

In Pursuit of Value

June, 2017

The Algorithmic Wealth Transfer

A recent article in the CFA Institute magazine caught my eye. *Hero Types, Roller Coasters and Dark Zones* is the latest effort to educate investors and their financial advisors about the costly errors humans make with their money. Behavioral Finance, the name given to this field of study, is an endlessly fascinating area. We've written about it before and incorporate elements into our investing strategies (see Why the Tortoise Beats the Hare).

Categories of common mistakes include Overconfidence, Recency (the tendency to invest based on what you just read), and Momentum (following the herd). This last one is especially interesting, because we sometimes observe it in the behavior of our mutual fund investors. Although we are blessed with a largely well-informed set of clients, this isn't true 100% of the time. Following a period of falling prices, there are inevitably a handful who decide to sell simply because others are selling. I'm always disappointed when that happens; not only because we hate to lose any clients, but also because we know the decision was made without much regard for fundamentals. The paper losses caused by lower prices had shaken the evidently weak conviction behind the original decision to buy. In addition to locking in a loss, sellers at low prices rarely return as investors again. It's probably just as well.

The reliance on others to confirm your opinion is a highly human trait. Buying an iPhone because others are is a good strategy. Letting others think for you saves the time needed to do your own analysis. It's why Op-Ed pages exist in newspapers. Thinking like others provides a feeling of security. Investing might be the only activity where such instincts are ruinous. Best results come from avoiding the crowd, a mindset that is extraordinarily difficult to maintain. People make the same mistakes time after time. Charles Mackay's *Extraordinary Popular Delusions and the Madness of Crowds* (first published in 1841) includes the Dutch Tulip Bulb craze of the 1590s, and the book has been regularly updated since new examples appear every decade or so.

Richard Thaler contributed significantly to the subject with <u>Misbehaving: The Making of Behavioral Economics</u>. He identified "econs", those mythical agents in classical economics who behave rationally (i.e. unlike humans and more like economists) by shunning lotteries, for example (because of the negative expected return). Much of the failure of economics to forecast big events, such as recessions, lies in the inconveniently sparse presence of econs in the human population.

Trading of stocks is increasingly being carried out by algorithms. They may be written by humans but they're designed to exploit what humans do. The Wall Street Journal is running a series of articles under the heading "The Quants" to highlight the growing power of artificial intelligence in decision making. One article, "The Quants Run Wall Street Now", describes the career of a Russian software engineer from the International Mathematical Olympiad to Microsoft to a hedge fund. Another, "How a Trading Algorithm Actually Works", walks through a simple example of a trading model designed to exploit mean reversion. For decades, overvalued and undervalued stocks tended to self-

Too Many Humans

correct fairly predictably, as human traders acted upon such opportunities. Today, according to the article, mean reversion strategies don't work as well because algorithms have arbitraged the returns away.

For years, writers such as Richard Thaler have sought to educate investors who are just too human about their mistakes. Those who cared to could learn and improve their decision making. Today, algorithms are acting to

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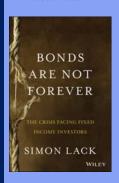
systematically exploit the foibles of humanity. If you don't behave like an econ, but instead trade in a human-like way, the software will seek you out. Given the resources behind High Frequency Trading (HFT) and other computer-driven activity, we could be heading to a Darwinian steady transfer of wealth from the irrational to the ruthlessly efficient. Of course, financial markets have always done that. Trading is an exceptionally efficient wealth transfer mechanism from the naïve to the savvy. Jesse Livermore, the legendary trader in Edwin Lefevre's *Reminiscences of a Stock Operator*, made (and lost) several fortunes at the expense of (or benefit to) others. Finance has come a long way from the days of Michael Lewis's *Liar's Poker*, when successful traders were swaggeringly, self-confidently human.

Analysis of large quantities of data drives the design of algorithms. As a result, there is increasing competition for

some of the best data scientists among companies such as Google, and hedge funds building ever more sophisticated trading models. The traditional career path of new software engineers to tech start-ups is now challenged hedge by funds. compensation model is different. Citadel's chief people officer, L. J. Brock, notes that, "You get to see the work you're contributing go into production and be used by our investment teams at an incredibly fast clip." The higher certainty of more immediate hedge fund compensation can be more appealing than the less certain riches from a successful IPO several years in the future.



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Because capital flows where the returns are highest, the success of algorithms in systematically exploiting the behavioral finance errors of others seems set to continue inexorably, until the only humans left making trading decisions are those who can successfully control their human tendencies. Within hedge funds, investors are shifting capital away from traditional strategies and into quant-driven ones. Short term trading is already widely understood to be a losing proposition on average, and worse once commissions and taxes are figured. Cognitive dissonance by many traders (in this case, the stubborn refusal to objectively assess their results), combined with a supportive financial media that feeds the hunger for "trade ideas" ensures a steady stream of trading that exposes human frailties. It's just that now their exploitation is increasingly systematic, driven by software that refines its tactics through constant learning.

Companies like <u>Blackrock</u> are even applying some of the market sentiment measures built into algorithms to direct their ETF advertising. In short term trading, the qualitative is no match for the quantitative. In the future, those who manage to grow their capital will do so by correctly defining the terms of the contest so that they're not disadvantaged.

This isn't a case of computers replacing humans. Is anybody worse off nowadays for relying on their GPS instead of asking for directions? Peter Thiel notes in <u>Zero to One; Notes on Startups, or How to Build the Future</u>, the computing power Google deployed in an experiment to recognize cats in thousands of YouTube videos. Their 75% success rate could be beaten by a typical four year old. The analytical capabilities of computers are virtually limitless. However, turning human judgment into software code remains extraordinarily difficult.

Humans can never compete in the arena of data analysis. Trading activity is the sustenance without which HFT is simply a theoretical concept. More than ever, the rational human decision is to do less; make fewer decisions but make them carefully. Develop judgment into a competitive edge that can't be automated. Be an investor not a trader. Avoid short term trading, thereby depriving the algorithms of their opportunity to make your capital theirs. For trading to lead to long term wealth, less is more. Leaving data analysis to computers and focusing on decisions requiring judgment is where the future lies.