

#3 Shefrin & Statman (1985). The Disposition to Sell Winners Too Early and Ride
Losers Too Long: Theory & Evidence. A Critical Appraisal


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Introduction

This article will first review the original paper, running through the underlying theory. Following on from this will be a critique of the supporting evidence. A final conclusion will be given, including reference to further research as well as the authors' personal view.

Critique

The paper was published in *The Journal of Finance* (American Finance Association), which has the highest 'impact factor' (4.018) within finance and business^[12]. This makes it highly influential within its field. Since 1978, the authors have published a vast number of papers. This paper alone has over 1000 citations since first publication.

Shefrin and Statman's theory^[24] focuses on four main points which, collectively, have been termed the 'disposition effect'. These four points are prospect theory (PT), mental accounting (MA), seeking pride and avoiding regret (SA), and self-control. PT^[13] suggests that decision makers (DM) tend to sell profitable investments too soon, whilst retaining bad investments – even when standard theories of decision making (e.g. Expected Utility Theory^[1, 27]; Subjective Expected Utility Theory^[22]) suggest otherwise. This occurs in two stages - the editing stage (which leads to DM framing choices in a particular way) and the evaluation stage (where the DM use an 's-shaped' function [Figure 1] to decide on the best choice). MA^[25] states that DM group different choices into separate mental 'accounts'. These are looked at individually, ignoring any possible interaction between them. Thaler & Johnson^[26] went on to suggest that there are negative feelings which make it very difficult for DM to close an 'account' when it is at a loss, and so will attempt to break even, usually leading to a greater overall loss. Gross^[11] believes it is possible to overcome these negative feelings if the 'accounts' are transferred to other assets rather than closed. This is strongly linked to the next part of the disposition effect, SA - where investors resist the realisation of a loss (either from selling profitable investments too soon, or retaining bad investments too long) to avoid loss

of pride or feelings of regret. Shefrin and Statman^[24] state that this reluctance to realise loss arises from a lack of self-control over negative emotions and feelings of guilt.

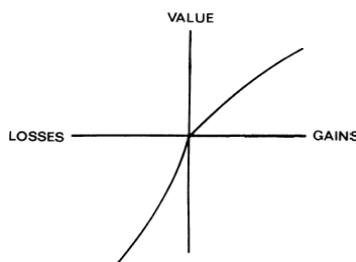


Figure 1. A hypothetical value function for prospect theory. With a loss and gain of the same magnitude, the loss would feel greater. Image replicated from Kahneman & Tversky^[13].

Method

The paper uses empirical data from two different sources. The first (Schlarbaum *et al.*^[23]) looks at the trading history of a large sample of individual investors, collected between January 1964 (due to insufficient recording before this date) and December 1970 (due to the start of the study) from the records of a brokerage firm. Of the approximate 30,000 accounts, 10% were randomly selected by the authors. From this sample, 500 were discarded as they were not individual investors. Of the 2506 polls sent out, 972 (38.8%) were returned. These matched the geographical distribution of all U.S. shareholders^[9].

Although the sample is large, and selection is well carried out, there are flaws with Schlarbaum *et al.*'s paper^[23]. Primarily, it states that the results are statistically significant; however it makes no mention of what statistical test was used. Because of this it is impossible to see whether the correct test was used (which in this authors view should be an independent t-test) therefore the viability of the results are questionable. Schlarbaum *et al.*^[23] note that it is possible a common trait is shared by individuals who keep an account with a broker company for 7 years, however a questionnaire (including the groups' basic demographic information; taken from Lease *et al.*^[15]) was issued which showed no significant similarities between the brokers. There may also be a 'success bias' (where only those who are successful stay in the firm) yet a control group sample of 1050 brokers - taken from throughout the 1964-1970 sample - confirmed the larger sample's results, thus this 'success bias' did not seem to occur.

Additionally, the study must consider other possible confounding variables, such as levels of trust in the government^[18], and economic variation due to environmental climate change^[6, 7].

The second data set is aggregate data on mutual fund trades provided by the ICI (Investment Company Institute)^[17]. There are several problems with this data, primarily it does not contain the data of individual investors (as in Schlarbaum *et al.*^[23]), though Shefrin and Statman^[24] are adamant that significant inferences can be drawn regardless. Second to this, the data for different categories (split by method of distribution of shares - direct sellers, broker/dealer, and no-load funds) is collected for different time periods, and so a comparison between these categories would be impossible. Shefrin and Statman^[24] justify this by stating that, after 1973, the data includes money market funds, which have different effects on no-load funds compared to the other categories.

Another criticism is that Shefrin and Statman^[24] state that the data is 'likely to be composed of heterogeneous clienteles' (page 785) - though this assumption is not checked. A second assumption made is that the change in the capital of mutual funds will closely follow a change in the market as a whole. Though this is likely to be true, there could be differences between the two values, which would affect the findings. Alongside this the data was not randomly selected, instead 60 observations (30 of both the largest gains and losses) were selected. This assumes that the data is normally distributed, which is not mentioned. In the authors view this looks like the cherry-picking of results. However Shefrin and Statman^[24] validate this through claiming that it was not known when (within a given month) the stock was bought / sold. This selection method would use the most clear cut data (and, arguably, would support the findings by showing the greatest discrepancy). The final point for the ICI data^[17] is that the statistical test used appears to be a t-test (Page 789), though this is not explicitly mentioned; instead a formula is given. In the authors view this is poor.

From the two data sets Shefrin and Statman^[24] conclude that tax considerations alone were not a valid explanation for the patterns of both loss and gain realisation, but, when coupled with MA, RA, and self-control (three aspects of their theory), it appears consistent. A secondary conclusion is that there is a high concentration of loss realisations in December (due to an increased realisation of capital losses at the end of the calendar year) which does not fit with 'fully rational behaviour' (page 777) but is consistent with their theory. However they contradict themselves by saying that an investor only has to act rationally occasionally, in this instance through setting themselves imaginary deadlines (reasoning that it is better for an investor to take a loss this year instead of next year due to the additional year's interest).

Conclusion

Several studies have expanded on Shefrin and Statman's paper^[24], with the disposition effect shown to hold true in both household investors and institutional investors^[10]; among professional future traders^[16]; and among individual home owners^[9]. However, there are papers that show opposite effects to the disposition effect^[4]. Kaustia^[14] believes that it is unlikely that the disposition effect is explained by prospect theory, whilst some authors^[2] have suggested alternative theories, whereby investors appear to extract the PT utility from realised gains and losses only (not from paper gains / losses).

The prospect theory has many different applications which, within economics, range from bankruptcy^[8] to asset prices^[3], through to international politics^[20, 21]. The disposition effect ties in the prospect theory as well as several different areas of decision making and behaviour. Future research may focus on the disposition effect within many different aspects of society, from cultural upbringing through to socioeconomic status. This could be done through issuing a simple questionnaire (similar to Schlarbaum *et al.*^[23]) that included relevant questions. It is this author's view that this is highly pertinent to businessmen and laymen alike, as we all make risky decisions, whether it be in stocks or buying insurance.

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