

Practical Applications of Neuroeconomics for Financial Advisors to Improve Investor Outcomes

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ABSTRACT: Behavioral Finance has been in existence for the last 40 years, but only recently gained professional consideration when Daniel Kahneman won the (first social sciences) Nobel Prize in 2002. Given the sea change in the global financial economy over the last three years, industry pundits are recognizing the need to incorporate some of these findings. However, until precise action items are laid out clearly for financial advisors to guide clients, these findings will remain largely ignored, ensuring that investors will repeat past failures. Innate human tendencies often lead investors to sabotage themselves financially. Neuroeconomics takes behavioral finance theories down a new path, demonstrating actual neural reactions to different human situations (such as how we deal with risk, fear, loss; what triggers happiness; what actually motivates us, etc...). The findings of neuroscientists are important because long held traditional theories have been well-intentioned, but often misguided in their advice. Neuroscientists have also uncovered some surprising results that require little effort, but can have great positive impact. In this paper, we will outline some current neural discoveries in behavioral finance from a variety of the leading experts (with data published from 1998-2010), and focus on both tactical and strategic components that financial advisors can implement when working with investor clients. So far, only very limited research has been done on the financial advisor practice. These specific components have been chosen because they are relatively easy to incorporate into any size practice, and there is significant data available. By implementing some of these methodologies into their practice, advisors could be better equipped to avoid the repercussions of human emotion, potentially improving investor outcomes, and might even be able to restore some faith in the financial advice industry.

Introduction

Since Behavioral Finance's initial integration into the general circles of financial industry in the mid 2000's, several theories have become well-known and widely accepted. The famous "too many jams" study by Sheena Iyengar¹ demonstrates that too many investment choices (and by "too many", we mean each additional offering after the first two) creates so much confusion as to paralyze us into inaction, thus causing us hurt ourselves by not investing or saving. Some theories are even becoming standards: Many defined-contribution plans now automatically opt in the participant, forcing additional action to "opt out" of the plan if the individual does not want (or can not) opt in. Since our tendency is to take no action, this has greatly increased individual participation rates.

The Merrill Lynch Global Wealth Management Cap Gemini Issue 2010 World Wealth Report focuses much of its findings on the need for firms to embrace behavioral finance to help investors. Unfortunately for advisors, it doesn't outline much in the way of clear action steps; rather, it discusses the need for developing new products that take into account investor behavior. And yet, with 400,000 individuals in the US alone holding themselves out as a financial advisor, some specific guidance is clearly needed, or investor satisfaction rates would be much higher.

What is Neuroeconomics

The relatively new field of neuroscience has been more widely used across a number of industries in the last several years to help researchers more accurately understand how humans react when faced with different situations, products, or decisions. The technology includes the use of functional Magnetic Resonance Imaging (fMRI), PET scans, EEG, and MEG tools to witness the neural activity in different parts of the brain, which represent different emotional responses to what is seen, heard, smelled, or felt. More recently, this technology has been used commercially to understand the consumer brain, and to customize products that appeal to them. Neuroeconomics seeks to help us understand the evaluation process in decision making. A number of leading experts around the world are researching neural responses to different decision scenarios, and this paper will focus on specific triggers for financial advisors to incorporate into their practice.

¹ Sheena Iyengar, *The Art of Choosing* (New York, 2010)

The Bad News

Neuroscientists have found that the mere presence of a financial advisor causes the brain to shut down some of the cerebral computations when making risky decisions, because the brain receives signals that it does not need to be as alert as it might otherwise be on its own:²

In summary, our results demonstrate that financial advice from an expert economist, provided during decision-making under conditions of uncertainty, had a significant impact on both behavior and brain responses. Behavioral results showed a significant effect of expert advice, such that probability weighting functions changed in the direction of the expert's advice... Specifically, (1) significant correlations with the value of choice alternatives were obtained only in the absence of the expert's advice, but not during its presence. This indicates an attenuation in the engagement of valuation processes in the presence of expert advice; (2) during the message condition, areas associated with mentalizing, such as DMPFC and bilateral TPJ were recruited, and finally, (3) ROI analyses of regions associated with probability indicated a significant “flattening” of neurobiological probability response ratios (NPRR) in the message condition compared to the no-message condition... **Taken together, these results provide significant support for the hypothesis that one effect of expert advice is to “offload” the calculation of expected utility from the individual's brain.**³

In effect, by simply having a meeting with a client, the neural response in the investor mind is to relax the mental calculations for financial planning that would otherwise be on alert if the individual was trying to do planning on their own. Advisors need to understand that they have an even greater responsibility to educate the client to overcome the mental relaxation that their presence creates. The good news is that researchers have identified several ways for advisors to accomplish this goal.

Tactical Strategies

This portion of the paper will focus on tactical strategies that a financial advisor can implement fairly easily to overcome the brain's quirks. The theories we will be reviewing are as follows:

1. **Neurolinguistic Programming:** Understanding the impact of syntax that can either intimidate (and thus confuse or scare investors), or words that resonate strongly and illuminate the information being conveyed.
2. **Somatic Markers:** Activities that make the meeting memorable to the brain.
3. **What is written:** Often, financial information is filled with industry jargon or legal disclosures, and the effect of written material loses its impact. However, there is a great psychological impact if few choice words /concepts are saved for writing. Therefore, it's crucial to know what should be delivered in writing, and what should be delivered orally or visually. This is also a crucial tool to help clients stick to their financial commitments.

² Engelmann JB, Capra CM, Noussair C, Berns GS (2009) Expert Financial Advice Neurobiologically “Offloads” Financial Decision-Making under Risk. PLoS ONE 4(3): e4957. doi:10.1371/journal.pone.0004957

³ Ibid

4. **Case Studies.** Firefighters have long learned this technique: when faced with the adrenaline pumping situation of an actual fire, it's the case studies of mistakes other firemen have made in fires past that stick brightly in the minds of firefighters, and help them make the right moves in their present situation.
5. **Short term neural changes.** Advisors can be taught to recognize some of these behaviors, and often all that is needed is a 15 minute wait until the surge subsides.

Adopt Neurolinguistic Programming

Neurolinguistic Programming, or the use of syntax and word order and their effect on the brain, (and henceforth referred to as NLP in this paper), has been in use for years, but primarily by psychologists, salesmen, and politicians. And yet, there is strong evidence to suggest that this powerful tool can be used to convey messages concisely and effectively when helping individuals make beneficial choices in tough situations.

Dr. Robert Cialdini, a noted behavioral psychologist, has written that the word with the most impact in the English language is *Because*⁴. Behavioral scientist Ellen Langer conducted an experiment to determine the impact of using the word "because" to influence others. Ms. Langer asked a participant to approach someone waiting in line at a copier store and say, "Excuse me, I have five pages. May I use the Xerox machine?" 60% of the people complied with letting them cut in front of them. Then the participant added to the question, "...because I am in a rush?" and 94% complied. The mere use of the word "because" triggered a mental response to those already waiting in line. And yet, when they did a third study where the participant asked "May I use the Xerox machine *because I have to make copies?*" 93% of the people complied, in spite of the non-sensical rationale. Dr. Cialdini notes that, "people are more likely to take mental short cuts when deciding how to behave, rather than thinking hard about the issue."⁵

However, when Ms. Langer changed the conditions from 5 pages to 20 pages, the compliance to the favor went down to 24% when using "because". (The exercise of copying five pages increases in annoyance when it goes to twenty pages.) Yet this rate even doubled when a *good* reason was added to the "because". Advisors should remember to always give clear, thoughtful explanations to their requests to clients, after their use of 'because'.⁶

⁴ Robert B. Cialdini, PhD, *Yes! 50 secrets from the science of persuasion*(Great Britain, Profile Books Ltd 2007) 142-143

⁵ Cialdini, *Yes!* 143

⁶ Cialdini, *Yes!* 143

*“Mr. Client: Although the markets have risk in that they can go up and down, there are other risks for you to consider: Inflation risk and Longevity Risk. **BECAUSE** we need to generate enough returns in your portfolio, we can’t go to a completely fixed income portfolio given your age and income needs.”*

*“Ms. Client: I need you to fill out the entire monthly cash flow statement **because***

--I can’t begin your financial planning until I truly understand your expenditures and ability to save. ”

OR

--all of your financial planning, to help us get you to your goals, starts with this completed document.”

There are also other connotations for NLP to the financial advisor. Anytime a word is expressed by a financial advisor that a client or prospect does not understand, the next two to three sentences to follow the misunderstood word are largely unheard or ignored⁷. Missing those few sentences causes a chain reaction in further following behind in understanding the message being conveyed, and the client might lose interest in the conversation. This problem gets even further exacerbated if the entire message is peppered with industry jargon. Some examples of industry jargon might be:

- Asset Allocation
- Correlation
- Diversification
- Equity
- Volatility
- Defined Contribution Plan

Although these might look innocuous, they could be intimidating when used in a financial conversation. And there are many more. It might behoove the advisor to ask a non-financial layman to review the advisor’s materials to identify all industry jargon that is used in the advisor’s presentation materials, websites, and newsletters. Don’t assume that because a word is used often, it is understood. To counteract this neural confusion, the advisor has a few options. She might paraphrase the concept in conversational English, or if the word is really required, then always add an explanation of the word each and every time it is used. It might seem repetitive, but the human capacity for memory is varied and often unreliable⁸; explaining these concepts each time can mitigate the anxiety.

⁷ Source: Dr. Kenneth Haman, The Advisor Institute, AllianceBernstein

⁸ Gary Marcus Kluge, *The Haphazard Evolution of the Human Mind* (Fine Mariner Books, 2009) 22-23.

Furthermore, advisors should not assume if they have explained it one time, the client will remember what was conveyed. New York University psychology professor Gary Marcus coined the phrase “contextual memory”⁹ for our somewhat unreliable memory. “In general, we pull what we need from memory by using various clues, and when things go well, the detail we need just ‘pops’ into our mind.... however, the price of contextual memory is reliability...the memory...is driven by cues, and we can easily get confused. The reason I can’t remember what I had for breakfast yesterday is that yesterday’s breakfast is too easily confused with that of the day before, and the day before that.”¹⁰ The concepts that advisors throw out to investors can get confusing from meeting to meeting over the years. This leads to our next important tactical change for advisors: Somatic Markers.

Use Somatic Markers

Like the child that burns his fingers on a stove and forever learns to avoid it, a somatic marker is the “chain-link of concepts and body parts and sensations creates...a kind of bookmark, or shortcut, in our brains”¹¹. They help us instantaneously make decisions in the future when faced with similar conditions. Somatic markers were helpful to our ancient ancestors to navigate harsh living conditions (don’t eat those bitter red berries, don’t put your hand inside the fire pit). More recently, they have been used by marketers to help sell us products. In a crowded space, consumer product companies have had to find a way to distinguish themselves from the crowd. Think of Tom Dickson, the very generic Midwestern middle-aged suburban dad who created a series of videos for the Blendtec Blender Website¹². What makes these ads memorable is what he blends in them—electronics (cell phones are a favorite), small sporting equipment, Bic lighters, etc. (There is now a separate dedicated website www.willitblend.com for all of the videos). Needless to say, anyone who has seen one of these videos has the images burned into their mind, and has much better recall of that blender above all others.

Advisors can similarly use somatic markers in a few ways: first, to distinguish themselves from other financial advisors a prospect is interviewing. Secondly, when trying to get a new client to commit to specific goals—establishing somatic markers can create such a memorable meeting that the client will refer back to it throughout the course of the relationship. And finally, if are significant changes that need to be made in a portfolio or financial plan, signifying the importance of the meeting with a marker can also be useful.

There are a number of ways an advisor can create somatic markers:

⁹ Ibid

¹⁰ Ibid

¹¹ Martin Lindstrom, *buyology, Truth and Lies About Why We Buy* (Doubleday, 2008) 131

¹² Lindstrom *buyology* 132

- Dramatic use of images—using a projector screen, rotate two-three important images on the entire wall during the opening/close of the meeting (have a staff member take a picture of the client standing with the advisor when they walk in, and include it in the closing rotation)
- The use of sound: play a meaningful song if the client is a music fan (The Rolling Stones tend to be a good bet for the Boomers), or use something more outrageous like a gong to open and close the meeting
- Hold the meeting in a totally different location (in a hotel lobby by a fireplace, in a conference room of a public library, in a donut shop where the aromas are strong)
- Attach an unusual accessory to you—a plastic flower that is clearly not part of the normal attire

Don't underestimate the power of the first five notes of "Satisfaction" or the triggers that deep frying dough can elicit: Martin Lindstrom, a brand and marketing expert, writes: "smell and sound are substantially more potent than anyone had ever dreamed of...in fact, [they] can be even stronger than sight."¹³

The key to a somatic marker is that you can never repeat the same experience again, because the memories associated with that marker will get confused, and the message muddled. If you need an additional meeting to convert a prospect, you might want to pick a similar, but distinct somatic marker for the second meeting (like a different song, or a different type of meeting place). So use the markers wisely—you only get to use them one time, and possibly a second time if you spread it out over a long period of time. And once the memory of that meeting is etched in the mind of the client, produce lasting commitments through the next tactic.

Value the Written Word

Dr. Cialdini writes that, "commitments that are made actively have more staying power than those that are made passively."¹⁴ He references a study by Dr. Delia Cioffi and Dr. Randy Garner about recruiting college student volunteers for an AIDS education project in local schools. In the exercise, they created two different sets of instructions for the students.¹⁵ The active group received instructions that if they wanted to be volunteers, they needed to indicate this by filling out a form stating they were willing to participate. The passive group received instructions that if they wanted to volunteer, they should leave blank the form stating they were not willing to participate.

¹³ Lindstrom *buyology* 142

¹⁴ Cialdini, *Yes!* 65

¹⁵ *Personality and Social Psychology Bulletin*, Vol. 22, No. 2, 133-147 (1996)DOI: 10.1177/0146167296222003

An equal amount of people signed up in both groups. However, the number of people who actually showed up a few days later differed significantly in each group: the passive group had a 17% turnout rate, versus 49% in the active group.¹⁶ Dr. Cialdini summarizes the psychological effect: “People make judgments about themselves based on observations of their own behaviors, and they infer more about themselves based on their actions than on their non-actions....the volunteers were more likely to attribute their decisions to their own personality traits¹⁷.”

Advisors can use this human tendency to great advantage. When clients join the firm, advisors should have investors write down the goals they want to achieve, and the steps that the investor needs to take to achieve those goals (this might mean a documented commitment to spend less on shoes and handbags each month, or to downsize from the country club to a health club instead). Advisors should provide a yellow notepad (or even better, firm stationary) and a pen, so that both members of the household complete in this “active” engagement. Make copies, and bring out the original version for every annual meeting you have with the client.

This could also be useful for clients who walk in after a sizable market downturn and demand that the advisor put the entire portfolio into cash: if the client still insists on this, after a logical explanation why this is not a good idea, they then need to hand write and sign a document:

I understand that putting my entire portfolio into cash is destructive to the financial goals I have stated to my financial advisor. I also understand this action is against the advice of my financial advisor for the following reasons (site reasons). Finally, I understand that my advisor will not be required to give me the signal when to re-invest the portfolio in the markets, but rather I will need to clearly indicate this to my advisor.

Most clients will probably be willing to discuss alternative solutions rather than make such a commitment. And any client who is actually willing to write down and document such actions likely has other issues that are not yet known to the advisor. This exercise might be a great opportunity to open the door and have an honest conversation with the client.

Highlight Relevant Case Studies

Wendy Joung and fellow behavioral scientists created an experiment to study whether error exposure training (descriptions of situations where mistakes were made and what lead to those mistakes) can enhance performance¹⁸. “War” stories were developed based on real events to

¹⁶ Ibid

¹⁷ Cialdini, 67

¹⁸ Wendy Joung, Beryl Hesketh, Andrew Neal Using “War Stories” to Train for Adaptive Performance: Is it Better to Learn from Error or Success? Applied Psychology VL: 55 NO: 2 PG: 282-302 YR: 2006 ON: 1464-0597 PN: 0269-994X

illustrate successful and unsuccessful incident command decisions by fire-fighters. Two training methodologies were compared and evaluated. One group was trained using case studies that depicted incidents containing errors of management with severe consequences in fire-fighting outcomes (error-story training) while a second group was exposed to the same set of case studies, except that the case studies depicted the incidents being managed without errors and their consequences (errorless-story training). The results revealed that the judgment in firefighters greatly improved when they learned what NOT to do when faced with similar situations.¹⁹

This application is useful for advisors to help clients make good decisions by telling stories about mistakes other clients have made. Advisors can build (mental) storybooks using both actual and/or fictional clients faced different financial situations. Developing stories around clients in similar situations can show what happens if they make less-than-optimal decisions, and be a gentle nudge to make a better (if harder) choice. Similarly, financial advisory firms would be wise to develop in-house playbooks for their teams of advisors about different ways to handle tough situations with clients. Since we tend to absorb information in story format better than “lecture” format, it can be a non-confrontational way of demonstrating the superiority of one path over another.

A cautionary note for advisors about storytelling: it’s an effective tool used both in religion and by marketers²⁰. Stories can be a powerful component of influencing behavior, but advisors need to be thoughtful about when it’s appropriate to use and to what extent. In a recent study, researchers found that decision makers are biased by anecdotal data (or stories), even in the presence of more informative statistical data²¹ (where the data might paint a different picture). Human bias for stories can have significant implications for decision making since judgments are often made when both statistical and anecdotal data are present. The results of the study suggested that accounting decision makers ignored or underweighted statistical data in favor of accompanying stories, leading to suboptimal decisions²². To overcome this, researchers further investigated whether two decision aids, judgment orientation and counterargument, help to mitigate the effects of story preference. The results indicate that both decision aids can reduce the influence of anecdotal data in accounting decision contexts.²³ So, when the data says one thing, but the story might say another, be sure to tell both sides of the story and from what perspective the story is coming from, in order to present fair information.

University of Sydney, Australia; University of Queensland, Australia

¹⁹ Ibid

²⁰ Lindstrom, *buyology* 115

²¹ Wainberg, James, Kida, Thomas and Smith, James F., *Stories vs. Statistics: The Impact of Anecdotal Data on Accounting Decision Making* (March 12, 2010). Available at SSRN: <http://ssrn.com/abstract=1571358>

²² Ibid

²³ Ibid

Recognize Short-term Neural Changes

The last tactical application for financial advisors to implement is to understand short-term neural changes, and what to do to counteract them. There are a number of trigger responses the brain produces in reaction to different situations. A few stand out, largely because researchers have been able to clearly identify them along with providing some understanding of the cause and effect of said chemical changes.

Dopamine

Dopamine is a neurotransmitter substance associated with motivation and reward.²⁴ Initially, it's "a pleasure drug that gives you a natural high whenever you get something you want."²⁵ However, researchers have found that there is more to it than that. Specifically, noted neuroeconomic writer Jason Zweig writes:

1. Getting what you expected produces no dopamine kick....getting exactly what you expected is neutrally unexciting (and probably why drug addicts need an ever bigger hit).
2. An unexpected gain fires up the brain...when a reward comes as a surprise, the dopamine neurons fire longer and stronger than they do in a response to a reward that was signaled ahead of time (which is why an unexpected surge in a risky stock is so seductive to investing in similar investments).
3. If a reward you expected fails to materialize, then dopamine dries up....when you spot the signal that a reward may be coming, your dopamine neurons will activate, but if you then miss out on the gain, they instantly cease firing, and deprive your brain of dopamine (like dangling a pacifier in front of a baby, and then taking it away).²⁶

The release is a short-term experience (roughly 15-30 minutes), but we remember how that surge felt. For clients that want another surge from a "hot stock," the advisor needs to counter with the long-term picture. Describing what a sound portfolio can do versus one hot pick and several picks that weren't so hot can take away a lot of the allure. Putting those rare chemical surges by risky stocks in context (how have they performed consistently,) is a good reminder to clients that it might not be a good long-term strategy.

Dopamine is not always a chemical surge you need to overcome. Interestingly, in the classic Prisoner's Dilemma (in which you have to decide whether or not to trust someone so you can both walk out better off, choose to destroy the partner and walk a big winner, or choose to violate each other at cost to both yourself and the other player), those that were trusting

²⁴ Michael Shermer *The Mind of the Market* (Henry Hold & Co. New York, 2008) 107

²⁵ Jason Zweig *Your Money & Your Brain* (Simon & Schuster New York, 2007) 64

²⁶ Zweig *Your Money and Your Brain* 64-65

showed on fMRI scans that dopamine strongly lit up in the brain for cooperative partners...and reported increased feelings of trust toward and camaraderie with like-minded partners.²⁷ When a client feels the connection of trust with their advisor, their dopamine increases. Advisors should understand that earning the client's trust has a chemical implication in the brain. David Maister developed an equation to help advisors remember with this²⁸:

$$\text{Trustworthiness} = \frac{\text{reliability} + \text{credibility} + \text{intimacy}}{\text{self-orientation}}$$

- Are you reliable to do what you said you were going to do? (showing up on time, sending the reports on time, follow up)
- Are you credible? (do you understand the financial markets, the financial planning process, the role of being an advisor)
- How well do you know me? (do you know about my family, my deepest dreams)
- Do you keep the focus on me? (the client)

Mirror Neurons

Mirror neurons, located in the *premotor cortex*, are also an easy mannerism you can implement. Studies were done using both PET scans and fMRI scans while people were watching movies depicting short motor actions. The studies revealed that, "the same circuitry was recruited when subjects merely observed another person performing an action and when they performed the same action themselves."²⁹ In other words, by simply observing the action, our brain processes the exact same way as if we were actually doing the action. Somehow, envisioning oneself in the action *is the same as* doing the action inside our brains.³⁰ We also simulate feelings we see in others (which is why we cry at the movies, or we cringe when our favorite athlete misses an easy chance to score).

How can advisors implement mirror neurons? The first thing you should do is smile³¹. In one recent study, people were shown a face: happy, sad, or neutral, for about 1/60th of a second. They were then asked to drink a "novel lemon-lime beverage." More lemon-lime drink was consumed after seeing happy faces than after seeing sad ones, and the big kicker: they were

²⁷ James Rilling, D.A. Gutman, T.R. Zeh, G. Pagnoni, G.S. Berns, and C.D. Kilts, "A Neural Basis for Social Cooperation," *Neuron* 35 (July 18, 2002): 394-404

²⁸ David H. Maister, Charles H. Green, & Robert M. Galford, *The Trusted Advisor* (Free Press, New York 2000) 69

²⁹ Tania Singer *Neuroeconomics Chapter 17: Understanding Others: Brain Mechanisms of Theory of Mind and Empathy* Edited by Paul W. Glimcher, Colin F. Camerer, Ernst Fehr, & Russell Poldrack (Elsevier, 2009) 256

³⁰ Shermer *The Mind of the Market* 134

³¹ Lindstrom, 65

willing to pay twice as much than after they saw angry faces.³² Research shows that people who smile are perceived to be more pleasant, sincere, sociable, competent, honest, highly-esteemed and popular³³. The feeling of smiling actually makes the individual feel better--it's hard to be anxious or angry when smiling.

The next thing an advisor can do during a meeting is quietly, but constantly, mimic the body language of whomever is sitting across from them. If the client has his legs crossed and is leaning back, then the advisor should do the same. If the client leans forward and places her elbows on the table, then the advisor should casually lean forward as well. We tend to like what is similar to us, and although this seems counterintuitive, (or even slightly bizarre), it sends subtle neural signals of trust.

Amygdala

Now, should a client reveal during a meeting at some point that they are afraid of market values continuing to plummet, or that the current financial goals are no longer sustainable, or are in general in fear from the constant barrage of the press, the ancient "lizard" part of brain, called the *amygdala*, lights up. These almond shaped nodes served us well when we were hunting mammoths (or if we were hunted by saber tooth tigers). But fast-forward 20,000 years, and the amygdala still haven't evolved to deal properly with the CNBC stock ticker or the TD Ameritrade real-time market desktop application. The emotional part of the brain kicks in gear, overriding the rational, logical side, often leading to snap decisions. The good news is that these surges into the *amygdala* only last about 10 minutes, so if a client arrives to a meeting in an agitated state or manages to get worked up during a meeting, you can divert the conversation temporarily to let the surges pass, and then appeal once again to the rational side in a logical manner. Any time these impassioned tirades or outburst surface again, remember that it's short-term.

³² Piotr Winkielman and Kent C. Berridge "Unconscious Emotion," *CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE* 2004 Vol 13 No. 3 120-123

³³ Sekar, Samuel Babu, Importance of Smile in Managerial Communication. Proceedings of 6th Asia-Pacific ABC Conference on Management Communication on the theme "Management Communication: Trends & Strategies" Conducted by IIM, Ahamedabad, McGraw Hill. Available at SSRN: <http://ssrn.com/abstract=976137>

Strategic

We've covered some tactical changes that the advisor can implement into his or her practice today. We've also identified flags for noticing changes in investor and prospect behavior. Next we focus on more strategic changes that take into consideration some of the leading research into behavioral finance. Some of these tactics are more difficult and time-consuming, but should ultimately prove to be substantial considerations in an advisor's practice.

The strategic components focus on what drives human emotions (primarily greed, fear, happiness and regret) and include:

1. **Framing:** The brain uses techniques to help synthesize the millions of bits of data that it intakes every day. Often the first concept that is heard is used as an anchor point to digest the rest of the message being conveyed. Advisors can harness this power to make important points simply through the proper delivery of order.
2. **Availability and Anchoring Heuristics.** Human memories are short—recent events are much more heavily considered in the decision making process, yet long term data may be even more relevant when making financial decisions that will span 30 or 40 years. There are tools that can help bring greater significance to older data, thereby properly balancing available information to the brain in order to most effectively process decisions.
3. **Optimism and Overconfidence:** Human ego tends to overestimate ability, and thus, often encourages us to bypass important preventative steps. The ability to thoughtfully bring individuals some humility allows them to be better decision makers.
4. **Risk (and Greed):** We are naturally risk-seeking when we are losing money, and risk averse when we are making money. Advisors demonstrating the aptitude for gently coaxing out the opposite behavior, in spite of the fact that we are genetically wired this way, will make huge inroads to successfully helping clients avoid typical mistakes.

Heuristics

Heuristics are tools our brains use to process the millions of bits of data we need to get through each day. They help implement short cuts for our brains (since we have so much data to process each day), and allowing our brains to go into autopilot (every start driving to work on Saturday morning?). But these traits also can impede us from making good decisions, particularly when the problems are complex. This is the core behind behavioral finance, to recognize these poor decision making processes, and develop better alternatives. One of the most difficult jobs for a financial advisor is to recognize these traits, and help their clients overcome these human tendencies. Richard Thaler and Cass Sunstein have written the

Behavioral Finance standards in their excellent book, *Nudge*. The most important message for financial advisors: Financial Planning is counterintuitive to the ancient brain. Humans tend to freeze “(when making) decisions that are difficult and rare, for which they do not get prompt feedback, and when they have trouble translating aspects of the situation into terms that they can easily understand.”³⁴ We’ll highlight just a few of these brain reactions through our four strategic components.

Framing

This is a relatively easy concept to explain, but much harder to change. Look at the wording for these two statements, which state the same thing, but leave you with a very different feeling:

You have serious heart disease and your doctor proposes a rigorous operation. You want to know your odds. The doctor says

- Of one hundred patients who have this operation, ninety are alive after five years.

You feel comforted by these odds, and have the operation. OR

- Of one hundred patients who have this operation, ten are dead after five years.

With these odds, it seems the number of people who die are high, and you decide against the operation.³⁵

Think about how this translates to clients when assessing risk:

- Are you willing to lose as much as 20% of your portfolio? OR
- With this investment, you’ll be able to keep a minimum of 80% of your portfolio.
- You have an 87% probability of achieving your goals OR
- There’s a 13% chance that you won’t meet your goals and you’ll run out of money.

As an advisor, if you truly know which path would be the best to increase the greatest odds for success, then you should word the question in a manner that helps them to see this. If you truly don’t have an opinion one way or another, then ask the question in both ways to help the client feel both sides of the argument.

Availability

The availability heuristic tells us that people “assess the likelihood of risks by asking how readily examples come to mind. If people can easily think of relevant examples, they are far more likely

³⁴ Richard H. Thaler, Cass R. Sunstein *Nudge, Improving Decisions about Health Wealth, and Happiness* (Caravan Books, 2008) 72.

³⁵ Thaler & Sunstein *Nudge* 37

to be frightened and concerned than if they cannot.³⁶ (Which is why more people are concerned with terrorism after 9/11 than a cancer inducing sunburn, or a fatal head injury from a helmet less bike ride). The theory within human evolution is that our most recent experiences are the most relevant, but this can be dangerous. It makes sense in a world where your life depends on making smart choices about which berries are safe to eat and where sources of fresh water are, etc., but this evolutionary wiring is harmful to investors who might need to be invested for twenty, thirty, even forty years.

Take a look at the following headline:



This is not from 2008 or 2009....but from 1998. Yet the between 1997-1999, growth stocks were up 32%, and Value stocks up 18%.³⁷

This headline came out in May 2005:



³⁶ Thaler & Susnstein *Nudge* 25

³⁷ Source: Russell Investment Group, MSCI, Lehman Group

Yet the housing market peaked at the end of 2005³⁸.

And finally, although this headline might be appropriate in 2010:



But it actually was published in 2002. Apparently we didn't learn any lessons eight years ago.

In today's information age, investors are inundated with data. And the headlines all compete for the investor's ever decreasing attention span. Financial advisors would do well to remind investors that the main goal of *The Wall Street Journal*, *CNBC*, *Time*, etc, are to sell advertising, and they can command the highest dollars with the most interesting headlines (and not necessarily with news that "everything is pretty average"). A very recently published book, *The Shallows: What the Internet is Doing to Our Brains* by Nicholas Carr, further highlights the circuitry in our brain being pre-programmed in the internet age: "There is evidence that digital technology is already damaging the long-term memory consolidation that is the basis for true intelligence...Hyperlinks and overstimulation mean the brain must give most of its attention to short term decisions."³⁹

It is imperative for advisors to focus on the facts, and separate the noise from what is truly, meaningful information. Advisors also need to reference long term data, for a host of reasons, not least because true financial planning is done over a long time horizon. This is the educational component of being an advisor—plan on teaching the client one important thing each annual meeting—over the years, the simple lessons will be invaluable.

Anchoring

To makes sense of the unknown, you must start with some anchor (the number you know) and then adjust in the direction thought to be relevant. Thaler and Sunstein demonstrate an anchoring fallacy with an excellent exercise. In it, they ask you to take the last three digits of your phone number, and add 200. Write it down. Then they ask: When do you think Attila the

³⁸ S&P/Case-Shiller Home Price Indices

³⁹ "Fast Forward" *The Economist*, Vol 395 No. 8688 (June 2010): 88

Hun ravaged Europe? Unless the individual knows a lot about European history, the answer is likely to be greatly influenced by the telephone exercise, even though it has absolutely nothing to do with Attila. In fact, when Thaler and Sunstein conducted this exercise with their students, they get answers “that are more than three hundred years later from students who start with high anchors rather than low ones. (The right answer is 411 A.D.)⁴⁰.”

There are significant ramifications to this for advisors, whose business is filled with both real and bogus numbers. Jason Zweig points out that “mutual fund companies nearly always launch new funds at \$10.00 per share, enticing new investors with “cheap” pricing at the beginning.⁴¹” In a down market, clients typically come in to see their advisor to discuss the negative portfolio performance, and are fixated on that monthly or quarterly number. The advisor should always have a short summary of the capital markets prepared (5-6 pages, filled mostly with pictures) which includes the performance of the overall markets. In most cases with a good advisor, the individual often does better than the broad markets. By making the index the anchor, the individual feels better in comparison:

Mr. Client, as you can see, the S&P500 was down by 10.7% this quarter. After fees, your portfolio was down 9.5%. Your portfolio actually fared better than the general markets by over 1%.

Advisors should be weary of anchors that clients and prospects bring to meetings (asking some probing questions at the beginning of the meeting about what they think (or what they are hearing from mis-informed but well intentioned friends) about what is happening in the markets). The important thing is to appeal to the logical brain rather than the emotional brain, and the best way to do this is with data that directly relates to them.

Optimism and Overconfidence

“People are unrealistically optimistic even when the stakes are high⁴².” On the wedding alter, new couples feel there is a near zero chance of divorce (even those marrying for a second time), when in reality it’s about 50%. Small business owners have the same success/failure rate, yet at the launch feel they have a 90% chance of success.⁴³ Zweig notes “one of the most fundamental characteristics of human nature is to think that we’re better than we really are.⁴⁴” This confidence is the source for much risk taking. In fact, people tend to think quite highly of themselves, and since they lack the specific education or resources to make sound judgments

⁴⁰ Thaler & Sunstein *Nudge* 23-24

⁴¹ Zweig, *Your Money & Your Brain* 12

⁴² Thaler & Sunstein, *Nudge* 32

⁴³ Cooper, Woo and Dunkelberg (1988)

⁴⁴ Jason Zweig, *Your Money & Your Brain* (New York, Simon and Schuster, 2007) 87

(in the arenas in which they highly self-rate), it only compounds the problem.⁴⁵ This is comically captured in a real events:

In 1995, McArthur Wheeler walked into two Pittsburgh banks and robbed them in broad daylight, with no visible attempt at disguise. He was arrested later that night, less than an hour after videotapes of him taken from surveillance cameras were broadcast on the 11 o'clock news. When police later showed him the surveillance tapes, Mr. Wheeler stared in incredulity. "But I wore the juice," he mumbled. Apparently, Mr. Wheeler was under the impression that rubbing one's face with lemon juice rendered it invisible to videotape cameras.⁴⁶

But of more concern, individuals might think they are experts in financial planning (particularly when they are experts in their own field, such as specialty surgeons or computer engineers). In fact, no matter what the general markets do, investors expect that their personal portfolios to earn on average, 1.5 percentage points more.⁴⁷

If you are an advisor with a client who wants to buy specific stocks, if the client can afford it, let them open a small online account with "play" money (meaning if it goes to zero, it won't affect the financial goals). Be sure that your client keeps an investing diary to write down the specific reasons for buying or selling a stock. Down the road, an individual may alter their memory's version, but not their written reasons. Writing this down helps track what doesn't work.

If you have clients who want to significantly alter the financial plan, be sure they bring sound evidence as to why they think it should be that way, and document it clearly.

Risk & Greed

Insightful research was published earlier this year on aging investors, specifically, that they were willing to assume additional risk, *without being rewarded the compensation* that is usually associated with such risk⁴⁸. Researchers scanned subjects while performing financial investment tasks, in which real money could be earned or loss. Not surprisingly, "Individuals who make more rational choices in the laboratory also report having accrued more assets in the real

⁴⁵ Justin Kruger and David Dunning "Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments" *Journal of Personality and Social Psychology* Vol. 77, No. 6, 1121-1134

⁴⁶ Justin Kruger and David Dunning "Unskilled and Unaware of It" 1122

⁴⁷ Jason Zweig, *Your Money & Your Brain*(New York, Simon and Schuster, 2007) 88

⁴⁸ Gregory R. Samanez-Larkin, Camelia M. Kuhnen, Daniel J. Yoo, and Brian Knutson, "Variability in Nucleus Accumbens Activity Mediates Age-Related Suboptimal Financial Risk Taking" *The Journal of Neuroscience*, January 27, 2010, 30(4):1426-1434

world⁴⁹.” Furthermore, rational choices in the task decreased with age, and investment mistakes increased with age. Their conclusion was that:

These findings imply a general decline in the dynamic representation of value (Knutson et al., 2005) with age. This decline may impair older adults’ ability to use probabilistic feedback over time to build, alter, and implement optimal value predictions about uncertain future events (Fera et al., 2005)⁵⁰.

Specifically, the *nucleus accumbens* (which are a network of neurons near the middle of the brain associated with the reward center and involved in appraising an item/stock⁵¹) displayed temporal variabilities in the older investors, which diminishes the accuracy of value predictions⁵². What financial advisors need to remember from this research is that as investors age, they make more mistakes, and the type of risk they are willing to assume does not necessarily produce the financial gain that younger investors were able to produce. Interestingly, the researchers make a few policy suggestions: a) produce value-based decision aids or b) recommend “expert consultation” for complex decisions⁵³.

Although today’s financial conditions provide less cocktail party fodder for “what’s your best stock tip”, if an investor has ever had one investment do particularly well, they will have the memory of the experience seared onto their brain, and crave that feeling again (greed). Jason Zweig has written extensively about German researchers testing the anticipation of a financial gain on the memory’s abilities⁵⁴. In one study neurologists scanned people’s brains with an MRI machine while showing them household objects. Some of the images were paired with the chance to win half a euro, while others offered no reward. The participants learned which pictures were associated with the financial gain, and the MRI showed their anticipation circuits firing vigorously when those reward pictures were displayed. They then asked the participants to come back to the lab, and were shown the pictures again. And they were amazed by the results: they could more quickly distinguish the pictures that had signaled a financial gain from those that had not, even though 21 days had lapsed⁵⁵. Zweig summarizes: “It turned out that the potentially rewarding pictures had set off more intense activation not only in the anticipation circuits but also in the hippocampus, a part of the brain where long-term memories live.” In summary, “the *anticipation of reward* is more important for memory formation than is the receipt of reward.”

⁴⁹ Samanez-Larkin et al, 1428

⁵⁰ Samanez-Larkin et al, 1430

⁵¹ Shermer, *The Mind of the Market* 112

⁵² Samanez-Larkin et al, 1432

⁵³ Samanez-Larkin et al, 1432

⁵⁴ Jason Zweig, *Your Money & Your Brain*(New York, Simon and Schuster, 2007) 43

⁵⁵ Jason Zweig, *Your Money & Your Brain*(New York, Simon and Schuster, 2007) 43

What are the implications then, for advisors? Knowing that the anticipation of the reward is what the brain likes to experience, financial advisors need to focus on the rewards of sound asset allocation and financial planning, rather than the fleeting potential of a short-term stock (the success of reaching goals instead of the greed of finding another secret hot stock). If the advisor uses probability software, focus on the factors over the past year that increased the probability, rather than the short term performance of one obscure stock. Or, focus on the non-financial goals and the clients abilities to accomplish personal endeavors in life. And to drive home the point, showing what could happen to the client's portfolio if the "hot stock" actually performs average or worse than average will only validate that the better solution is to stick with the current allocation.

Summary

The field of behavioral finance is now moving into the mainstream. At any given time, there are one or two books on the subject on the New York Times Bestseller list extolling its virtues. But the responsibility is now upon us to acknowledge our natural inclination for harmful behavior and rewire ourselves to be committed to good behavior. This isn't easy. If it was easy to change behavior, our obesity rates wouldn't continue to increase, and we wouldn't continue to drive cars that pollute the air. What might make it easier is to bring the conversation with clients and prospects to a higher level. All the financial prowess in the world is useless if there isn't some meaning attached to the money that is being made. Above all else, advisors need to connect with their clients about the purpose and role of money. Too many people equate their happiness with their level of wealth, and yet, once average annual income is above \$75,000 per annum in today's dollars—enough to provide basic necessities—more money does not bring more happiness.⁵⁶

Michael Shermer summarizes his pillars for happiness which include:

1. Deep love and family commitment
2. Meaningful work and career
3. Social and political involvement
4. Transcendancy and spirituality

⁵⁶ Deaton, Angus & Kahneman, Daniel; <http://www.time.com/time/business/article/0,8599,2016291,00.html> (2010)

When formulating and articulating a client's set of goals, it might make sense for an advisor trying to solve an investor's "big picture" to include categories that address all of these components. Some examples of these might be:

- Spend one night a week with the family with no electronics
- Have date night once a month with my partner
- Find one non-profit organization that I am passionate about and donate 2 hours a month
- Take a class of something that's always interested me (cooking, dance, art)
- Learn to meditate
- Start rock climbing

Add these goals to the entire list of financial goals, and when you conduct the annual meeting, be sure to ask whether or not they've worked toward achieving that goal. If they haven't, ask them why. And if they have, ask them what new goals they have started. It will be a new way to connect with clients, and each time they meet with the advisor, it will be a reminder to pursue extraordinary things in life instead of focusing on how much or how little money (they think) they have. This is a much different experience than being reminded of how little they can control down markets (by focusing on monthly or quarterly portfolio performance)

As to the second tenet regarding career, most Americans define themselves by their work. If there is a client sitting in the advisor's office who is struggling with a job that is making them unhappy, and the individual is not sure what to do next, then the advisor might want to offer the advice of Daniel Pink. Pink writes in his latest book *Drive* that the best way to be motivated can be summarized with three important tenets:

1. Autonomy—the desire to direct our own lives
2. Mastery—the urge to get better and better at something that matters
3. Purpose—the yearning to do what we do in the service of something larger than ourselves⁵⁷

If investors can pursue careers that give them these things, they will find success and happiness. While life coaching is usually not what the advisor set out to do when they opened a wealth management practice, they might find themselves in that position many times in their career.

In conclusion, many of our bad behaviors have been identified. Based on ancient neural systems to help us live in austere environments (like caves or mud huts), we adapted to survive. Since that time, our brains haven't advanced all that much, yet our daily caloric intake,

⁵⁷ Daniel H Pink *Drive, The Surprising Truth About What Motivates Us* (Riverhead Books, 2009) 204

technology, and survival skills have improved greatly. Neuroscientists still have much to learn about the brain's response to the different situations individuals face. Not all situations are measurable (hard to carry an fMRI machine around with you). And yet, by using the findings that we are aware of, financial advisors can begin to overcome natural human tendencies, which will ultimately allow investors to become better decisions makers for long-term outcomes. Those who adapt some of these measures will survive the current sea change occurring in financial services, and all of society can benefit.