

## Does disposition effect hurt?

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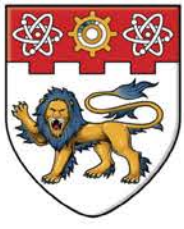
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## Does Disposition Effect Hurt?

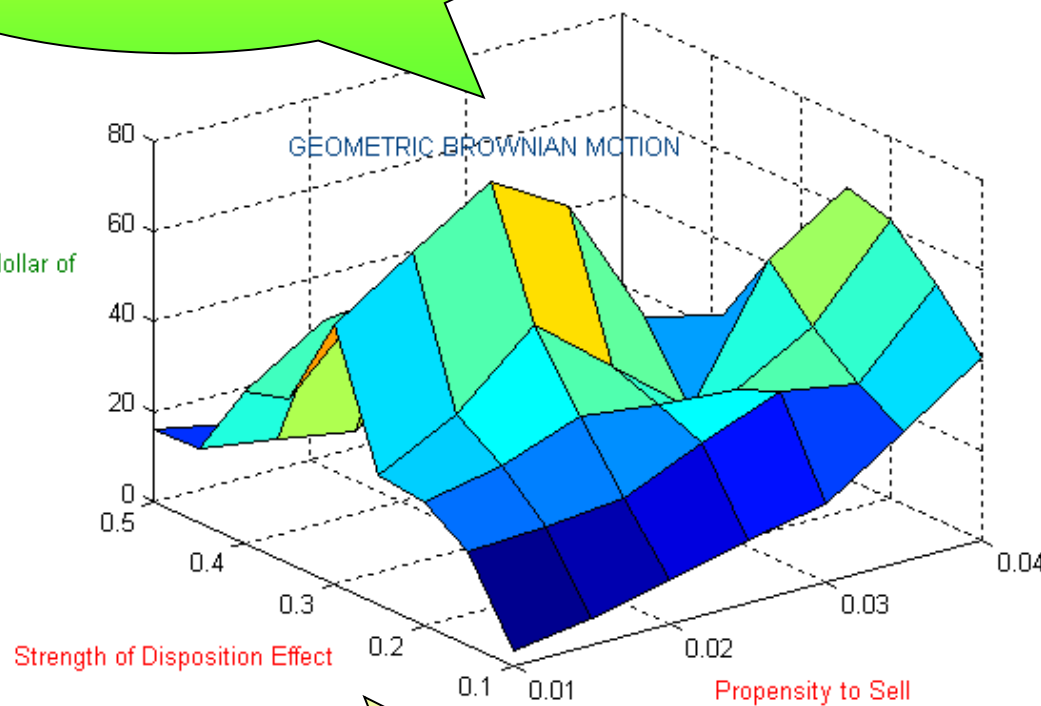
### Disposition Effect

The tendency to sell previously purchased stocks that have appreciated in price (“winners”) and the reluctance to sell those that are trading below their purchase price (“losers”)

### The experiment

In our experiment we used different statistical methods such as Geometric Brownian Motion, Random Walk and Mean Reversion to generate stock prices. Two sets of traders were considered, the first set *exhibited disposition effect* while the second *did not*. Each period, each trader decides to keep or sell a particular stock at the prevailing prices. Money earned through sale of stock earns interest over the remaining periods. The final portfolio values and cash at hand for each trader in the two sets is used for comparison.

A quantity which follows a **Geometric Brownian Motion** may take any value strictly greater than zero and only the fractional changes in the random variate are significant – this is precisely the nature of a stock price.



### What we found...

The comparison of the final value of both the sets of traders shows that the traders that exhibited disposition effect ended up with lesser cash than the ones that did not; but the extent of the loss is surprisingly small, which leads us to believe that disposition effect as an inherent trading behavior does not hurt us a lot.

The stronger the disposition effect, the less willing is a trader to sell losers below purchase price.

The graph plots the average loss due to disposition effect (per dollar of initial endowment) against the strength of disposition effect and the propensity to sell for any trader