coefficient supports H1, i.e., individuals use the contextual prices to form a reference price against which they evaluate the service price and consequently evaluate their willingness to pay. The negative sign indicates that when $Op > Mp$, the WTP is lower than when $Op < Mp$. However, in the evaluation of the expected quality of the service, the contextual prices are not important ($b = -0.0255$, $p > 0.10$). H1 is apparently not fulfilled for the evaluation of the quality of a service, but it is for the willingness to pay.

The consistency of the price-quality information is also an important factor in assessing the willingness to pay ($b = 0.1475$, $p < 0.001$), i.e., as the consistency of the information in the contextual information (higher price, better quality) increases, the WTP results in an increase, compared to when the direct price-quality ratio is not fulfilled. This validates H2. Something similar occurs for the evaluation of expected quality ($b = 0.1072$, $p < 0.05$). The coefficient is significant and positive, which indicates that as the consistent of the information increases, the subjects apparently give credibility to the contextual information to infer the quality from the price, and therefore an increase in EXQ is reported.

In conclusion, H1 is confirmed only in the WTP evaluation, whereas H2 is supported for WTP and the evaluation of EXQ.

4.2 Study 2

The grand mean for WTP and EXQ is 3.33 (SD = 2.40) and 4.82 (SD = 2.82), respectively.

Univariate results

Figure 3 - A shows the WTP evaluations with different contextual prices in relation to the service price to be assessed. When $Op < Mp$, the WTP is higher ($m = 3.68$, $SD = 2.61$) than when $Op = Mp$ ($m = 2.83$, $SD = 2.15$), which is expected. However, unlike study 1 (with no anchor), when $Op > Mp$, the WTP is increased ($m = 3.59$, $SD = 2.39$). As a result, in the absence of other factors, the presence of an anchor alters the demand for the service, but only in situations where the service price is higher than the contextual ones.

This result is expected and confirms consistency in the results. For the expected quality, there is no clear trend that the greater the Op price in relation to Mp , the better the expected quality (See Figure 3 – B). The means of EXQ are 4.76 (SD = 2.57) when $Op < Mp$, 3.90 (SD = 2.62) when $Op = Mp$, and 5.98 (SD = 2.87) when $Op > Mp$. It can be clearly observed that the subjects tend to predict the quality of the service at a high level when $Op > Mp$.

Figure 4-C presents the WTP means for the different levels of price-quality correlation (ρ) present in the contextual information. The WTP means are 3.14 (SD = 2.42) when $\rho = -0.5$, 3.39 (SD = 2.34) when $\rho = +0.5$, and 3.55 (SD = 2.46) when $\rho = +1.0$. Similarly study 1, as the subjects validate the hypothesis of higher price, better quality, the WTP means increase. However, with the anchor, the WTP means are higher than when there is no anchor, which indicates that the present of an anchor influences the WTP.

Finally, Figure 4-D shows that the means of EXQ are 4.80 (SD = 2.87) when $\rho = -0.5$, 4.95 (SD = 2.79) when $\rho = +0.5$, and 4.62 (SD = 2.82) when $\rho = +1.0$. Unlike study 1, whereas the FH is validated the expected quality increases, this relation is not observed in the presence of anchors, even showing a reversal of the results when the price-quality correlation is 1.0, i.e., the expected quality decreases.

Multivariate results

Similarly to study 1, we estimated LOGIT models, establishing the values of the dependent variable as 1 if the subject has a WTP equal to or above the median and 0 otherwise (the same for EXQ). The median of the WTP and EXQ were 3 and 5, respectively. It is worth noting that these medians are a point than the medians in study 1 (where the subjects did not receive an anchor price). A conjecture is that this could be a result of a positive increase in the evaluations because the anchor price according to the experimental design was deliberately set similarly to the service price offered (Op).

As Table 1 column B illustrates, the contextual prices do not exert any influence on WTP ($b = -0.0496$, $p > 0.10$), although the coefficient is negative, indicating the classic negative slope of a demand curve. Thus, when the subjects have additional information in the form of an anchor, H1 is not supported. Apparently somehow, in the presence of the anchor, the contextual information is relegated in favor of the anchor price information. However, for the assessment of the quality, the contextual information is indeed used ($b = 0.1438$, $p < 0.001$). The coefficient is positive, which suggests that in the presence of anchors, the subjects indicate a greater expected quality than with the scenario when there are none.

In terms of WTP - Table 1 column B shows that while the contextual prices do not exert any influence on WTP, the price-quality correlation of the information does ($b = 0.1650$, $p < 0.001$). By contrast, for the evaluation of the EXQ, while the contextual prices are significant, the price-quality correlation is not ($b = -0.0103$, $p > 0.1$).

For the purposes of testing whether there is an effect associated with the type of anchor in study 2, the high-low dummy was included that takes the value 1 when the anchor corresponds to a cost of 4.5% and high quality, and 0 when the anchor has a cost of 4.5% and low quality. The results of Table 1 - columns B2 and D2 indicate that there is no effect related to the type of anchor in WTP or in EXQ. Specifically, past quality does not influence the mutual fund consumer's decision. In conclusion, H1 is confirmed only for EXQ, but not for WTP, whereas H2 is confirmed for WTP, but not for EXQ.

4.3 Grouped results

In order to study H3, we joined the evaluations of WTP and EXQ from studies 1 (stimulus without anchor) and 2 (stimulus with anchor), which allows us to consider the effect of the presence of anchor prices prior to the evaluation of the willingness to pay and the expected quality.

Table 2 shows different LOGIT estimations of WTP and EXQ (non-restricted – columns A and E, and restricted models – columns B, C, D, F, G and H). Particularly, it is possible to focus on the variable “*anchor*”, which represents a *dummy* with a value 1 if the subject receives the anchor price (subjects in of study 2), and value 0 if not (subjects in study 1). The results indicate that this variable is significant ($b = 0.0742$, $p < 0.05$ – column A) for the willingness to pay and also for the expected quality of the service ($b = 0.1113$, $p < 0.001$ – column E). In both cases, the coefficient is positive, which indicates that the effect of anchors is equivalent to an increased level of the evaluations compared when this initial information is not present. Note that the effect of the anchor continues being significant in other restricted models. These results give support to H3. It is important to consider that the evidence in favor of H3 occurs only under the condition that $Op \approx Mp$, but not necessarily when the anchor price is very different from the mean of the contextual prices.

The restricted models in Table 2 make it possible to verify the robustness of the previous results in relation to H1 and H2. First for H1, it is observed that the effect of the contextual prices is significant and negative in all the models that explain the willingness to pay (for example, $b = -0.0884$, $p < 0.001$ – column A). This allows a generalization of the result, declaring that the contextual information works as a means of reference price formation against which the subjects evaluate the offer price of a mutual fund Op . This effect is similar but opposite on the expected quality, however (for example, $b = 0.0809$, $p < 0.05$ – column E). This is to say, when the service price is greater than the contextual price, the expected quality of this service is increased. This suggests that mutual fund investors infer the quality of this financial service from the price – quality heuristic.

Secondly for H2, the effect of the correlation price-quality in the contextual information is significant on the evaluation of the willingness to pay in both the restricted and non-restricted model ($b = 0.1591$ and $b = 0.1585$, $p < 0.001$ respectively – columns A and B). This indicates that a violation of the FH in the contextual information ($\rho = -0.5$) results in a decrease in WTP, whereas a confirmation of the FH ($\rho = +1.0$) increases it. We conjecture that this is because when individuals do not manage to find evidence in the market that allows them to validate the price-quality heuristic, the contextual information loses reliability to judge the service offered, which decreases consumers’ evaluations of WTP and EXQ. Nevertheless, for the expected quality the evidence is opposite. The price-quality correlation of the information has no effect ($b = 0.0357$ and

$b = 0.0355$, $p > 0.1$ columns E and F) on this. Thus, the presence of the anchor annuls the positive effect of the FH on EXQ. An assumption about this result is related to the law of minimal mental effort, on which subjects would solely base their assessment, in the difference existing between the anchor price and the service price, which in this case is small. In conclusion, H3 is confirmed for WTP but not for EXQ.

Finally, an interaction is included between the dummy anchor and the industry dummy to test if there is a relevant effect of the anchors on those participants who belong to the financial industry. For the case of the WTP, the results indicate that there is no effect associated with both variables. The same occurs for the case of EXQ. Indeed, the results of the previous models are robust to this test and are maintained in both significance and in magnitude.

5. Discussion, limitations and future research

5.1 Results

The purpose of this study was to observe simultaneously the effects of anchoring and contextual information on the willingness to pay and the expected quality in mutual funds. First, understanding that the contextual information allows individuals to form a reference price and second, comprehending anchoring as a heuristic that individuals use in an assimilation process that affects the evaluative judgments (Tversky & Kahneman, 1974). Third, figuring that when the contextual information contains information about prices and quality, they can enter into a process of selective hypothesis testing (Sanbonmatsu et al., 1998).

5.1.1 Reference prices from contextual information - study 1.

The first study investigated the effect of a transgression in the price-quality information available to the consumer when evaluating the service. The first result shows evidence that the contextual information of the prices is a precedent to assess a mutual fund. This price contrast affects the WTP in accordance with a series of previous investigations that determine how convenient or inconvenient the service is in terms of its acquisition, using the prices as the only source to judge (Rajendran & Tellis, 1994). However, this does not seem to hold when it is about assessing the expected quality of the service. This is interesting because it indicates that the evaluative process of the willingness to pay and the quality are intrinsically different. The explanation to this difference may lie in what (Thaler, 1985) reports. As the WTP is an evaluative judgment that compares the price of a service with the reference price, the latter focuses in the merely transactional aspect. But when the subject evaluates the quality, it is not only the price that comes into play, but also what he expects to receive in exchange for what he must give, i.e., the value of the service, which could be considered an acquisition utility. This acquisition utility depends more than on a reference price, on the subject's own price or endogenous price than in principle would be equivalent to the consumer's surplus.

5.1.2 Focal hypothesis - study 1.

The most interesting aspect of study 1 is that provides evidence that when the contextual information involves price and quality of the alternatives, these variables are taken into account by the individuals. Specifically, the results confirm the idea that when this information confirms a positive price-quality correlation, participants tend to evaluate the service favorably compared to when this correlation is not observed. This is valid for WTP and EXQ. Following the idea of (Cronley et al., 2005) and Valle et al. (2016), a reasonable explanation to this result is that when the information available is in conflict with the preconceived notion that “higher price, better quality”, this causes a lack of credibility of the data, and therefore a tendency to evaluate the service with greater caution, i.e., lower levels of WTP and EXQ.

5.1.3 Anchors – study 2

In study 2 the effect of anchor prices on the subsequent evaluation of a service was examined. Unlike the first study, in this one the subject had previous information in the form of the average market price for a similar mutual fund, which is constituted in an anchor to judge WTP and EXQ. The results are interesting because they reaffirm the importance of such situations, to the point that the contextual information (in terms of prices) is relegated when WTP is being assessed. In other words, when the subject has an anchor price, the contextual reference price does not affect the willingness to pay. Additionally, this anchor price does not manage to nullify the subjects’ ability to observe the price-quality data set in the contextual information. The FH effect persists with an anchor price.

The story is different for the evaluation from the expected quality. When an anchor price is present, a reference price from contextual information is activated and influences the expected quality operating similarly to the case of WTP. Nevertheless, it is not about an evaluation of the “transaction”, but of the value of the service being offered at a given price. A reasonable explanation for this phenomenon is that it may occur simply due to the way the experiment was designed. In the experiment the anchor price was deliberately similar to the mean of the contextual prices. Thus, this design could be indicating a reinforcing effect in which, when the individual observes that the mean of the contextual prices is similar to the anchor price, the latter is endorsed, transferring the role of anchor price to one of reference against which the service price is compared to predict the quality, and consequently, to assess it. This is to say, in this situation the anchor price would have dual role in supporting the subjects’ decision (Epley & Gilovich, 2005b).

5.2 Limitations, extensions and practical implications

An evident limitation of this study is that the anchor prices are similar to the service prices offered. This design seeks to reduce the number of treatments of the experiment, since the main focus is to study the existence of the effect of anchor prices on WTP and EXQ with and without fulfillment of the FH. In this light, and given that we demonstrated the existence of the effect, a natural extension is the analysis of this phenomenon in the presence of anchor prices dissimilar to the market prices.

On the other hand, the results found in this study could be underestimated because in this experiment the participants evaluated or made judgments according to a fictitious case, and therefore there was no investment of real money.

The results indicate that it could be possible to manipulate consumers' WTP through framing (Tversky & Kahneman, 1986). In this vein, an important factor to consider in the choices of fund investors is related to the investors' level of abilities and knowledge, since financial literacy has been related to portfolio selection abilities. Investors with less financial education will be more inclined to be affected by manipulations of the context made by the fund managers, consequently affecting the quality of their financial decisions.

Finally, a political implication is related to the effects of price collusion by the suppliers of mutual funds. A simultaneous increase in administration fees would distort the contextual prices, causing investors to base their decisions on a reference with colluded market prices, negatively affecting investors' return. This is particularly relevant in markets with a lack of competition.

Bibliography

- Akerlof, G. A. (1970). The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics*, *84*(3), 488–500. <http://doi.org/10.2307/1879431>
- Baker, M., & Wurgler, J. (2014). *BEHAVIORAL CORPORATE FINANCE: AN UPDATED SURVEY*. *Handbook of the Economics of Finance; Volume 2A*. <http://doi.org/10.1007/s13398-014-0173-7.2>
- Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. *Handbook of the Economic of Finance, 1*, 1053–1128. <http://doi.org/10.2139/ssrn.327880>
- Baumgartner, H. (1995). On the utility of consumers' theories in judgments of covariation. *Journal of Consumer Research*, *21*(4), 634. <http://doi.org/10.1086/209424>
- Bell, D. R., & Lattin, J. M. (2000). Looking for Loss Aversion in Scanner Panel Data: The Confounding Effect of Price Response Heterogeneity. *Marketing Science*, *19*(2), 185–200. <http://doi.org/10.1287/mksc.19.2.185.11802>
- Benartzi, S., & Thaler, R. H. (2001). Naive diversification strategies in defined contribution saving plans. *American Economic Review*, *91*(1), 79–98. <http://doi.org/10.1257/aer.91.1.79>
- Bertini, M., Wathieu, L., & Iyengar, S. S. (2012). The Discriminating Consumer: Product Proliferation and Willingness to Pay for Quality. *Journal of Marketing Research*, *49*(1), 39–49. <http://doi.org/10.1509/jmr.10.0028>
- Bitta, A. J. Della, Monroe, K. B., & McGinnis, J. M. (1981). Consumer Perceptions of Comparative Price Advertisements. *Journal of Marketing Research*, *18*(4), 416–427. <http://doi.org/10.2307/3151334>
- Campbell, J., DiPietro, R. B., & Remar, D. (2014). Local foods in a university setting: Price consciousness, product involvement, price/quality inference and consumer's willingness-to-pay. *International Journal of Hospitality Management*, *42*, 39–49. <http://doi.org/10.1016/j.ijhm.2014.05.014>
- Campbell, J. Y. (2006). Household Finance. *Journal of Finance*, *61*(4), 1553–1604. Retrieved from <http://doi.wiley.com/10.1111/j.1540-6261.2006.00883.x>
- Chase, R. B., & Tansik, D. A. (1983). the Customer Contact Model for Organization Design. <http://doi.org/10.1287/mnsc.29.9.1037>
- Cronley, M. L., Posavac, S. S., Meyer, T., Kardes, F. R., & Kellaris, J. J. (2005). A Selective Hypothesis Testing Perspective on Price-Quality Inference and

- Inference-Based Choice. *Journal of Consumer Psychology*, 15(2), 159–169. http://doi.org/10.1207/s15327663jcp1502_8
- Denes-Raj, V., & Epstein, S. (1994). Conflict Between Intuitive and Rational Processing: When People Behave Against Their Better Judgment. *Journal of Personality and Social Psychology*, 66(5), 819–829. <http://doi.org/10.1037/0022-3514.66.5.819>
- Ding, M., Ross, W. T., & Rao, V. R. (2010). Price as an Indicator of Quality: Implications for Utility and Demand Functions. *Journal of Retailing*, 86(1), 69–84. <http://doi.org/10.1016/j.jretai.2010.01.002>
- Dougal, C., Engelberg, J., Parsons, C. A., & Van Wesepe, E. D. (2015). Anchoring on Credit Spreads. *The Journal of Finance*, 70(3), 1039–1080. <http://doi.org/10.1111/jofi.12248>
- Dunning, D., Griffin, D. W., Milojkovic, J. D., & Ross, L. D. (1990). The overconfidence effect in social prediction. *Journal of Personality and Social Psychology*, 58(4), 568–581. <http://doi.org/10.1037/0022-3514.58.4.568>
- Elton, E. J., Gruber, M. J., & Blake, C. R. (2007). Participant reaction and the performance of funds offered by 401(k) plans. *Journal of Financial Intermediation*, 16(2), 249–271. <http://doi.org/10.1016/j.jfi.2006.12.002>
- Epley, N., & Gilovich, T. (2005a). When Effortful Thinking Influences Judgmental Anchoring: Differential Effects of Forewarning and Incentives on Self-Generated and Externally Provided Anchors. *Journal of Behavioral Decision Making*, 18(3), 199–212. <http://doi.org/10.1002/bdm.495>
- Epley, N., & Gilovich, T. (2005b). When effortful thinking influences judgmental anchoring: differential effects of forewarning and incentives on self-generated and externally provided anchors. *Journal of Behavioral Decision Making*. <http://doi.org/10.1002/bdm.495>
- Epley, N., Keysar, B., Van Boven, L., & Gilovich, T. (2004). Perspective taking as egocentric anchoring and adjustment. *Journal of Personality and Social Psychology*, 87(3), 327–339. <http://doi.org/10.1037/0022-3514.87.3.327>
- Ferreira, M. A., Keswani, A., Miguel, A. F., & Ramos, S. B. (2013). The Determinants of mutual fund performance: A cross-country study. *Review of Finance*, 17(2), 483–525. <http://doi.org/10.1093/rof/rfs013>
- García, M. J. R. (2013). Financial education and behavioral finance: New insights into the role of information in financial decisions. *Journal of Economic Surveys*, 27(2), 297–315. <http://doi.org/10.1111/j.1467-6419.2011.00705.x>
- Guiso, L., & Sodini, P. (2013). Household Finance: An Emerging Field. *Handbook of the Economics of Finance*, 2(PB), 1397–1532. <http://doi.org/10.1016/B978-0-44-459406-8.00021-4>
- Hauser, J. R., & Wernerfelt, B. (1990). An Evaluation Cost Model of Consideration Sets. *Journal of Consumer Research*, 16(4), 393. <http://doi.org/10.1086/209225>
- Hedesström, T. M., Svedström, H., & Grönlund, 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(1), 113–126. <http://doi.org/10.1016/j.joep.2006.04.002>
- Kahneman, D. (2003). Maps of Bounded Rationality: Economic Psychology for Behavioral. *The American Economic Review*, 93(5), 1449–1475. <http://doi.org/10.1257/000282803322655392>
- Kardes, F. R., Cronley, M. L., Kellaris, J. J., & Posavac, S. S. (2004). The Role of Selective Information Processing in Price-Quality Inference. *Journal of Consumer Research*, 31(2), 368–374. <http://doi.org/10.1086/422115>
- Kaustia, M., & Knüpfer, S. (2008). Do investors overweight personal experience? Evidence from IPO subscriptions. *Journal of Finance*, 63(6), 2679–2702. <http://doi.org/10.1111/j.1540-6261.2008.01411.x>
- Kamins, M. A., Dreze, X., & Folkes, V. S. (2004). Effects of seller-supplied prices on buyers' product evaluations: Reference prices in an Internet auction context. *Journal of Consumer Research*, 30(4), 622–628.
- Kool, W., McGuire, J. T., Rosen, Z. B., & Botvinick, M. M. (2010). Decision making and the avoidance of cognitive demand. *Journal of Experimental Psychology: General*, 139(4), 665–682. <http://doi.org/10.1037/a0020198>
- Kozup, J., Howlett, E., & Pagano, M. (2008). The effects of summary information on consumer perceptions of mutual fund characteristics. *Journal of Consumer Affairs*, 42(1), 37–59. <http://doi.org/10.1111/j.1745-6606.2007.00093.x>
- Levin, J. (2001). Information and the Market for Lemons. *The RAND Journal of Economics*, 32(4), 657–666. <http://doi.org/10.2307/2696386>
- Maarten Van Rooij, S., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101, 449–472. <http://doi.org/10.1016/j.jfineco.2011.03.006>
- Mayhew, G. E., & Winer, R. S. (1992). An Empirical Analysis of Internal and External Reference Prices Using Scanner Data. *Journal of Consumer Research*, 19(1), 62–70. <http://doi.org/10.1086/209286>
- Monroe, K. B. (1973). Buyers' Subjective Perceptions of Price. *Journal of Marketing Research (JMR)*, 10(1), 70–80. <http://doi.org/10.2307/3149411>
- Rajendran, K. N., & Tellis, G. J. (1994). Contextual and temporal components of reference price. *Journal of Marketing*, 58(1), 22. <http://doi.org/10.2307/1252248>
- Sanbonmatsu, D. M., Posavac, S. S., Kardes, F. R., & Mantel, S. P. (1998). Selective hypothesis testing. *Psychonomic Bulletin & Review*, 5(2), 197–220. <http://doi.org/10.3758/BF03212944>
- Shefrin, H. (2006). *Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing*. Financial Management Association

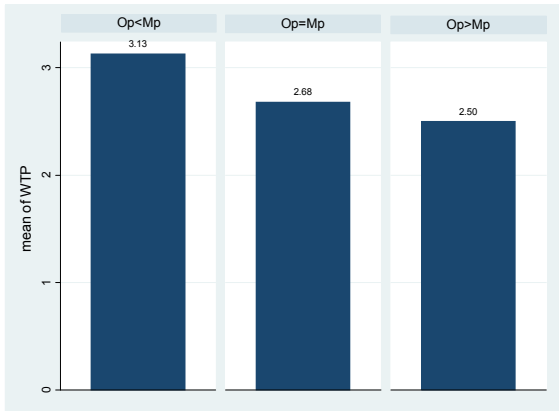
survey and synthesis series. http://doi.org/10.1207/S15327760JPFM0102_7

- Shugan, S. M. (1980). The cost of thinking. *Journal of Consumer Research*, 7(2), 99–111. <http://doi.org/10.1086/208799>
- Stango, V., & Zinman, J. (2009). Exponential growth bias and household finance. *Journal of Finance*, 64(6), 2807–2849. <http://doi.org/10.1111/j.1540-6261.2009.01518.x>
- Thaler, R. (1985). Mental Accounting and Consumer Choice. *Marketing Science*, 4(3), 199–214. <http://doi.org/10.1017/CBO9781107415324.004>
- Tellis, G. J., & Gaeth, G. J. (1990). Best value, price-seeking, and price aversion: The impact of information and learning on consumer choices. *The Journal of Marketing*, 34–45.
- Trautmann, S. T., & van de Kuilen, G. (2015). Reserve price and competing bids: Reference points for product evaluations in online auctions? *Journal of Consumer Behaviour*, 14(4), 285–296. <http://doi.org/10.1002/cb.1519>
- Tseng, S. Y., & Yang, C. (2011). Development of information searches in risky investment decision: Testing a moderating role of income. In *Proceedings - 2011 4th International Conference on Information Management, Innovation Management and Industrial Engineering, ICIII 2011* (Vol. 3, pp. 21–25). <http://doi.org/10.1109/ICIII.2011.291>
- Tufano, P. (2009). Consumer Finance. *Annual Review of Financial Economics*, 1(1), 227–247. <http://doi.org/10.1146/annurev.financial.050808.114457>
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5(2), 207–232. [http://doi.org/10.1016/0010-0285\(73\)90033-9](http://doi.org/10.1016/0010-0285(73)90033-9)
- Tversky, A., & Kahneman, D. (1974). Judgement under uncertainty: heuristics and biases. *Science*, 185, 1124–1131.
- Tversky, A., & Kahneman, D. (1986). Rational Choice and the Framing of Decisions. *The Journal of Business*, 59(S4), S251. <http://doi.org/10.1086/296365>
- Urbany, J. E., & Dickson, P. R. (1991). Consumer Normal Price Estimation: Market versus Personal Standards. *Journal of Consumer Research*, 18(1), 45. <http://doi.org/10.1086/209239>
- Van Rooij, M. C. J., Lusardi, A., & Alessie, R. J. M. (2012). Financial Literacy, Retirement Planning and Household Wealth. *Economic Journal*, 122(560), 449–478. <http://doi.org/10.1111/j.1468-0297.2012.02501.x>
- Valle, M. A., Lavin, J. F., Magner, N. S., & Geldes, C. E. (2016). Influence of contextual information and past prices on the willingness to pay and expected quality evaluations. *Journal of Consumer Behaviour*.
- Wathieu, L., & Bertini, M. (2007). Price as a Stimulus to Think: The Case for Willful Overpricing. *Marketing Science*, 26(1), 118–129. <http://doi.org/10.1287/mksc.1060.0222>
- Westerhoff, F. (2003). Anchoring and Psychological Barriers in Foreign Exchange Markets. *Journal of Behavioral Finance*, 4(2), 65–70. http://doi.org/10.1207/S15427579JPFM0402_03
- Winer, R. S. (1986). A Reference Price Model of Brand Choice for Frequently Purchased Products. *Journal of Consumer Research*, 13(2), 250–256. <http://doi.org/10.1086/209064>
- Yan, D., & Sengupta, J. (2011). Effects of Construal Level on the Price-Quality Relationship. *Journal of Consumer Research*, 38(2), 376–389. <http://doi.org/10.1086/659755>

Study 1

Figure 1 – WTP and STF by contexprices if dum_ancla = 0

Graph A



Graph B

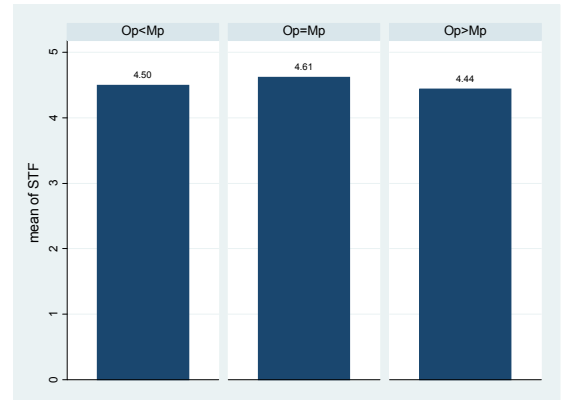
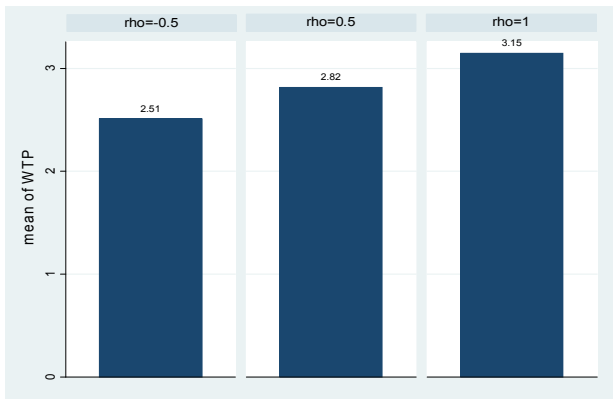
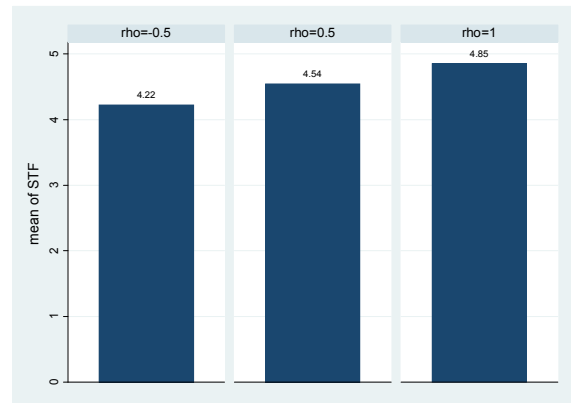


Figure 2 – WTP and STF by dum corr if dum_ancla = 0

Graph C



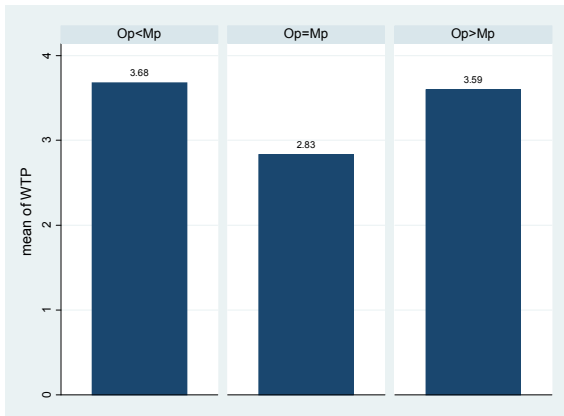
Graph D



Study 2

Figure 3 – WTP and STF by contexprices if dum_ancla = 1

Graph A



Graph B

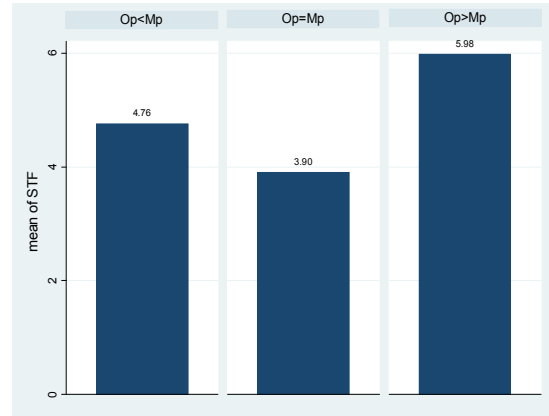
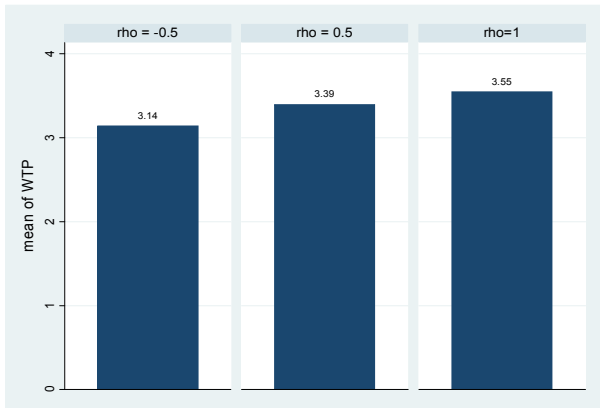


Figure 4 – WTP and STF by dum corr if dum_ancla = 1

Graph C



Graph D

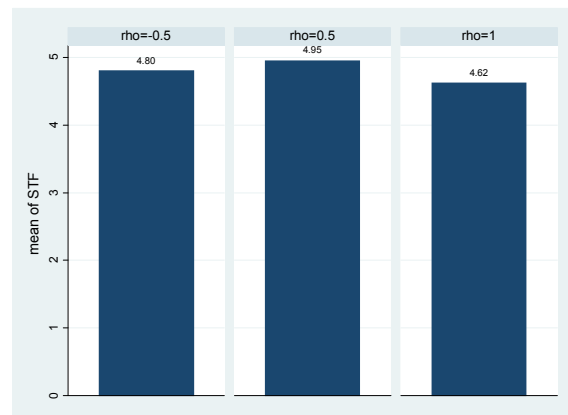


Table 1 - Study 1 and Study 2 standardized coefficients of LOGIT models

	Without anchor (study 1)	WTP With anchor (study 2)	With anchor high-low	Without anchor (study 1)	EXQ With anchor (study 2)	With anchor high-low
	(A)	(B)	(B2)	(C)	(D)	(D2)
Contextual Prices	-0.1387***	-0.0496	-0.0508	-0.0255	0.1438***	0.1389***
Correlation P-Q	0.1475***	0.1650***	0.1642**	0.1072**	-0.0103	-0.131
Dum high-low			*			
			0.234			0.0576
Gender (dummy)	-0.0107	0.0195	0.282	0.0187	-0.0048	-0.008
Age	0.1020**	-0.0515	-0.524	-0.0864*	-0.1281***	-0.1298***
Industry (dummy)	-0.0725	-0.1484***	-1486***	0.0166	0.0995**	0.0987**
Risk aversion	0.1047**	0.0980**	0.1015**	0.0877*	0.1526***	0.1608***
FM savings (dummy)	0.0375	-0.0562	-0.0549	0.0096	0.0195	0.0226
N	513	776	776	513	776	776
prob > X2	0.000	0.000	0.000	0.0982	0.000	0.000
LL	-335.78	-472.94	-472.79	-348.49	-511.75	-510.72

Table 2 - Standardized coefficients of LOGIT models

	Non- restricted	WTP Pooled			Non- restricted	EXQ Pooled		
		Restricted	Restricted	Restricted		Restricted	Restricted	Restricted
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Anchor	0.0732**	0.0742**	0.0773**	0.0780**	0.1113***	0.1096***	0.1124***	0.1107***
Contextual Prices	-0.0884***	-0.0811**	-0.0821**	-0.07740**	0.0809**	0.0704**	0.0817**	0.0713**
Correlation P-Q	0.1591***	0.1585***			0.0357	0.0355		
Interaction	-0.0428		-0.0367		0.0733		0.0731	
Gender (dummy)	0.0124	0.0118	0.0173	0.0107	0.0005	0.0017	0.0017	0.0029
Age	0.0026	0.0024	-0.0002	-0.0003	-0.1121***	-0.1118***	-0.1127***	-0.1125***
Industry (dummy)	-0.1326***	-0.1321***	-0.1015**	-0.1008***	0.0527	0.0505	0.0599*	0.0577*
Risk aversion	0.1004***	0.1010***	0.0976***	0.0980***	0.1380***	0.1369***	0.1373***	0.1362***
FM savings (dummy)	-0.0224	-0.0224	-0.0210	-0.0209	0.0108	0.0106	0.0112	0.0110
N	1289	1289	1289	1289	1289	1289	1289	1289
prob>X2	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
LL	-814.08	-814.45	-826.17	-826.44	-865.73	-866.87	-866.39	-867.52
LR test (prob>X2)		0.3946	0.0000	0.0000		0.1321	0.2522	0.1681