Prospect Theory, Investor Psychology, and the Tendency to Hold on to Losers

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The Disposition Effect

Investors have the tendency to optimally sell winning investments but avoid selling losing ones: they hold onto losers.

Why?

- It has to do with the psychological way in which investors “frame” their investment decisions.

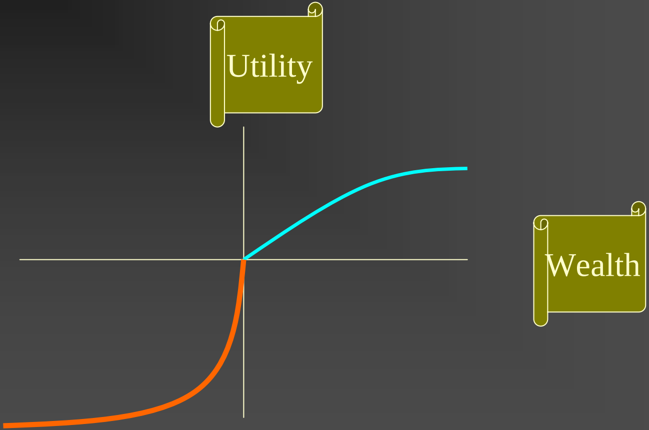
“Framing” is the key!

- Investors who don’t own the stock hold the current stock price as the reference point for their investment decisions
- Ones who own the stock use the initial purchase price (or highest historical price) as their reference point.

The AT&T example

Enter → Prospect Theory

- Focus is on the cognitive process – the way that individuals perceive gains and losses
- Investors' utility functions are S-shaped
- Utility is convex in gains but concave in losses


Utility
Wealth

A simple example

- This is your lucky day!
- You find $1000 on the ground
- Feel pretty good right?

An even luckier day?

- You find $2000 on the ground.
- BUT… one hour later someone bumps into you on the subway. You look in your pocket and discover that a thief has stolen $1000. Only $1000 are left.
- How do you feel now?

Or… put a different way

- Your boss gives you a bonus of $10,000 because your work was excellent
- You feel pretty good, right?

But, what if…

- Your boss decides to cut your salary by $10,000 because your work is not so excellent.
- You feel extremely bad…

- **Kill boss!**

Why an S-shape?

- Individuals have a decreasing sensitivity to monetary stimuli
- The difference between having $100 and $200 in your pocket appears to be greater than the difference between having $1,100 and $1,200. Yet…
- The difference is exactly the same! $100

Similarly…

- The difference between getting a gift of $100 and $200 appears to be greater than the difference between a gift of $1,100 and $1,200.

Does this apply to monetary stimuli only?

- It is easier to discriminate between a 3 degree change and a 6 degree change in room temperature than it is to discriminate between a 13 degree change and a 16 degree one.

In other words…

- Large gains do not add much more to the overall enjoyment relative to smaller gains.
- Large losses do not diminish the overall enjoyment much more so than smaller losses.
  - Once you reach a certain point, you don't really care as much whether you lose any more money.

What does that mean for investor behavior?

- When investors make money, they hoard it. They keep their savings. Invest them carefully.
- But, when they lose money everything changes.

- The more they lose, the more risk that they are willing to take in order to get their money back. Getting “even” is all that matters.

The Casino Example

How does Prospect Theory cause the Disposition Effect?

- Investors who hold the asset frame their investment decisions differently, and hence act differently, from those who do not hold the asset.
- Investors think about the price of an asset in relation to historical prices such as the initial price

And…

- Investors who own the stocks hold onto losers because they are not as sensitive to further losses
- Investors sell their winners because they are not as sensitive to further gains

Moreover…

- Individuals dislike incurring losses much more than they enjoy making gains
- People are more willing to gamble in the domain of losses. “Why not, I’ve already lost most of my money anyway.”
- So, investors will hold onto stocks that have lost value (relative to the reference point of their purchase) and will be eager to sell stocks that have risen in value.

Regret Theory

- It is not gains or losses per se that are the issue, but the realization of those gains or losses.
- Investors feel regret only when they actually realize a loss, and conversely feel pride when they actually realize a gain.

- They like feeling good, so they realize their gains. They dislike regret, so the avoid realizing their losses
- So, the disposition effect stems not so much from regret and pride but rather from the failure to understand that paper gains and losses are as real as realized gains or losses!!!!!!

Evidence

- The disposition effect occurs more frequently for individuals who were responsible for the initial decision to pursue the course of action
- An investor would be more likely to hold onto losers if he was responsible for the initial purchase decision.

Putting It To Use

The Horse Racing Example

Big deal, so the price has gone down by 50%. It is only a loss on paper, the price will go back up. I will wait until I get my money back and then sell it!”

Sound familiar?

This all too common cognition reflects a biased estimate of the future outlook of the investment

- NOTE – It is NOT the biased expectations that cause the disposition effect, but rather the disposition effect that causes the biased expectations.

Thank you!!