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Self-attribution bias in consumer financial decision-making: How investment returns affect individuals' belief in skill☆

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ABSTRACT

Self-attribution bias is a long-standing concept in psychology research and refers to individuals' tendency to attribute successes to personal skills and failures to factors beyond their control. Recently, this bias is also being studied in household finance research and is considered to underlie and reinforce investor overconfidence. To date, however, the existence of self-attribution bias amongst individual investors is not directly empirically tested. That is, it remains unclear whether good (vs. bad) returns indeed make investors believe more (vs. less) strongly that skills drive their performance. Using a unique combination of survey data and matching trading records of a sample of clients from a large discount brokerage firm, we find that (1) the higher the returns in a previous period are, the more investors agree with a statement claiming that their recent performance accurately reflects their investment skills (and vice versa); and (2) while individual returns relate to more agreement, market returns have no such effect.

1. Introduction

Self-attribution bias is a long-standing concept in psychology research and refers to individuals' general tendency to attribute successes to personal skills and failures to factors beyond their control (see e.g., Feather and Simon, 1971; Miller and Ross, 1975). Recently, self-attribution bias is also gaining research attention in the field of household finance. In this regard, this bias is thought to underlie and reinforce individual investor overconfidence (Barber and Odean, 2002; Dorn and Huberman, 2005). The household finance literature demonstrates that investor overconfidence is associated with such behaviors as overtrading (Barber and Odean, 2002) and underdiversification (Goetzmann and Kumar, 2008), which are detrimental to consumer financial well-being because they lead to underperformance and portfolios with high idiosyncratic risk.

For the above-mentioned reasons, it is important to increase the understanding of self-attribution bias in the context of consumer financial decision-making. To date, however, the existence of self-attribution bias amongst individual investors is only assumed and not directly empirically tested. For example, it is presumed that self-attribution bias causes successful investors to grow increasingly overconfident about their investment skills and therefore increase their trading volume over time (Daniel et al., 1998; Gervais and Odeam, 2001; Statman et al., 2006). Whether individual investors actually have a self-attribution bias, however, is not measured in such studies. As a notable exception, (Dorn and Huberman, 2005) survey a sample of individual investors about whether they judge their past investment successes to be mainly due to their personal skills. However, they do not test whether these investors indeed attribute good returns to their skills and bad returns to other factors. As such return attribution forms an essential component of self-attribution bias (Miller and Ross, 1975), the absence of a direct test in this regard is an important limitation of previous literature.

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The present research establishes direct empirical evidence for self-attribution bias in consumer financial decision-making using a unique combination of survey data and matched trading records of a sample of Dutch discount brokerage clients. In so doing, the current research contributes to the emerging literature that examines how consumers make financial decisions and manage their personal wealth (Zhou and Pham, 2004; Johnson et al., 2005; He et al., 2008; Lee et al., 2008; Hoffmann and Broekhuizen, 2010; Strahilevitz et al., 2011; Aspara and Hoffmann, 2013). Considering the population's aging demographics and individuals' increasing self-responsibility for accumulating retirement wealth (van Rooij, Lusardi, and Alessie, 2011), household finance is of growing importance (Campbell, 2006; Lynch, 2011). Indeed, according to Zhou and Pham (2004), no theory of consumption is complete without a fundamental psychological understanding of why individuals manage their wealth in the ways they do. The present research aims to contribute to this understanding.

To establish the presence of self-attribution bias, the extant literature argues that it must be shown that individuals indulge in both self-protective attributions under conditions of failure and self-enhancing attributions under conditions of success (see Miller and Ross, 1975: 214). In the context of the present research (i.e., individual investor decision-making), this means that individuals would have to attribute their recent investment performance more (vs. less) to their personal skills when the outcome is good (vs. bad). Testing this notion requires data on both a (survey) measure of investor performance self-attribution and matched (brokerage) data on actual individual investment performance. The current research is fortunate to have access to both types of data, in the form of investors' self-reported performance attributions gauged by an online survey combined with individual-level returns of the same individuals obtained through their brokerage records. Using these data, this research tests two related hypotheses.

First, we expect a positive relationship between investment returns in a given period and investors' agreement at the end of the period with a statement claiming that their recent performance reflects their personal investment skills (H1a). Second, considering that self-attribution bias relates to taking (vs. not taking) responsibility for personal successes or failures (see Glaser and Weber, 2009) for a discussion on the potential differential impact of individual vs. market returns), we expect that only individual-level investment returns affect investors' agreement with the above-mentioned statement, while market returns have no such effect (H1b).

The remainder of this paper is organized as follows. Section 2 describes the data that we use to test the above-mentioned hypotheses. Section 3 presents empirical results. Section 4 concludes the paper, discusses implications for practitioners, and provides avenues for future research.

2. Data

We test the hypotheses using a unique panel dataset combining survey data with matching brokerage records of clients of a large Dutch discount broker. Hoffmann, Post, and Pennings, (2013) also use this dataset. Variables used in the analyses are defined in the notes of Table 1.

2.1. Survey data

In April 2008, we invited per email 20,000 randomly selected brokerage clients to participate in an investor panel. About 4% of the invited clients agreed to become part of the panel and to receive an email at the end of each month between April 2008 and March 2009 in which they were requested to follow a link to complete an online survey. The initial response rate of 4% for April 2008 is comparable to that of similar investor surveys (cf. Dorn and Sengmueller, 2009). Nevertheless, Hoffmann et al. (2013) compare the investors in the sample who complete the survey to the broker's overall client base to check for a potential response bias. This comparison indicates that the sample is not subject to any non-random response problems (see also the results of an additional robustness check as reported in Table 2 in Section 3).[1] Another possible concern is response timing potentially affecting the results. That is, the self-attribution bias of early versus late respondents to the monthly investor survey might differ, because of changes in individual portfolio returns between their response times. As we receive most responses within the first few days after sending out each survey email, however, it is unlikely that there is a response-time pattern that could introduce a possible bias. A check that excludes late respondents by Hoffmann et al. (2013) confirms that response timing is of no concern.

In April–June 2008, the monthly investor survey included a question measuring individuals' self-attribution regarding their last month's investment performance. In particular, we asked brokerage clients to indicate the extent of their agreement with the following statement: "The recent performance of my investment portfolio accurately reflects my investment skills." Clients were asked to provide their response to this statement by selecting an integer value from a seven-point Likert scale, which was labeled as follows: 1 = "completely disagree"; 4 = "neutral"; 7 = "completely agree." The remaining points on the scale (i.e., 2, 3, 5, and 6) were labeled exclusively with their respective number. Low scores on this henceforth called Self-Attribution Scale (SAS) indicate that individuals take no personal responsibility for their recent investment performance, while high scores indicate that individuals attribute their recent investment performance to their own investment skills. The mean of the responses for SAS over the 3 months of April–June 2008 is 3.72 (SD = 1.43). Our measurement of self-attribution regarding investment performance is consistent with that of Dorn and Huberman (Dorn and Huberman, 2005), who asked survey participants about their agreement with the following statement: "My past investment successes were, above all, due to my specific skills." Note, however, that these authors did not test whether investors indeed attribute good returns to their skills and bad returns to other factors, which is an essential component of self-attribution bias (Miller and Ross, 1975).

2.2. Brokerage records

We have access to the brokerage records of clients who completed at least one survey during the sample period. In particular, we have survey data and matched brokerage records available for 787 clients in April, 701 clients in May, and 605 clients in June (total number of client-month observations = 2093; number of distinct investors in the sample = 866). As of April 2008, the mean age of these clients is 50.55 years (SD = 13.51 years), 93% (7%) of them is male (female), and their average portfolio value is €54,446

[1] In particular, we apply an inverse-probability-weighted estimator as a robustness check (Robins and Rotnitzky, 1995; Wooldridge, 2002). For each of the three months, a logit model is estimated where the dependent variable indicates either response (1) or non-response (0) to the survey. As explanatory variables, we include Gender, Age, and Account Tenure. Next, the predicted probabilities of survey response are calculated. Finally, the regression models of Section 3 are estimated again using the inverse of the predicted probabilities as sample weights. The results of the regressions that include this estimator are similar to those obtained from the original specifications in terms of coefficient magnitudes, significance, and signs (detailed results available from the authors upon request).