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Disposition Effect Bias in Investment and Important Factors Behind This Phenomenon

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Abstract:
Disposition effect bias in investment is one of the most important phenomena observed among the investors that impacts the wealth of the investors. Although several important factors are found to have contributed to this effect, studies are still ongoing to find out more factors that directly or indirectly affect this phenomenon. Prospect theory or Loss aversion seems to be the principal factor behind this effect. Other important factors consistent with

irrational behavior of investors are; cognitive dissonance, mental accounting, regret aversion and prior prices. Important rational factors are mean reversion of prices and realization utility. Further research to identify factors

affecting these important factors like demography, past experiences, gender etc. is required to delve deep into this important phenomenon in finance.

Introduction:
Disposition effect bias in investment is one of the most researched and important phenomena in the world of behavioral finance. This bias is observed among investors from their tendency in quickly exiting from profit making investments, while holding loss making investments for long. Studies found that such bias adversely impacts the wealth of the investors as winning assets that investors sell, outperform the return on assets retained by them (Odean, 1998)

Though disposition effect bias is believed to be seen among retail investors, there are enough evidence to suggest that this bias affects investment decisions of both institutional investors as well as professional traders (Barber and Odean, 2007; Shapira and Venezia, 2001). While disposition effect as a phenomenon is widely observed and proven among investors, what drives it is still unknown. The most basic explanation for this bias can be found from our nature that we feel good to win and feel bad to lose. Although each investor intends to become logical and rational while taking decisions, the reality is that such decisions are always affected by factors like fear, grid, pride and misconceptions.

Explanations to this disposition effect so far provided by researchers are found to be consistent with both rational and irrational behavior of investors. The most important explanation given which is consistent with irrational behavior of the investors is through Prospect Theory by Daniel Kahneman and Amos Tversky (Kahneman and Tversky, 1979). The study attributes loss aversion to be the most important factor for such irrational behavior observed among the investors. Other such explanations that can be categorized as irrational behavior of investors are: regret aversion, cognitive dissonance, selective attention, self control, and prior prices

(Shefrin and Statman, 1985; Frydman and Camerer, 2016; Schemidt, 2016; Chang et al., 2016; Grinblatt and Keloharju, 2001; Grosshans and Zeisberger, 2018). Some of the important rational explanations for disposition effect are mean reversion of asset prices (Barber and Odean, 1999) and realization utility (Barberis and Xiong, 2012).

Important Factors:

i) Loss Aversion: Kahneman and Tversky indicated that classical utility theory does not apply under situations of risk and uncertainty. As per conventional utility theory, investors should select the option that maximizes the utility. However, given an investment option where there is equal probability to win $150 and lose $100, most of the investors reject the option although the expected gain is positive. The reason behind this decision is averseness to loss. Averseness to loss is higher than the corresponding pleasure from gain of same magnitude. This indicates that investors will do anything to avoid loss. The relationship between disposition effect and Prospect Theory lies in the 'S-shaped' value function. The 'S-shaped' value function of Prospect Theory suggests that investors are expected to quickly realize their gains and hold on to their losses. With loss making investments, investors even try to invest more to lower the average cost, this aligns with the sunk cost fallacy. Sunk cost fallacy is a tendency to continue channelizing resources like time, money, or material, towards a losing investment.

ii) Mental Accounting: Investors prefer to track gains and losses for each individual asset rather than for the entire portfolio. The perception of loss or gain gets further distorted by the manner in which investors create a reference point to compare. Although the initial reference point is usually the cost of investment, investors update the reference price as the prices continue to evolve. A study by Wang et al. (2017) found that investors hesitated to update reference price when they experienced price decline. However, they were prompt to revise the reference price when they experience a price rise. This approach lowers the effect of a net gain in price, but intensifies investors' perception of losses.

iii) Cognitive Dissonance: Drop in prices after investment decision is made goes against the initial belief of the investors and it causes a cognitive dissonance (Chang et al., 2016). As it becomes difficult to accept the reality, investors try to convince themselves that the losses are only temporary as an attempt to cope with the dissonance. This results in their holding on to their lose making assets.

iv) Disposition bias is triggered by regret aversion (Shefrin and Statman, 1985), where investors tend to regret earlier opportunities of selling the asset at profit that has suffered a capital loss.

Apart from these factors, lack of self control or distraction can also create disposition bias. Although it looks like most of the important factors are consistent with irrational behavior of the investors, there are a few rational factors behind this effect as well.

i) Mean Reversion of prices: A study by Ben-David and Hirshleifer (2012) suggests that disposition bias may be an outcome of the trading on private information. Investors tend to believe that asset prices move towards the equilibrium not in a straight line path. The prices oscillate around the equilibrium prices for quite a while before they settle down. So, after a price decline, an investor may get confident about his decision and refrain from selling as it reinforces the undervaluation of the asset. The investor may even increase the investment in the asset

ii) Realization Utility: A study by Barberis and Xiong (2012) indicates that investors experience utility from not only the final consumption of wealth but also from selling their profit-making assets, called realization utility. When an asset is sold at a loss it causes negative realization utility. As per the realization utility argument, investors will be hesitant to sell investments with capital losses.

Conclusion:

Disposition effect bias among investors is widely researched and important factors are identified for this effect. However, a major gap remains in understanding the overlap between rational and irrational factors behind disposition effect bias. Although loss aversion is believed to be the principal factor, mean reversion of asset

prices creates confusion in identifying whether the decision by the investors is due to loss averseness or mean reverting nature of prices.

Considerable work is still to be done in identifying factors that affect these important factors. A few recent research tried to verify the impact of the price path on the disposition bias. Such studies will help investors avoid disposition bias and make higher long term gain.

One tool that investors often use to overcome this bias is broad framing. It is nothing but looking at all the decisions holistically or comprehensively rather than any particular decision in isolation. Even government tax policies are helpful in avoiding this bias. In most countries long term capital gain tax is higher than short term capital gain tax. This incentivizes investors to hold winning assets for long term. With more and more research, some of the misunderstood concepts can be better analyzed and steps can be taken to overcome this bias among investors.

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