II. Nature of Risk

4 Behavior Biases
Emotions, Logic, Brain Observations

Prosperity discovers Vice, Adversity, Virtue.
- Benjamin Franklin,
- Wit & Wisdom of Poor Richard's Almanack

Attitudes and tendencies shape personal behavior risks and wealth development views. Bad behavior biases reduce investment returns, regardless of strategies and assets held. Think about your behaviors in order to understand how you respond to stress. Behavior risks can generally be categorized as emotional biases, cognitive errors, and agent client relationship conflicts. Negative emotional biases toward investment decisions are similar to behaviors that affect other decisions. The biases, or vices in moral terms, sustain negative behavior risks. Behaviors can also be looked at from the perspective of psychological tendencies as noted in the summary of a talk by Charles Munger, Warren Buffett's curmudgeon sidekick. Finally, test results presented in Jason Zweig's *Your Money & Your Brain*[1] are considered that show the human brain is somewhat hardwired toward risky behavior biases. Spotting the brain signals may help to reduce risky behaviors. With the background of emotional moral shortcomings and psychological tendencies, improved investment behavior habits are suggested.

Ethics Do Matter
Most negative wealth limiting behavior biases are due to short term, short cut methods, which increase risks. Ends do not justify means, if the goal is long term stable wealth. An ethical view or foundation for stable investment decisions starts with the seven vices first mentioned in the Christian 1st century Bible New Testament. More specifically, they were listed in St. Paul's Letter to the Galatians Chapter 5 *Moral*. The chapter lists vices and virtues that were later formalized in the 4th century as the seven behavior vices commonly listed today. They are lust, gluttony, greed, sloth, wrath, envy, and pride. The first two vices don't relate directly to risky investment behaviors, although time and resources are misused in damaging ways. Lust generally involves obsessive or excessive sexual desires and actions. Gluttony is usually overconsumption of anything to the point of waste. Food was less plentiful and relatively more valuable for survival until the past two centuries. Thus gluttony was a highly ranked vice in the past. It is not part of today's emotional investment behavior bias story, although obesity is a problem in the United States today.

Five Emotional Vices to Consciously Consider
Wrath is a critical investment behavior risk due to an uncontrolled feeling of hatred or anger. It is the amplifier vice that increases the impact and duration of other behaviors. In the worst case, wrath is a self destructive risk because it causes stress to build up in an uncontrolled manner. Eventually it supports a bad choice among available alternatives. Spending a long time pondering "how to get even" with a business counterpart because of seething anger is a waste of time. Anger may be simply transferred by cheering for your favorite violent spectacle, such as a football or hockey team, and thus (chill out) calm down!

Greed, Fear, and Envy
Two emotional vices that pose wealth risks are greed and envy. They are related but have separate aspects. Greed is the well known risky behavior that focuses on material wealth and is unbounded by a moral compass. Most wealth is developed through relationships where both (all) parties make a transaction in order to gain a benefit. When greed predominates, disloyalty, bribery, and manipulation are also often involved. The unbalanced emotion can swing to the opposite extreme of fear. It is simply the mirror image of a risky emotion, although most would not consider it a vice. Fear is often based on the same material wealth focus that leads to manipulation or complete withdrawal from business or investment obligations. It is especially destructive when panic overrides common sense. Then people abandon positions at the extremes of gut wrenching conditions prior to normal valuation recoveries. Finding a balanced disposition supported by knowledge and sound judgment is needed to avoid roller coaster swings from greed to fear. The mood swings increase the risk of failure to achieve reasonable goals.

Envy relates to greed, but is potentially more risky as it leads to societal wealth destruction in additional to self destruction. Envy is commonly driven by the emotional feeling that a person or group lacks some desired property right or capability that another person or group possesses. The emotional urge is to take the property by whatever means available; even if that results in less future wealth to take. It is such a basic negative behavior that it is recognized as the 10th commandment of the Mosaic Code. The major religious faiths recognize the code in their scriptures – Christian Bible, Jewish Torah, and Islamic Quran – specifically as "Thou shalt not covet thy neighbor's goods." Envious behavior in the long term wealth development cycle is the most risky because it leads to not only trying to take the wealth of others, but more importantly causes the major risk of other parties producing less of what may be taken from them. Envy is supported by misguided thinking that society is static and that individuals or citizens will simply accept incremental theft of their wealth. The normal response to disincentives is to not deal (or deal less) with untrustworthy individuals or governments, who implement envy in devious ways. Sadly, in modern progressive society, envy is used by political leaders to persuade the "have nots" to support them in quest of taking from the "haves". Robin Hood was an oxymoron. Stealing from the rich did not reduce tyranny and support a stable society.

Pride or hubris is considered by most thinkers, as the most serious personal vice and often the source of other vices. Overconfidence is often rooted in this destructive emotional behavior. Ironically, those with the most intelligence seem to be most prone to pride. They have the most potential to gain and a high risk to lose it all due to poor judgment. Regardless of one's need to be more important, more attractive, or live higher up on the hill than others, a bias to take unnecessary risks is associated with pride.

Sloth or despair is not usually considered to be a negative behavior bias currently. Yet it relates to a myopic behavior toward a poorly performing asset, property, or condition. Sloth or apathy also connects to cognitive dissonance; that is, contradictory beliefs that can not be resolved. In both cases, the easiest approach is to make no decision, as the asset or investment's current factors are unclear and future prospects seem too difficult to ponder and resolve. Despair and inaction (giving up) leads to bad outcomes.

Poor Charlie's Useful Psychological Observations

Charles Munger, Berkshire Hathaway Vice Chairman, acts as the sounding board for famous investor, Warren Buffett. Charlie's observations on human psychology are quite insightful. The following observations on human tendencies are drawn from his book, *Poor Charlie's Almanack*[2]. The 10th Talk titled *The Psychology of Human Misjudgment* discusses many human behavior tendencies that offer a practical psychological perspective of human behaviors, which separately or together result in bad investment behaviors and decisions and likely poor results. A subset of the tendencies is presented as a perspective of normal behavior tendencies that increase personal risks and cause a variety of problems.

Incentives and Feelings Matter

A few tendencies are so obvious it is a wonder why they are ignored in investment analysis or any business that is trying to get things done. Incentives and feeling, or specifically rewards, punishment, and tendencies to either love or hate, bring forth clear responses. Incentives, as defined by a company's operating procedures or strategic plans, guide the actions of employees, suppliers, clients, and shareholders. Generally, you get what is measured and paid for. Cost plus contracts result in wasted time justifying costs. Similarly, consultant contracts result in justified billable hours, instead of completing projects and being paid for on-time milestones. Incentives based on sales quotas, instead of client loyalty, may result in high sales along with costly customer returns. Punishments on the other hand are most effective in structured organizations like military infantry brigades, where peoples' lives depend on working together with absolute group loyalty. Leaving a group's flank exposed to enemy fire due to ignoring duty is a punishable offense. Incentives should generally be transparent, so that all stakeholders know (and play by) the rules of the game. When misplaced, they may cause great harm since incentives result in super focused responses.

People also respond to other factors, when unsure if the incentives are genuine and will really materialize. Focusing exclusively on incentives may result in missing another critical primary tendency driving people. Loving (liking) or hating an investment situation is often a blinding emotion that causes one to ignore important factors and distort others. The emotional tendency is often so strong that the engaging smile and false concern of a fund salesman may cause the feeling "He is such a nice fellow". At the other extreme, after a large fund lose value and phone calls for explanations are not answered, a client may hate the predicament so much that the response changes to "I will never do business with that f^%#!*g company again". A balanced, experienced frame of mind concerning risky consequences of incentives and emotional liking tendencies is worth striving for.

Anti-Change Tendency

The tendencies to avoid what is doubted and what may change current habits are both limiting and risky behaviors. In past survival modes of life, human beings had little time to make decisions. If the bear is looking for dinner, it is best to get out of her sight. Doubting one's senses was too big a risk to take. Whereas our ancestors fled to survive instead of doubting, today people often get stuck in doubt and need a process to continue through the steps of information gathering and decision making. Checklists for investment research and performance measurements are useful to get into a flow of thinking to break the doubtful mind thinking jam. Eventually, the structured support process should bring in needed information to remove doubts and make decisions.

The anti-change tendency keeps people fixed in habits, which may be either harmful or beneficial. Breaking free from bad habits is difficult. Ask a smoker or over weight person how many times they tried unsuccessfully to break unhealthy life styles. On the positive side, ask how many investment books were read, that presented new investment habits that were profitable in the past 5 years. Doubt avoidance and habit change reluctance are inertia type tendencies that add psychological risk and hinder progress toward finding better ways to do things.

Oversimplification – Avoiding Due Diligence – Leads to Bad Decisions

Some psychological tendencies are based on oversimplifying relationships or connections to past successful outcomes. Mere association with a familiar product or advertisement often leads to using different products from the same supplier. If you purchased Nike sports shoes that served you well, then you may be inclined to buy an overpriced cap or shirt with the Nike *swoosh* logo. Similarly, if you held the Fidelity Contra fund and are satisfied with its performance, you may consider purchasing another Fidelity fund managed by someone with less skill and experience than fund manager Will Danoff. Association is usually not a good enough justification for an investment decision. A related simplification is overweighting the value of available information. A good analysis process requires a methodology with independent valuations, operational, and market asset information. If only operational data is available without market data, it alone may be overweighted. A good asset may be purchased for too high a price because critical information was not considered. A final oversimplifying tendency is excessive optimism. When things are going well and ignorant luck was on your side, it is easy to be smug, naively feel smart, and expect good times to continue to roll along. The real world is not that easy or from the moral perspective, Proverbs Chapter 16 notes "Pride goeth before destruction and a haughty spirit before a fall."

Stress may be Good or may be Bad

Stress influence is a complex tendency. Usually stress causes harmful behaviors and added risks, since it overwhelms internal mental thresholds for dealing with issues simultaneously. It may be easy to get into the flow of writing a paper or running a few miles in the morning. However, in the late afternoon there are often limits to responding to a disturbed customer and getting the last report to the director on time. Similarly, understanding a client's goals and working to meet them in unstable markets is quite stressful. The process or checklist becomes quite important under stress as well as when in doubt. Stress otherwise can be beneficial, if one's processes are not overwhelmed. Manageable stress encourages focus, which is helpful in staying alert, analyzing scenarios, and making decisions.

Psychological tendencies can be rational biases, as well as emotional biases. It is natural to misuse our senses, as we age or simply get lazy. Comparing and contrasting are needed to make good decisions. Yet, we often need to look very carefully at a product or a person to determine if they are compatible or can meet our needs. The measurement might be slightly wrong, so that a product is not useful for the application. A screw that is one thread size too large will not fit the mating nut or block thread bore. A more important decision is selecting a trustworthy business partner or spouse. If a past business or nuptial agreement was dissolved, it is best to carefully compare and contrast compatibilities (and incompatibilities) to try to make the next relationship more lasting and beneficial for all.

Simultaneous Risky Events can result in An Uncalculated Big Impact (A Lollapalooza)
Charlie's Lollapalooza Tendency is the propensity to get extreme consequences from the confluences of psychological tendencies influencing a particular outcome. Single tendencies may result in bad analysis and decision making. However, when the tendencies occur simultaneously, then breakdowns can occur quickly and dramatically. Subprime mortgage loans packaged as toxic derivative tranches and insured by credit default swaps, where counter parties were not well known and ratings were suspect, led to a lollapalooza risk, that could only be unwound by a massive financial disruption. Notice the factors; derivative tranches, non-standard credit default swaps, counter party liquidity, and tranche rating; individually were big risk factors. Together the factors brought down Lehman Bros. and effectively the investment banking industry. Inductive reasoning, that is using the wide view lens, is needed to see the forest, as well as the individual trees. In observing markets, understanding the instabilities of financial credit fundamentals and various loosely related asset bubbles, may be very important in estimating the reaction of market participants' fear and panic to bubbles deflating concurrently. A Lollapalooza Moment in Charlie's human psychological world has the same impact as a Black Swan Unrecognized Risk on Nassim Taleb's globe.

Critical Emotional Behavior Biases
Six investment analysis and decision making emotional biases are here examined with examples of their occurrences and potential risk impacts. Their time frames and relationship aspects relate to the discussed moral failings (vices) and psychological tendencies. Overconfidence leads the discussion because by nature we feel a connection to Lake Wobegon, where Garrison Keillor informed us on the *Prairie Home Companion* radio show that "all the women are strong, all the men are good looking, and all the children are above average". Prospect Theory developed by Daniel Kahneman and Amos Tversky is next discussed. It clearly shows an emotional bias to avoid admitting losses. The impacts of greed and fear are explored. The bias toward following the herd or crowd, and often justifying mistakes because everyone else made the same mistake, is risky and often costly. Pains and Regrets are slightly different than irrational risk aversion biases, as will be noted. Finally, myopia (depression) results in giving up and quitting. These biases are generally independent emotions, which can add up to high risks and low returns, when we are oblivious to their being personal and not connected to asset operational and market risks.

"I Know What I Am Doing!"
Overconfidence is perhaps the most natural emotional bias. When things are going well, the rare person analyzes the difference between a skillful process of adequate analysis and good decision making in contrast to a lucky favorable set of circumstances. It is very hard to recognize what we don't know or when someone is looking out for us. Consider your working experiences. Business is good. The owner chose to promote you instead of Mike, who works in the cubicle next to you. You are lucky that the boss liked you more than Mike. After 2 years of good work and unexpected bonuses, you are confident that you can handle any problem and expand the business. Unfortunately the economy turns soft and entrepreneurial skills are needed to keep the doors open, instead of your operational skills to turn the crank. Your overconfidence may not cope with the new situation and the facility goes out of business.

Investing overconfidence is similar to operational business overconfidence. When the economy is steady, strong, and all relevant factors are in balance, the majority of stocks rise in price in step with generally rising profits. Your portfolio of assets rises 20% in value during the year. You feel good. But look around at a comparable benchmark portfolio of assets that rises the same amount. Owning assets and participating in favorable circumstances is a reason to be thankful, but not to be overconfident in your specific asset selections. If special knowledge is lacking, then you will probably not sell the assets prior to lower market prices signaling adverse circumstances. The riskiest examples of overconfidence are leveraging asset purchases with borrowed funds and concentrating portfolios in similar assets. The leverage risks hit hedge funds in September through November, 2008. By borrowing 3 or 4 times their assets under management, the funds were exposed to many unexpected risks. Client redemptions resulted in forced sales to honor agreements. General illiquidity required the most liquid (most desirable assets) to be sold first. Falling asset prices meant added margin cash calls. Individual leveraged investors suffered similar margin calls and forced asset sales during dramatic market declines. Concentrated illiquid portfolios are very difficult to manage during market downturns. The overconfidence can be in the form of owning large portfolio weights in company stock. If an executive is laid off at the same time that a portfolio value declines, both financial capital (investments) and human capital (current employment potential savings) lose value.

Overconfidence can also be revealed by overweighting a portfolio with bank stocks, because they paid past dividends. When dividends are cut, bank stock prices usually decline. A moral viewpoint finds pride, as a possible vice associated with overconfidence. The unfeeling world does a good job of knocking the prideful man off his high horse. The psychological view point is more clear-cut and objective. Overconfidence is generally due to inadequate skills. A flawed analysis or decision making process misses important factors and the scenario analysis didn't have a good stop loss plan, in case an unexpected or unknown risk popped up. Experience and humility are required to genuinely be able to say "I Know What I Am Doing". Overconfidence often includes a self-satisfied attitude and at times differs from over simplification, which generally considers the world of human interactions as effortlessly straightforward.

Everyone Hates to Lose!

Daniel Kahneman[3] and Amos Tversky's Prospect Theory stands as a key foundation of behavioral finance doctrine. In simple terms, the theory based on countless experiments concluded most people view the risks of profits and losses versus certainties asymmetrically. That is, risks are sought instead of certain losses, while risks are averted when offered certain profits. Human beings hate to admit a loss. Consider the following opportunity. You are offered a certain $100 loss or the risk of a 50% chance at no loss and a 50% chance at a $250 loss. Most people will seek the risk of an expected $125 loss with a chance of no loss, instead of a certain $100 loss. On the flip side of a bet, you are offered a certain $100 or the risk of a 50% chance at no profit and a 50% chance of a $250 profit. In this opportunity, most people will avert a risky $125 expected gain and a chance of $250 profit, and instead take a certain $100. Table 1 shows the selected risky losses and certain gains in **bold**. Prospect Theory is a very important revelation of investor behavior. Most people will watch an asset lose value while hoping for a recovery and chance to sell the darn dog, when it reaches breakeven. Moralistic pride and psychological denial conspire against an objective decision that the asset value is expected to fall further and taking the loss is the better alternative.

Table 1. Selections: Risky Losses and Certain Gains

$100 Certain Loss	**$100 Certain Gain**
50% $0 Loss, $50% $250 Loss; $125 Risky Loss	50% $0 Gain, $50% $250 Gain; $125 Risky Gain

Another aspect of prospect theory demonstrated by a Richard Thaler[4] experiment showed that people chose certainty versus risk, when given equivalent choices. However, prior events change one's decision making process in what is labeled the endowment effect. Students were told that they just won $30. Then they were offered a bet with a 50% chance to win $9 and a 50% chance to lose $9. That is a certain $30 or an added risky bet with an expected return of $30. The majority took the bet. Another group was simply given a choice of a certain $30 versus the risk of a 50% chance of $21 or 50% chance of $39. The majority took the certain $30 versus the risky alternative with the same expected $30 outcome. The point is a human tendency to hold certain single decision gains, instead of taking even odds risky bets. (The issue also relates to property rights, and eminent domain, when people are unwilling to accept a compensation for property to be taken from them by the state.) There is the human tendency (at least among student, who may be more carefree than others) to take even odds risky bets, instead of holding certain alternatives. The lesson for investors is to look at asset purchases based on fundamental values, instead of thrilling speculations where one's decision making adds behavior risk to the process. A subtle observation is that risk tolerances change with circumstances.

A counter argument to Prospect Theory expected-value decision making is based on strategically considering both the variance of possible outcomes and following decisions. For instance, if the expected return is adjusted for a large variance of possible outcomes (risk adjusted return in a Sharpe (return/risk) ratio), a certain return may consistently be a rational choice. The subsequent decision (e.g. in a chess game) about using remaining assets is critical. In that case, a certain small immediate lose may be a logical choice based on the timing and planned use of the remaining assets. Conditional decision making based on future opportunities complicates simple prospect theory for the sophisticated disciplined thinkers.

Greed is Not Good, but It is a Normal Tendency

Michael Douglas, as Gordon Gecko in the 1987 film *Wall Street* delivered the infamous line "Greed is Good." The 3½ minute speech to the shareholders meeting pointed out the shortcomings of bureaucratic large corporations very well. However, it missed the essence of free enterprise and the spirit of human nature. As the Letter to the Galatians noted, greed or the focus on material wealth unbounded by a moral compass is a vice and risky behavior. It is an unstable emotion that just as naturally flips to fear, when the outlook first turns cloudy and then dark. The tug between greed and fear is part of normal human behavior. The goal for mature investors is to control the natural tendencies toward both greed and its antithesis, fear. When things are going good, greed leads to excesses. In economic terms, bubbles result from greed that often occurs when monopoly government legal systems and regulators are not keeping markets open and transparent or when they are encouraging unsustainable social engineering goals. Competition has a way of controlling greed. Gordon Gecko misunderstood the value of competition in controlling greed. Think about it. It is natural for a speculator to get greedy. He may try to change the rules of the game by bribing a politician or various agents to tilt the odds in his favor. When a whistleblower exposes or threatens to expose the situation, greed turns to fear. The risk is real. Similarly, the speculator may leverage up his asset position with borrowed funds. If greed results in careless risky scenario analysis, the markets may turn against him and he will quickly fear losing everything quickly. The key to healthy investment behavior is balance. Prudence and balance are good. Greed is not good. Don't extend investment positions past your risk tolerance. Then the bias swings between greed and fear will be less critical.

Merrill Lynch may be Bullish on America, but don't follow the Thundering Herd

Merrill Lynch used the thundering bull logo for many years. In the relatively low inflation, high productivity economy of the 1980's and 1990's, stock price/earnings valuations increased, the secular market prices was on a bull run, and the thundering herd of Merrill Lynch clients were somewhat naïve and blissfully content. Yes, most investors fit into that category. However, bubbles are unsustainable and it is unwise to follow the herd in more normal times. Better yet, be constructively supportive of the United States leadership without being blindly optimistic. Perhaps, a humble mascot like a cat with 9 lives to survive many bubble eruptions would be more appropriate for the Bank of America Merrill Lynch Group.

Many psychological biases encourage human beings, as well as most animals, to follow the crowd. Perhaps, the crowd knows more than you do. In fact, many presumably smart people may be purchasing homes in a tony neighborhood or salivating to get into the big hedge fund. It feels good to be part of the smart set and get a piece of the action. After all, looking for a crowded parking lot may be a good indicator that good values are being served in the restaurant. However, building wealth through investing is different than finding a good meal. If the asset value declines, then a significant lose is possible. However, if the meal is unacceptable, you lose the cost of a bad meal and go to a different restaurant in the future. In many cases, the crowd following approach is effectively a blind strategy of following past good performance or effectively being swayed by slanted marketing pitches.

Charlie might counsel us that we are over simplifying by not doing thorough scenario analysis or by not comparing and contrasting relevant factors. In other words, following the crowd is a lazy man's game. As Peter Lynch, the legendary Magellan Fund manager, told[5] us; there's an unwritten rule on Wall Street: "You will never lose your job losing your client's money on IBM" (a blue chip stock that the herd naturally buys.) If the stock price falls, everyone else, who owns IBM stock, will also suffer a loss. Misery loves company and there is a perverse acceptance to hang together, instead of thinking alone and independently. In summary, self discipline is needed to break free of the crowd following bias and independently make decisions. When investment losses inevitably occur, valuable experience is earned in the challenging world of taking responsibility, analyzing, and moving on.

"Regrets, I had a few…'
The 1967 Frank Sinatra song *My Way* with lyrics from Paul Anka was nostalgic and mentioned the tendency to look back at past mistakes and continue on with your life. The key message is not to let the regret and pain result in avoidance. A losing investment often results in both psychological pain (hating to lose) and regret (losing feels bad and dumb). In fact, the regret may lead to the moral vice of sloth or apathy toward analyzing the loss and learning about a bias that contributed to it. "I will never make that mistake again" is an oversimplification and not constructive. Investing is a struggle within one's mind to find what works to achieve goals. Taking big risks may result in big loses. The alternative is to stay within your risk tolerance. The tolerable risks, which turn out unprofitable, should help develop a profitable investment process. Then you can finish the lyrics to *My Way* "… but then again too few to mention."

The Great Depression was no doubt depressing, but don't let it depress you!
The 1930's Great Depression was no doubt depressing for those over 80 years old today with memories of high unemployment, soup kitchens, and make work federal planning that left them extremely cautious about investing for the rest of their lives. Various government policy mistakes contributed to the severity and length of that depression. However, being overly sensitive to the hardships and emotions of parents and valued relatives is an irrational risk avoidance bias. The hardships that others suffered through should not overly influence your wealth development process. Government policy errors may in fact cause a very weak economy. The key point is to learn your own risk tolerance. Human capital to earn labor income and save financial capital is limited at age 80. In that case, taking equity or commodity ownership risks with financial capital would likely be discouraged. In other words, risk avoidance would be rational. But if you are willing and able to take investment risks, then don't let past hardships of others get you down.

Cognitive Biases originate with our minds, instead of our emotions
Cognitive biases are just as harmful to analysis and decision making as emotional biases. They may be harder to notice than emotions, because the thought process is tougher to self examine and explain. You, or someone communicating with you, will likely find it tricky to identify rational and inconsistent mental biases. Optical illusions, anchoring, representativeness, and self-attribution are examined to notice a whole set of risky rational behavior biases. In each case, as Charlie noted the rational biases are based on psychological, as well as physiological, tendencies. We use our senses, especially sight and sound, to gather data and formulate information. With aging the senses degrade and focus spans diminish. We thus have less capacity and less information to work with. In this predicament, it is normal to use heuristics or mental short cuts. Strictly speaking, short cuts with age may look like apathy. However, a more charitable view is that the mental short cuts are a practical way to cope with or adjust for a changing mental capacity. The key is not to make excuses, but to make judgments and use talents wisely. Comparing and contrasting data remains critical to formulate information and make useful decisions that are compatible with goals. Anchoring may be defined as the emotional bias to avoid the prospect of a loss relative to an asset purchase price. However, more broadly, anchoring is a cognitive choice to rigidly hold a specific plan or recent information, when evaluating status. A representative bias labels a situation or asset based on a few prominent factors. The bias toward compartmentalizing (mental accounting) or separating assets, instead of integrating their contribution toward overall goals, is also studied.

Is What You See, Really What You Get?
Optical illusions occur because we live in a three dimensional world and see information, such as charts and pictures, on two dimensional planes or papers. Secondly, illusions occur as we fill in blanks, skip over misspelled words, and interpret similar looking words incorrectly, when reading text. Patterns are recognized in nearly everything we try to figure out. Our capabilities limit the degree to which we process sensed data accurately. Planar computer screens or paper charts that depict 3 dimensions must usually be studied more thoroughly than simple 2 dimensions for good comprehension. If a bar chart shows 10 items along the x-axis, 10 potential values in the y-axis, and 5 items in the diagonal pseudo z-axis, then there are 500 potential variables in a space, where 100 variables are normally depicted. Be aware of tendencies to give more significance to items

going diagonally into the screen or away from the front. Added time may be needed to mitigate related rational bias errors. The difference between skimming for information and reading reports for details should be recognized. Skimming an accounting statement 3 times to understand why the expenses don't add up is not as useful as reading each line in slow detail to find the number that is 10 times larger than reasonable.

Anchoring limits revisions as situations change

Sometimes households have multiple goals such as saving for college educations and retirement needs. The time frames for needed cash flows may suggest lower risk assets for the near term goals and higher risk assets for the longer term retirement needs. However, the plans should not be rigidly anchored. Asset category risks actually change for intermediate time periods and economic conditions. For instances, bonds become far more risky during high inflation periods, because their fixed interest payments do not adjust to inflation as well as stock earnings. It is important not to get anchored in an asset class that can not adjust to the economic conditions. An integrated portfolio overview including multiple assets to meet multiple goals is also suggested. Anchoring also relates to recent familiar data points. The data point may be a recent inflation report. It is best to observe how markets respond, even if they seem initially to be counter intuitive. If they don't behave as expected, there may be more important factors than your inflation anchor.

An Incomplete Duck Test does not always work. Not Really Representative.

Most people are familiar with the saying "If it looks like a duck, swims like a duck, and quacks like a duck, then it is probably a duck". This application of inductive reasoning or representativeness often fails Charlie's oversimplification test. For instance, the geese may be standing at the water's edge and its honk may be misinterpreted as a quack. It is not swimming or flying, but a child may simply misrepresent it as a duck. Similarly, a commodity driven stock in the oil services industry may be soaring in price, when black gold is rising with increasing demand. Yet, the price rise does not represent a growth stock. It is simply commodity sensitive stock that is strongly influenced by the underlying price of oil.

Compartmentalizing a Portfolio; Mental Accounting Trap

Compartmentalizing bonds for college funds and stocks for retirement accounts based on time horizons may be too simplistic. The buy and hold compartments are fine for stable steady economic times. However, the bias is problematic during volatile periods: i.e. historically more than a quarter of the time. Periodic (minimum annually) reviews and flexibility are suggested to best meet wealth building goals. Mental accounting is similar to compartmentalizing. However, it normally focuses on individual goals and related asset returns, instead of overall portfolio risks. Therefore, strategies for each goal are separate. Making dramatic changes can lead to selling all assets for all goals at market bottoms (bad decision). Holding all assets at the start of market downturns (short term goals not met) is also problematic. A process to gradually adjust total portfolio weights as scenarios change across all goal assets should overcome the mental accounting trap. Goal changes may also be needed in order to meet the highest priority goal.

Mental short cuts in one form or another cause cognitive biases and errors. Experience gives us a basis for the short cut. However, in the best circumstances it easy to forget a detail or critical factor needed for a good decision. Checklists are recommended to address all the steps in a process. Pilots use check lists to prepare for flight and landing and it is a good idea for everyone to have them prior to key decisions. Checklists, as well as scenario analysis, will be discussed in later chapters to reduce cognitive errors.

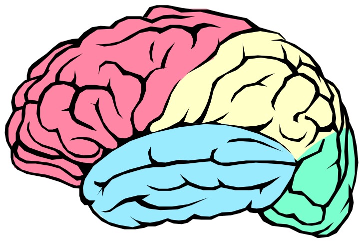
Agency-Client Relationship Conflicts of Interest; Who do you trust?

In our daily relationships we make formal and informal agreements. Conflicts of interest between a hired agent and yourself arise, when broadly speaking the agent looks out for his interest above yours. Agent-client agreement benefits are rarely precisely aligned over time. Wide ranging agreements include product purchase warranties, employment condition contracts, limited service agreements, and fiduciary service agreements. Product purchases often include warranties or full payment return (agreement nullification) policies. Federal and state laws protect the consumer. Generally the buyer must satisfy the seller or the buyer will either be compensated for a specific unacceptable loss or refuse to make future purchases. Conflicts of interest are limited in competitive market product purchases. Employment agreements sometimes include union membership conditions. Union representatives generally look out for member's interests; however, conflicts arise when a representative, who is looking to control union power instead of legitimate member grievances, does not act toward a member's long term behalf. Limited service agreements or indirect service agreements may include an insurance contract or mutual fund shareholder prospectus agreement. The insurance agent is primarily looking to make a sales contract, so the purchaser must clearly state the desired protection and any conditions, which may impact the needed protection. The agent has an incentive to meet the client's needs in order to earn repeat business. However, he may be conflicted by undisclosed higher commissions received for certain insurance policies and riders from his employer that are not needed by the client. Mutual fund shareholders must look primarily to the fund prospectus and statement of additional information to determine the fund financial stability, objectives, strategies, and portfolio manager performance incentives. Often funds, which performed well with a modest level (e.g. $250M) of assets under management (AUM) under favorable market conditions, simply do not have the proper resources or incentives to perform well when AUM (e.g. $25B) increases dramatically. Conflicts of interest usually develop, when a fund grows too fast, compensations are a simple percentage factor of AUM, and the universe of available assets becomes limited with fund size.

Fiduciary agreements between wealth managers or trusts and their clients are clear contracts based on personal trust. The fiduciary standard, "always putting the client's interests ahead of the agent's interest" is the highest agent-client standard. Trust is earned over a long period. A fiduciary agreement should be entered into thoughtfully after serious due diligence. It is one thing to purchase a new car that is lemon. It is far more dangerous to select a fiduciary that may either take your economic resources or commit you to substantial bad agreements. The wealth manager, registered investment advisor, or endowment trustee must not only pledge to meet the fiduciary standard, but also demonstrate through policies, procedures, and agreement documents to regulators that possible conflicts of interest scenarios are considered and remedies are defined to address potential conflicts. The initial remedy of a conflict is full disclosure. Thereafter, a choice must be provided to the client to terminate the relationship in an acceptable manner.

Agent-Client conflicted agreements may be entered due to emotional or cognitive biases. Sometimes emotional people simply feel good or bad about selecting an agent. Their selection process is unsound, but may be adequate to just get along with an average agent, who does a generally fair job when times are good. Cognitive biases in selecting agents are often less troublesome because a thoughtful, though short cut process based on past experiences, usually occurs. The short cuts will sometimes lead to problems with the fiduciary decisions that are most important in critical situations. In conclusion, over time even sound agent-client relationships become misaligned. In those cases full disclosures and agent resolutions of conflicts are needed in order to maintain good personal biases and acceptable investment results.

Brain functions really do indicate personal biases!
The following section links Charlie's psychological tendencies and the recently discussed personal biases to the brain. The previously cited *Your Money & Your Brain*[6] by Jason Zweig is used extensively in identifying key brain functions. The goal is to indicate how our brains are biases to push us into making poor investment judgments. The disciplines, which are used in this layman's overview, are neuroscience, economics, and behavioral psychology. Some people think in term of a right brain controlling lobe for intuitive, emotional, uncertain, creative, holistic thinking and a left brain controlling lobe for analytical, logical, decisive, rational, specific thinking. In order to relate to this chapter discussion, emotional, uncertain, reflexive thinking is considered as a general bias, while rational, decisive, reflective thinking is considered as another general bias. In any case, be aware that even a Nobel Prize in Economics winner such as Harry Markowitz, who presented "Portfolio Selection" as the basis for the rational Modern Portfolio Theory, found it very difficult to overcome his own biases and actually apply his theory! Our minds continually play tricks on us.



Reflexive thinking – Survival in the old ages
Survival mode in pre historic times was very reflexive and short term oriented. Hungry animals, including barbarian hunters, were an ever present danger. There simply was little time to ponder, if the uncertain menace was going to cause trouble or not. "Run first and ask questions later" was the best approach for all, except the strong, skilled, weapon-clad brave hunters and warriors. Similar to current human beings, they were pattern recognizers. If the lion attacked and killed a fellow hunter, the brain recognized the pattern of the powerful attacking animal. Our brains also recognize patterns very quickly. That is why it is easy to form conclusions too quickly. For instance, if a stock rises in price after an interest rate cut and then rises again after a second interest rate cut, many people recognize a pattern and anticipate a third jump based on an expected third interest rate cut. That is pattern recognition at work. These biases have not changed with further evolution. Of course, market professionals recognize novice behaviors based on pattern recognition and will "fade the rise", or "sell into an emotional rally". Discipline is needed to act independently of the normal tendencies. Intuition is also part of reflexive thinking. It is the creative impulse that just knows how to do things. For some people creativity or thinking outside normal boundaries comes naturally. For most people, a process of looking at the broad forest for perspective and then focusing down on specific trees of opportunity is an acquired skill.

Reflective thinking – Analytical thinking is necessary, but not sufficient
In today's knowledge based world, thinking analytically is necessary to compete in various teams against other teams to provide better goods and services that meet customer needs. Value must be provided in a free society in order to earn the business and succeed. Analysis or rational thinking generally takes more time and effort to recognize patterns and make clear decisions. Reflective thinking in contrast to reflexive thinking usually provides clear decisions and hence leads to confident decisions. However, just as emotional reflexive thinking makes short cut decision, reflective cognitive thinking can also take short cuts in mental pattern recognition. The over confident, over simplifying analytical person, who follows the crowd will often be late to the game. Or to use the poker analogy, when you don't know who the weak player is, there is a reasonable probability that it is you. Those people, such as engineers of former engineers (like me) find measuring and calculating details is natural. However, that is not a sufficient skill for a good investor. It is more important to know what the critical factor, catalyst, or stimulus is for a profitable opportunity, than to linearly extrapolate GE's earnings for the next 3 month quarter or year.

Yes, both reflexive and reflective thinking are necessary for successful investing
Feeling based on wisdom and thinking based on analysis are both needed to succeed. There are no consistent profitable short cut biases in a dynamic changing world. Our brains are capable of using both our reflective and reflexive biases. A process of defocusing and refocusing is needed. Initially, as the Greek philosophers taught us, an educated person must see the merits of both sides of an action or a transaction. The longer independent factors can be gathered for both sides of an argument prior to taking a position, the better are the chances to produce a good decision. Other mental attributes are also helpful. Multi-tasking is easier for a teen ager, who is listening to background music (noise?) and solving a calculus problem. Yet, at any age an awareness of multiple factors is helpful to avoid tunnel vision. Otherwise, noisy, redundant data overwhelms many people, who think too much about coincident, non-critical factors. That leads to analysis paralysis. A final thought on our complex capabilities is the value of gut feelings. There are times, when a clear cut decision can not be made after reflexive and reflective thinking. In that case, having the discipline to let things settle and making the decision when well rested is a good idea. The decision will likely be a gut feeling decision. However, some subconscious wisdom is likely part of the process.

Prediction Addiction?
Jason Zweig coined the phrase "prediction addiction"[7] for activities that result in brain production of the neuro-electrochemical

transmitter, dopamine. It relates to our reflexive bias to seek rewards after patterns are recognized. The gambler and the speculator experience an unusually high dopamine level, while their eyes are focused on the prize. Their minds are predicting near term results in noise filled situations, where they do not have a skill level advantage. The process of the hunt is often more exciting than the kill. In fact, dopamine may relate to the prospect theory emotional bias of holding losers, as long as there appears a chance to break even prior to sale. Dopamine levels generally drop after the die is cast or the game ends. The lesson is to notice that the brain has a hardwired emotional bias to release pattern recognition reflexive stimulants that are as harmful at the poker table, as at the computer screen used to execute a fund trade.

Half Full or Half Empty?

Risk tolerances change based on reflexive emotional biases. Judgments about risk are primarily subjective and change dramatically for the vast majority of people based on recent circumstances. After having net worth appreciate due to inflated stock and home equity values in the late 1990's half decade and the 2003 to mid 2007 period, most people were confident and felt they could handle any related risks of decline. Implicitly, risk was felt to be perhaps a 10% correction of price levels. The scenario of a bear market decline in asset values was generally unthinkable. However, after many individual investors suffered 30% declines and many professional hedge funds, pension funds, and endowments bore 22% declines in 2008, risk tolerances changed. Reflexively, it felt bad to lose a big-time amount of economic wealth. The bias of greed turned to fear. Pride turned to despair. Trust of the super stars (Madoff, et al.) turned to mistrust and anger toward most so-called fiduciary advisors.

The risk tolerance reflexive level change is separate from the risk tolerance reflective level change. After the dusk settled, some individuals and institutions were literally wiped out due to over leveraged mortgage and derivative security debt. Their risk tolerance changed due to objective estimated future cash flow forecasts. A 66 year old couple with a $1,300,000 IRA plus social security payments in January, 2009 has a different risk tolerance than it had with a $2,000,000 IRA plus SSA payments in January, 2008. Risk tolerance will change the rational mix of stocks, bonds, alternative assets, and annuities, reduce planned expenses, most likely mean less planned for gifting, and may even require part time work to supplement a desired standard of living.

Risk tolerances are unsustainable low during good times. The glass is half full. Yet, they rise dramatically as the real world plus the element of panic sets in during bad times. The glass is half empty also for a significant amount of time in a free society. (The alternative of a glass permanently half empty exists in most totalitarian, socialist societies. Not a good alternative.) Try to be aware of real bad potential scenarios (Taleb's left fat tail probability distributions) and adjust risk tolerances. A steady risk tolerance will smooth out risk taking and returns over normal market cycles.

Did you notice that small change?

The central forward part of the human brain known as the anterior cingulated cortex (ACC) has spindle cells, which latch on to signals from various brain sub-sections and assist in generating a feeling of surprise when a normal expectation is shattered[8]. Many investors get so focused on superior expectations that they are shocked by a small change in expectation. In good times, when profits are smoothly rising a game is played between analysts, who forecast corporate earnings, and companies, who subsequently report earnings. Companies and investors naturally like to beat the earnings forecasts with a positive surprise. If analysts gradually increase forecasts and companies barely exceed forecasts, for consecutive quarters, growth oriented investors demand the price of a stock (e.g. Research In Motion (RIMM), the Blackberry Smart Phone producer) up. However, the ACC is anticipating continued surprises. Other than some earnings report manipulation most likely occurring, the real surprise happens when the ACC notices that RIMM does not beat forecasted earnings. A small change, no $0.01 per share above earnings expectation, can cause the price of RIMM to drop 25% in a day. Greed, following the herd, and over-confidence are all biases that are ruthlessly punished, when the ACC gives the alert and an unstable strategy can not cope with a small surprise. The brain does notice small changes. Be aware of it's response to the surprise signal.

What do behavior biases have to do with happiness?

The Rolling Stones' lyrics were wrong in their 1965 hit song *(I Can't Get No) Satisfaction*, but the dance beat was good. Long term happiness differs from one-night-stand gratification and shallow satisfaction. Happiness depends on behavior habits that are developed to control normal hardwired emotional and rational behavior biases. Stable financial wealth or economic resources are a means to happiness, but not the end. Long term trusting relationships bring satisfaction and happiness to most people. Studies show extroverts or outgoing people have more relationships and tend to be happier than introverts. The outgoing people also have an economic advantage based on large networks of associates, who are able to work together to create and accumulate more wealth. There also appears to be something going on in the brains of those with more friends or associates. More neuron firings are measured in the left prefrontal cortex (PFC) of the brains of self described happier people, when they are under pressure. According to Richard Davidson[9] of the University of Wisconsin, higher left PFC activity relates to serenity and generally less negative emotions. Perhaps, the somewhat sappy Turtles'1967 song lyrics of *So Happy Together* are idealistic, but a little closer to long term happiness than those of *Satisfaction*.

Happiness relates to behaviors that enjoy the journey, as well as arriving at the destination. The happy balance seems to involve accumulating enough economic wealth to feel in control of life, but not focus so much on it to feel stressed out in quest of the destination. Keeping up with the Jones next door may involve 2 divorced marriages in the process. Perhaps the wrong factors are being measured. Is a full focus on economic wealth worth it? Envying or coveting the success of others and supporting various schemes to tax or regulate them will probably not make you happy. Unintended consequences may be that fewer people are gainfully employed in an ineffective society. The general attitude of happy people seems to be positive or optimistic. Life is more fulfilling, if the glass looks half full, than if it looks half empty. The following positive behavior biases should lead to a happier disposition and reduce negative wealth accumulation and distribution behavior biases.

A Positive Behavior Bias Checklist to develop:

- Humility – Research thoroughly, continually improve skills, act with self-assurance, and recognize the market is smarter than any individual – Limit personal pride. It is a deadly vice that encourages leveraged and concentrated strategies. Be aware of and limit over confidence.
- Prudence – Dampen the mood swings between greed and fear – Do thoughtful investment scenario analysis and don't stretch for maximum gains or insurance, when market valuations exceed expected ranges. Secondly, concentrate on identifying and overcoming predominant personal emotional and cognitive biases. Finally, choose your most critical agents and partners most carefully.
- Risk Awareness – Later chapters will discuss cognitive processes to identify risks and controlling strategies to replace negative behavior tendencies. Choose capital preservation over capital accumulation during uncertain times, as the ultimate risk controller.
- Perseverance – Stick with a well thought out strategy, until you test and verify a better one. No strategy works all the time. It may need to be adjusted, when dealing with unchartered waters. But, avoid apathy, despair, and depression. Quitting the game of life will not bring happiness!

---

[1] Zweig, Jason *Your Money & Your Brain* 2007
[2] Munger, Charles T. *The Wit and Wisdom of Charles T. Munger* 2005
[3] Kahneman, Daniel Nobel Prize in Economics 2002 and Tversky, Amos "The Framing of decisions and the psychology of choice" *Science* Vol. 211 Jan. 1981
[4] Thaler, Richard "Toward a Positive Theory of Consumer Choice" *Journal of Economic Behavior & Organization* No. 1, 1980
[5] Lynch, Peter *One Up On Wall Street* 1989
[6] Ibid. 1
[7] Ibid. 1 Pg. 65
[8] Ibid. 1 Pg. 179
[9] Ibid. 1 Pg. 241