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Framing and the disposition effect: evidence from mutual fund investor redemption behaviour

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Abstract

Research on decision-making under uncertainty has highlighted that individuals often use simple heuristics and/or exhibit behavioural biases. Specifically, with respect to portfolio decisions, research has indicated that investors are subject to the disposition effect, i.e. they are reluctant to sell assets that have performed poorly (losers) and prone to sell assets that have performed well (winners). We find that the mutual fund investors in our sample are subject to the disposition effect when they withdraw the redemption proceeds from their account, but not when they reallocate the proceeds within the account. The evidence is consistent with Shefrin and Statman's hypothesis that framing a transaction as a transfer as opposed to a sale mitigates the disposition effect.

Keywords:

Behavioral finance | Investor behaviour | Mutual funds | Portfolio allocation | Investments

JEL Classifications:

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Notes

[1]Barberis and Xiong (2009) present a formal model to analyze the conditions under which prospect theory would lead to the disposition effect. See e.g. Odean (1998), Barber and Odean (1999), Grinblatt and Keloharju (2001), Shapira and Venzia (2001), Lehenkari and Perttunen (2004), Feng and Seasholes (2005), Dhar and Zhu (2006), Lim (2006), Barber et al. (2007), Kumar and Lim (2008), Lehenkari (2009), and Ben-David and Hirshleifer (2012) for empirical evidence.

[2]See e.g. Tversky and Kahneman (1981), Thaler (1985), and Lim (2006).

[3]It is useful at the outset to clarify some terminology regarding the words ‘redemption’ and ‘sale.’ We use the term ‘redemption’ in a generic manner, without reference to the frame under which the redemption occurred. We use the term ‘sale frame’ to indicate that the investor withdrew the redemption proceeds from the account.

[4]

[5]Investors’ beliefs in how past performance is related to future expected performance can also affect trading behavior, but we have no way of controlling for these beliefs. A

belief in performance persistence will cause investors to be more likely to redeem poor performing funds than funds that have performed well. On the other hand, a belief in mean reversion will cause investors to be more likely to redeem good performers than poor performers. For discussion and analysis of mutual fund performance persistence, see Grinblatt and Titman (1992), Brown and Goetzmann (1995), Carhart (1997), and Bollen and Busse (2005).

[6]For December of 2002 (the 24th and final month of the sample period), only 281 (4.3%) of the 6,496 accounts in our sample have purchases in the prior 23 months for all of the funds in the account, and the average ratio of shares purchased over the prior 23 months to shares held at the beginning of the month across all account-fund observations in these 281 accounts is 0.46. Moreover, in only seven of the 281 accounts do all of the funds have a ratio of shares purchased over the prior 23 months to shares held at the beginning of the 24th month greater than 0.75. Simply stated, very few of the accounts have enough prior purchase data available to reliably calculate the purchase price.

[7]If an account has three funds of more than 25 shares and one or more additional funds of less than 25 shares, we treat the funds with less than 25 shares as being part of the portfolio.

[8]Full-service broker/dealers often have an approved list of mutual funds that are fully supported by their systems and back offices. Often all the funds in an approved fund family are on a particular broker/dealer’s approved list.

[9]By requiring three years of data, we eliminate accounts with relatively new funds. For this restriction to affect our findings, there would need to be a group of investors who disproportionately hold new funds and who exhibit behavior that is opposite of what we find, i.e. they either are prone to redeeming losers when they withdraw proceeds or they are loss averse when they reallocate the proceeds from a redemption. We have no reason to expect that both of these conditions hold.

[10]The marginal effects in a probit model are not constant across values of the independent variables (i.e. the relation between the predicted probability and the explanatory variable is non-linear). Therefore, there is not a restricted form of the model that would yield a predicted probability equal to the random choice probability. We also estimate linear models for the number of winners and number of losers sold with all of the same explanatory variables. In these models, we would expect a

coefficient on the random choice probability variable to be close to one. This is what we find, although the coefficient is typically statistically significantly different from one.

[11]An account can have both winners and losers, which means accounts in the loser analysis can also appear in the winner analysis.

[12]If an investor made multiple redemptions in a month and some of the proceeds are withdrawn and some reallocated within the account, we classify the investor as being under a sale frame.

[13]We are unable to describe the fixed effects as it would potentially identify the broker-dealer that provided the data. The number of fixed effects included in the analysis varies between 702 and 867.

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