APPLIED BEHAVIORAL FINANCE IN A POST-CRISIS ENVIRONMENT:
EMOTIONAL FINANCE

Dr. ADRIAN MITROI, CFA, MBA
ASSOCIATE PROFESSOR BUCHAREST UNIVERSITY OF ECONOMIC STUDIES,
ROMÂNIA, CFA ROMÂNIA, AAFBR ROMÂNIA
adrian.mitroi@gmail.com

ABSTRACT
In the pursuit of understanding the behavior of the market player, the basic argument relays on the supposition that the risk appetite increases exactly at the worst moment - when the capacity to assume additional risk decreases significantly. People view a sample randomly drawn from a population as highly representative and quasi similar to the population in all its essential characteristics. They expect any two samples drawn from a particular population to be more similar to one another and to the population than is statistically justifiable. This behavior is different from the tenets of classic finance theory.

The gap between from theory to the practice of Behavioral Finance (BiFi- nickname) has direct application to the investment management practice. Students of Behavioral Finance can develop skills to be employed in their practices for their clients. Behavioral Finance can teach about mental, emotional, psychological and social biases that lead to mistakes and biases o market efficiency, pricing anomalies and other market dynamics and risk – return investment outcomes.

KEY-WORDS: Psychology, biases, efficiency, individual investment

Classification :
REL 5F, 5G, 5K, 7J, 7K,7L, 10B,10F
JEL: G11, G12, G14

Decision making, a mix of emotions and logic

Our investment and financial decisions are based on silent calculation of the odds to win. After we imagine what this probability magnitude, we then start to construe the eventual amount of possible award. Psychological biases can have an impact on risk return optimization, asset allocation on investment portfolios and finally on investment outcome. The sources of investor biases that lead to investor finance errors the investment management industry can apply the data for the development of products and services (automated pilot investing) that may help save investors from sabotaging their financial standing and future prospects.

This smart decision making system computes first the probability of gain then the expected amount, then, we can excel the multiplication of the two figures to come up with a most likely scenario of winning a certain expected amount. We have learned, this way, how to improve our decision making and thus to use less of our emotional inputs in difficult computation of financial and investment decision making process.

This elegant ability of compartmentalization of decision into two subsets is effective and efficient. First, we imagine the probability of the positive outcome, and we base this process of learning on our past equivalent experiences and also based on our intuition system (see the article of Individual Investment Decision - Making Process, Biases and remedies – by the author, Annals of the “Constantin Brancusi” University of Targu-Jiu, Economy Series, issue 1/2014): “High mathematics downplays intuition as unsystematic, emotional, and unaccountable”.

However, the more we move into time systems and try to mechanize entries and exits; we realize that we can never eliminate risks. Execution is about intuition. At the heart of things we are all investors. Whether some of us are overdoing it with housewife calls or calling ourselves knowledge workers who have nothing to do with markets, we are a part of the same chain. Stock market intuition is a high skill for life. We confuse it with speculation and all that herding.

First and foremost, the intuition system is not very fast moving. If you think you have one, it should not give you calls every day intraday. It should be more like a multi month, maybe 18-24 month system or more. Intuition systems are not about trends. They guide us with understanding the minimal risks. What is a minimal risk entry or exit? Intuition systems are also built on patience. You can’t have an intuition system based on stress related to certain expiration. The new science of BiFi, or PsiFi is transforming how we thing about relationship between the investor and
the investing. With the advent of technology, the internet investing is changing individual investors are managing their money.

Strong psychological impulse but erroneous intuitions and biases present in the individual investment context is the people’s negative response to potential loss, or “loss aversion,” as described by Prospect Theory (Kahneman and Tversky, 1979). Losses loom larger than equal-sized gains. Psychologically speaking, the pain of losing €100 is approximately twice as great as the pleasure of winning €100. In general, we are prepared to enter a fifty-fifty gamble of losing €100 on one hand, only if the sum to be won is at least €100. Fair bets should balance in our favor more than 50% (2/3) to get us into action. Loss aversion also makes us reluctant to make decisions for change because they focus on what they could lose more than on what they might gain. In terms of our personal financial decision, we prefer the status quo and herding with our peers.

Behavioral Finance: providing context and perspective to our investment decisions

The study of behavioral finance combines the investigation and expertise from research and practice into smart portfolios of individual investors’ portfolios that can overcome cognitive errors and misleading emotions and drive investors to their long term goals of financial prosperity and capital preservation. Investors put too much weight into most recent financial experiences and ignore a longer term, larger perspective. They evaluate other players decisions as discrentional and non-rational and assume their own decision to be logical and rational, and in conformity with all existing information. Active investment is strongly influenced by behavioral biases. Based on local market data (Romanian Stock Market), the paper contends that benefits of active allocation are small and unsustainable. Careful asset allocation and appropriate timing of rebalancing can improve the chances of higher portfolio efficiency. Investors should be better off by focusing on asset and sector allocation and less on security selection and market timing.

In the macro context, for example the current situation in Ukraine or the Fed's decision to delay tapering its stimulus has at the same time helped and hindered the ECB's attempts to keep euro zone monetary policy loose, since it pushed money market rates lower but boosted the euro. Romanian Central Bank was reluctant to enter into the unchartered territory to non-conventional monetary policy. It has kept rates high to support Leu currency, but also pushed rates down, helping the government to finance deficit and growth at lower interest rates. Macro stability first, growth next was the policy mantra.

Bad is stronger than Good. Sometimes, the best buy is a sell

The decade old paper by Baumeister, Bratslavsky, Finkenauer and Vohs explains how life is full of bad and good instances and how bad was predictive, underestimated, more lasting, more pervasive, elicited more processing, got more attention, was more unusual, was connected to speedy decision making, universal and simply stronger than the good. The 50 page document had made a compelling case to justify its headline. The news is more bad news, starting from Ukraine, to insider trading, to natural catastrophes. And just like the authors mentioned, bad interested the society more than the good. The few good things seemed to be the good life ads interspersed between the bad news. Life was like full of bad memories, which we systematically erase to stay positive. As a general psychological phenomena, bad is tangible stronger than the good.

The paper lists a series of instances. The long term success of a relationship depended more on not doing bad things rather than on doing good things. Bad reputations were difficult to acquire but easy to lose, whereas good reputations were difficult to acquire but easy to lose. The overall goodness of a person was determined mostly by his worst bad deed, with good deeds having lesser influence. Even pessimism not optimism uniquely predicted psychological and physical health outcomes. The universality of stronger bad over weaker good was unequivocal.

The strength of bad was also visible in the stock markets. Investors attached more weightage to a loss than to a gain. This was the reason for risk aversion. This was also the reason why there were more momentum investors tracking winners, compared to contrarian bets looking at depressed losers. The paper explains how trauma has no true opposite

1 Internet Investing – this expression should encapsulate the trend of investment management and investment analysis profession on the last decade. Financial and investment services clients are becoming more sophisticated and more dedicated on doing their own research, on subscribing and using the information available on the internet and finally using internet brokers for their transaction only based services. Next generation of financial services clients will try to use less of outside, professional service. This will change dramatically the landscape of the industry.

concept. Unlike many good experiences, a single traumatic experience can have long-term effects on the person's health, well-being, attitudes, self-esteem, anxiety, and behavior.

Ability to feel pain has served humans well on both a personal and an evolutionary level. People, who fail to feel pain, fail to adapt and die early. People who write about their most traumatic experiences typically show significant improvements in physical health, as compared with the control group. Market panics also have an ability to inflict a generational pain, which create new financial habits. Now we all handle bad event, loss, pain subconsciously or consciously is our choice. If we are conscious about it, we might learn more from losses than gains. We might embrace the bad worst losers more than the fast shining "good" winners. In the end we have a psychological framework that keeps us alive, but it's our only conscious decision making that can not only create wealth but also keep us good, while we enjoy it. Are people making the recommendation overly attached to past decisions? Investors generally buy companies with an aura. Investors don’t just buy numbers, as there are many variables in markets. Hence, stories are bought or sold, not numbers. Few investors learn from mistakes, as there is less annual review. If 80 % of investing is momentum, the past trend exerts an excessive influence on investors.

Emotions are the motor of thinking

High mathematics downplays intuition as unsystematic, emotional, and unaccountable. However, the more we move into time systems and try to mechanize entries and exits; we realize that we can never eliminate risks. Execution is about intuition. At the heart of things we are all investors. Whether some of us are overdoing it with housewife calls or calling ourselves knowledge workers who have nothing to do with markets, we are a part of the same chain. Stock market intuition is a high skill for life. We confuse it with speculation and all that herding. First and foremost, the intuition system is not very fast moving. If you think you have one, it should not give you calls every day intraday. It should be more like a multi month, maybe 18-24 month system or more. Intuition systems are not about trends. They guide us with understanding the minimal risks. What is a minimal risk entry or exit? Intuition systems are also built on patience. You can’t have an intuition system based on stress related to certain expiration.

An intuition system is something which gives you the confidence to buy puts, bleed, but rollover at expirations. If you are bleeding every 18 months, it is a minimal risk, not a high risk. If you are doing puts and calls every month, you have no intuition system. The problem with intuition systems is that they are generally about a crash or scary bubbles. A real intuition system works both ways. It tells you to buy in March 2009 or sell in November. A test of intuition systems can be if it can differentiate between underperformance and outperformance. But then intuition systems can’t do everything. A performance ranking could be a good decision support for intuition systems. Best of the best are to be avoided, and the worst of the worst are to be selected. This simple idea can give you the courage to listen to your intuition. The perception, especially when it comes to money, are distorted and biased by investment performance history, present circumstances and future expectations. Attitudes and decisions in the financial area are a cocktail of rational and non-rational motives. Investors reach a certain conclusion and implement the subsequent decision based on what they know at the moment, anchoring themselves in information considered relevant, losing the larger perspective. Financial decisions are sometimes suboptimal due to simplistic, heuristic and emotional logic. Through the basic feature of human nature of search for enjoyment, investors are attracted by interesting, colored and attractive information that conforms to their hard-embedded beliefs and creeds.

Behavioral finance has a different explication on economics of investing

Demand-supply dynamics are not only differentiating economics from finance but reshaping capital market research. At a party one may find that five out of ten may have the same birthday, which is quite a coincidence as the gathering was small. Why? There is no traditional answer for his question. Just like clustering of market prices were a cyclical reality, and such coincidences happen again and again with cyclical precision.

The age of confluence is full of many such coincidences and witnesses a mixture of cultures, thoughts, sciences, information and above all the human emotion, which continues to oscillate from one extreme to the other, changing the way we comprehend and see things. This is why time and again traditional or conventional research has come under fire. How accurate is it? How accountable and how relevant? The Indian legend of the six blind men and the elephant fits the predicament well. The blind men are the traditionalists trying to understand what they can’t see. It’s not because they are blindfolded, but because the tools they use are archaic and only explains a part of the picture. Times have changed, as a neuroscientist, 3 Investors either buy too little (too soon) or sell too little (too late), so a strong behavioral based strategy can prove to be insufficient for the overall portfolio performance. Administration of investors’ emotions is not simply equivalent with market timing. Proper selection without sufficient allocation does not improve long term investment performance, on a risk – adjusted basis.
physicist, biologist, psychologist and historian are challenging the economist on his home turf. The new age brings with it an overload of information and a host of parameters, which are humanly impossible to interpret and analyze. This is why what we have been doing for a long time, analyzing and valuing markets based on available information and demand and supply gaps is futile. A recent paper suggests that we got it all wrong and there were certain subjects like economics and finance we should never have mixed in the first place. The new model of finance suggested by Robert Prechter and Wayne D Parker in the Journal of Behavioral Finance explains why our tools are ineffective and why fundamental analysis does not work in markets.

The fundamental analyst calculates an intrinsic fundamental value using a number of objective features, such as the company’s industry position, sales trends, profit margins and earnings, asset composition and liquidity, and its mix of financing. However, the market may not always reflect this value and may deviate owing to investors’ non-rational emotions. The analyst makes two assumptions here. One that the emotion is temporary and second, that the markets will revert to the mean after rationality returns.

Stock price action over the past ten years has especially confounded fundamental analysts, who have watched share prices fluctuate wildly despite little change in traditional “fundamental value” (or in some cases despite no fundamental value at all). The data also suggests that the stock market is blissfully unaware of the dividend discount model and the earnings discount model. Financial market prices are not stable but dynamic, and they are not dependent upon but rather substantially independent of supposedly related “fundamental” values. And from the point of view of fundamental analysis, prices spend far more time deviating from the mean and the “fair value” than reflecting them.

Prechter and Parker also define economic and financial markets. The former catering to utilitarian goods and services, while the latter for investments and speculations. Demand and supply relationships differentiate economic from financial markets. In economic markets, demand generally rises as prices fall and vice versa. In financial markets, demand generally rises as prices rise and vice versa. This difference is essential because the behavior of economic markets is compatible with the law of supply and demand, while the behavior of financial markets is not. Sensitivity to oil prices explains the economic behavior well, as people change transport habits to cut back on consumption. Higher the price, more sensitive and subdued the demand. On the other hand, in finance, prices do not influence behavior in this manner.

The volume of trading in the stock market goes up with price. The world has turned upside down: the higher the price, the higher the demand. Prechter and Parker explain the new socionomic theory of finance that should replace the dysfunctional old Efficient Market model. Prices are driven by mood of the

---


5 Neoclassical economy does not answer consistently the dilemma of different motivational dynamics of economic vs. financial markets behavior. In a classical economic context, the operators are rational valuers of the market place equilibrium of supply and demand of the good of service. For the market of financial services – the correspondent law is the Efficient Market Hypothesis. But in financial assets market the law of supply and demand does not hold and explain volatility and prices. The Socionomic Perspective posits that, consecutively, EMH is irrelevant and not efficient. In finance market, uncertainty about valuation, volatility of volatility, irrationality of agents, limits to arbitrage, bounded rationality and other, non-rational herding behaviors shapes the social mood and induces the individual mood and consecutive financial assets fluctuations. Consequently, the dynamics of the market are non-mean reverting, non-equilibrium biased.

6 Neoclassical economy does not answer consistently the dilemma of different motivational dynamics of economic vs. financial markets behavior. In a classical economic context, the operators are rational valuers of the market place equilibrium of supply and demand of the good of service. For the market of financial services – the correspondent law is the Efficient Market Hypothesis. But in financial assets market the law of supply and demand does not hold and explain volatility and prices. The Socionomic Perspective posits that, consecutively, EMH is irrelevant and not efficient. In finance market, uncertainty about valuation, volatility of volatility, irrationality of agents, limits to arbitrage, bounded rationality and other, non-rational herding behaviors shapes the social mood and induces the individual mood and consecutive financial assets fluctuations. Consequently, the dynamics of the market are non-mean reverting, non-equilibrium biased.

majority as they herd. Valuations are a direct measure of investor optimism or pessimism about the valuations they believe others will place on stock prices. What is new in socionomics is that social mood trends are unconsciously determined by endogenous dynamics, not consciously determined by the rational evaluation of external factors, and investors’ unconsciously regulated moods are the primary determinant of the direction of stock prices.

Figures 1 Behavioral Finance vs. Classic Economics
(Prechtter and Parker, The Financial Dichotomy in Social Behavioral Dynamics, Socionomic Perspective)

The paper rekindles the old debate of how we are using a wrong economic model for the financial markets. The traditional way to value markets and assets with demand-supply gaps is flawed. Global equity research model is dead. “From the Ashes of the Equity Research Model” was a report issued by the Tabb group in April 2006. The report claimed that the business model for research was broken and the death of the equity research model had really unfolded over the past 10 years as investors migrated toward passive investment strategies, lower transaction costs and self-directed electronic trading.

According to Stephen F LeRoy, economics professor at the University of California, Santa Barbara, “The only problem with fundamental analysis was that it appeared not to work.” And economist Alfred Cowles’s study showed that fundamental analysts’ forecasts actually yielded worse results than random choice. No wonder the world’s best research company had an accuracy of 34 per cent. And if economic models like Efficient Market Hypothesis were believed, it was impossible to outperform the market and that...

8 Stephen F. LeRoy, UC Santa Barbara and Federal Reserve Bank of San Francisco: “The relationship between the investors information and equity premium return volatility can be non – monotonic i.e. depending on risk aversion and other parameter values” in Risk Aversion, Investor Information and Stock Market Volatility with Kevin J. Lansingy Federal Reserve Bank of San Francisco
meant that investment research ultimately had no value. The big bucks were in large-cap research. And even this left a huge section of mid-cap and small-cap under researched and under serviced.

In long-horizon sessions, where investors collect dividends till maturity, prices converge to the fundamental levels derived from dividends through backward induction. In short-horizon sessions, where investors exit the market by receiving the price (not dividends), price levels become indeterminate as they lose dividend anchors. It's in this case that investors tend to form their expectations of future prices by future expectations. These reasons are important contributors to the emergence of price bubbles. No wonder aggregate markets look for dividends at bottoms and forget them at market tops.

Figures 2: Value Function in Prospect Theory

Prospect Theory (Kahneman, Tversky [1979, page 263-291]), value function is concave in gain domain and convex in loss domain. Loss counts much more than same value of gain. Prospect theory offered the first significant alternative to the expected utility paradigm that dominated research in finance until then.

Prospect theory is based on experimental evidence about human behavior under uncertainty, and was built up to fit the evidence rather than embody an abstract sense of rationality.

Prospect theory relies on evidence that when making economic decisions people are easily influenced by framing, that is by the context and ambience that accompany the decision problem. Part of this context is generated by the people themselves, as when they adopt arbitrary mental accounting of their financial circumstances.

The Psychology of a Financial and Investment Loss

Humans are loss averse. And the individual, corporate and society, which understand it, thrive despite odds. "How did this stuff ever get published?" was what traditional economists asked when behavioral economists observed that human beings were loss averse. This aversion is at the heart of human psychology and asset pricing. And if professors are fighting over academic leadership over the subject you can understand why the only "loss" Google search can handle today is that of "weight".

The psychology of a weight loss is positive and motivational unlike the psychology of a monetary loss, which can be pretty depressing. But despite all negativity around the subject understanding loss aversion is at the heart of an investment strategy and even being a successful money manager. Loss aversion can explain why a price "bid" on or off a trading screen is always lower than "ask" prices. It's not just because sellers always ask for a higher price than what the buyers can pay but because people attach more pain with a loss of "x" than the pleasure they experience with a gain of "x". In other words people place more value on giving up an item than on receiving it. Giving up is tougher, more valuable and hence a perceived loss. So it is not the reality of loss that matters but the perception. And propensity to be loss averse is somewhere connected to a real loss. The more one tries to avoid it, the more it grips you. We have seen nations going to over-extended wars until miserable failures, owing to loss aversion. And loss aversion combined with inability to admit or learn from mistakes can only complicate investment decisions, delaying them till they are of no use, as in a capitulation.

The psychology of a loss works against market timing, and clearly explains why masses cycle from complacency to panic. It also explains why entrepreneurs are contrarians, why we are uncomfortable with geographical risks (Indians trading on the Pakistan stock exchange), why very few of us marry foreigners, why very few intra-day traders make profits consistently, why volatility as an index derives its strength from panic, why our over-trading is an extension of loss aversion and why volume rises when the market goes up and vice versa.
Also, Eric J Johnson, Simon Gächter and Andreas Herrmann, professors at University of Nottingham found some interesting patterns linking loss aversion with various parameters like, age, income, gender, education etc. Age seems to be an important moderator of loss aversion. Intuitively, the older we get the more loss averse we are. Gender is an insignificant predictor for loss aversion. So being a woman trader or investor has no intrinsic disadvantage, au contraire. The study concluded that loss aversion is not a constant. Rather a substantial amount of loss aversion can be explained by the decision-maker's knowledge of the attribute and the attribute's importance to the decision-maker.

Antonio Bernardo, professor at University of California, Los Angeles, talks about how irrational overconfident behavior can persist. Information aggregation is poor in groups in which most individuals herd. Shinichi Hirota of Waseda University and Shyam Sunder of Yale talk about how investor decision horizons influence the formation of stock prices.

Starting with fundamental of investor basic emotion on loss aversion, Ravi Dhar (Yale), Ning Zhu (China Academy of Financial Research, Yale) and Alok Kumar (University of Texas at Austin) analyzed the impact of price trends on trading decisions of more than 40,000 households with accounts at a major discount brokerage house and found that buying and selling decisions of investors in the sample were influenced by short-term (less than three months) price trends. They classified investor heterogeneity in trading based on prior returns into momentum buy, momentum sell, and contrarian buy or contrarian sell category. The trading behavior of all the groups exhibited systematic differences in expectations and behavior.

The study could find support to the commonly held belief that relatively more sophisticated investors exhibit contrarian trading behavior. And, the contrarian investor segment had the best overall performance and their portfolios exhibit better characteristics in comparison to the momentum investor segment. It's easy to be a momentum buyer or seller. There's nothing easier than riding a trend down or up. Unfortunately, riding a roller coaster has its risks and it is not consistent and healthy for a long-term portfolio. There's more burn effect. A majority of the economic society does not understand this link in

---

9 Eric J Johnson, Simon Gächter and Andreas Herrmann, *Individual-Level Loss Aversion in Riskless and Risky Choices*: “Loss aversion can occur in riskless and risky choices. Yet, there is no evidence whether people who are loss averse in riskless choices are also loss averse in risky choices. All subjects also participate in a simple lottery choice task which arguably measures loss aversion in risky choices. Authors found substantial heterogeneity in both measures of loss aversion.

Loss aversion in the riskless choice task and loss aversion in the risky choice task are highly significantly and strongly positively correlated and that in both choice tasks loss aversion increases in age, income, and wealth, and decreases in education.”


10 On the Evolution of Overconfidence and Entrepreneurs- Antonio E. Bernardo UCLA Anderson Graduate School of Management, Ivo Welch, Yale School of Management and NBER: „Information is poor in groups in which most individuals herd. By ignoring the herd, the action of overconfident individuals (NA: risk entrepreneurs) convey their private information. However, entrepreneurs make mistakes and thus die more frequently. The socially optimally proportion of entrepreneurs trades off the positive information. The stationary distribution trades off the fitness of the group against the fitness of overconfident individuals.”

11 Authors investigated the disposition effect: the tendency to sell winners too quickly than losers. In contrast to previous research that has demonstrated the disposition effect by aggregating across investors (Odean, 1998), their objective was to identify individual differences in the disposition bias and explain this in terms of underlying investor characteristics. Building on the findings in experimental economics and self-correction in psychology, investors' sophistication about financial markets and trading experience is responsible in part for the variation in individual disposition effect. Using demographic and socio-economic data as proxies for investors' sophistication, empirical evidence concludes that wealthier and individual investors in professional occupations exhibit less disposition effect. Consistent with experimental economics, trading experience also tends to reduce the disposition effect. This result can help in guidelines for investment advisors, regulators and investment communities to utilize and help investors make better decisions.
profits, markets, psychology and economics. But a few corporate understand and are already strategizing to be ahead. Merck for example understands this loss aversion and is rewarding scientists for failure. Inability to admit failure leads to inefficiencies in the industry. Despite the Vioxx failure, Merck's new speed at developing drugs has surprised competitors. Companies are also questioning the fake shareholder power connected with momentum investors with average time durations of ownership barely a few months. They push companies to beat estimates unmindful of the company's long-term strategy. The observations and questions we have raised here have a bearing on where we will head tomorrow.

When a society becomes loss averse, it looks for a fast buck, looks for more credit-driven speculation than real investments, ownership horizons keep getting shorter and loss aversion reaches contagion extremes, as the majority sits on the edge ready to exit with the gain. When we reach there, it's time for a painful restructuring, which might even involve suing the brokers we love today.

Developed markets may still get you 33 cents per dollar claimed after you sue your broker. But developing markets where legislation itself is weak, we are eons away from suing any Wall Street broker. And both the pain and loss is for us to keep. The faster we understand the psychology of a loss, the better it is for us and for the market.

Behavioral Errors are Systematic and Predictable

Although the business of managing investment assets is much more complicated, competitive, rewarding and challenging than ever, and investors are increasingly sophisticated, their emotional attributes remain as simple as always - fear of losses and desire to make money. Mental cognitive errors are frequently caused by heuristic simplifications - logical shortcuts by which decision makers use simple rules to solve complex problems. When this approach is used inappropriately for complex problems solving, investors' biases could lead to systematic mental mistakes.

These systematic errors of investment performance estimation are predictable, then exploitable, by smarter, more rational decision makers. An example debated in the paper refers to under reaction of investors to information. This late reaction is a direct consequence of an excess of self-confidence in the ability to process and understand new information. The individual is anchored in past opinions and is mentally closed to new information that contradicts the old set of beliefs. Overreaction (early) reaction is a direct consequence of mental generalization and representation. Through generalization, people tend to extrapolate existing information, sometimes based on a single observation and consider it representative for a large population of event.

An interesting example of mental anchoring is price discount posting in a sales interlude: suggested price by the producer > retail price > sales price in this period. The gradual exemplification of the three figures, anchors mentally the prospective buyer into an opportunity for a great deal. People buy compulsively not because of apparently reduced prices but for the reasons that are certain, they have just found an excellent deal. Our wardrobes are a good example of that.

By analogy, overreaction and exaggeration typology can be related to the Prospect Theory of Daniel Kahneman. His Nobel Prize theory suggests that when the investment portfolio is in the domain of loss, the investors are becoming more interested, almost non-rationally, by an increased exposure to risk. The most recent events have the greatest impact on autobiographic memory, since recent losses or gains are more salient in their emotional and social impact.

For example, it is a usual behavior for the investors to be almost indifferent to the buying opportunities at the incipient phase of a bull market, but they start to be interested when the upside trend is almost obvious for everybody in the market. From this moment on, the buying spree of increased volumes makes a clear upward trend. Nobody wants to be just a spectator of the game; everybody wants a piece of action because of a non-rational herd instinct.

From a rational standpoint, however, it should be clear that the upward trend might not continue indefinitely. Just to compound the problem, the objects of investor affection is represented by those stock that performed dearly in the latest period and are obvious most exposed to the eventual correction. Perception of general and immediate context and expectation are key determinants of and investment decision. To calculate

---

12 Apparently, the drug giant Merck was aware of the safety risks associated with use of its arthritis drug Vioxx years before it announced a recall. The company’s attempts to cover up these risks may have resulted in the unnecessary deaths of thousands of patients around the world. Evidence of a cover-up was documented apparently by citing internal company e-mails and marketing materials.

When in doubt, tell the truth. Honesty is the best policy!
analytical, historical and volatility (EWMA and GARCH) based VaR for the portfolio, daily values from Jan 1999-May 2013:

Table historical volatility (EWMA and GARCH) based VaR for the portfolio, daily values:

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>SD</th>
<th>Asym</th>
<th>Kurt</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATB</td>
<td>0.0022</td>
<td>0.0468</td>
<td>18.1778</td>
<td>619.499</td>
</tr>
<tr>
<td>IMP</td>
<td>0.0012</td>
<td>0.0402</td>
<td>-0.3704</td>
<td>12.4466</td>
</tr>
<tr>
<td>TBM</td>
<td>0.0019</td>
<td>0.0511</td>
<td>20.7436</td>
<td>732.626</td>
</tr>
<tr>
<td>TLV</td>
<td>0.0024</td>
<td>0.0301</td>
<td>3.7545</td>
<td>77.5376</td>
</tr>
<tr>
<td>BET</td>
<td>0.0015</td>
<td>0.0158</td>
<td>-0.0568</td>
<td>9.0518</td>
</tr>
<tr>
<td>All</td>
<td>0.0019</td>
<td>0.0234</td>
<td>6.5188</td>
<td>132.543</td>
</tr>
</tbody>
</table>

One specific example follows considers a risk factor mapping for a small, easy to follow and manage portfolio. VaR is a measure of inherent volatile of individual and portfolio of stock investments.

On a cost efficient and limited attention of the investor, a limited number of risk factors are sufficient to understand the process of statistical optimization vs. intuitive optimization of the portfolio. The behavioral portfolio is usually based on a more qualitative assessment of risk factors and the type of company. For example, the VaR minimization is based on individual stock risk. Companies chosen represent for major sectors - financials (Bank Transilvania, TLV), health care and drugs (Antibiotice, ATB), real estate (Impact, IMP) and industry exporter (Turbomecanica TBM) – all listed and traded on local market, Bucharest Stock Exchange. In the model portfolio, stocks have equal weights. Summarizing Jarque-Berra Testing for the four stock portfolio and individual stocks and according to ADF testing, the returns series for the sample portfolio.
of the four stocks and for the general market index BET are stationary. Jarque Bera test concludes that return series distribution is leptokurtic, non-normal.

The correlation matrix and graphs reveal the volatility clustering phenomena. Since the distribution is clearly leptokurtic, the conclusion is that all VaR measures based on normal data distribution underestimate the investment risk. Another, more discriminating measures like EWMA or GARCH, based on modified volatility probably ca provide a more accurate statistical measure of risk variable. The distribution moments for portfolio and individual stocks concludes that the VaR measures that are constructed based on normal distribution of daily returns can underestimate the inherent risk of the investment portfolio.

Sometimes, even though an investor’s economic and financial projections may be far too optimistic relative to what he should have expected – a.k.a. “wrong” – the investor is bailed out by unforeseeable positive developments, or even by non-fundamentally based price appreciation. Either way, the stock rises and the investor is applauded – she proved “right for the wrong reason” (or “lucky”).

A prudent, skillful investor may formulate a reasonable view of the future, only to see the world go off the rails and his investments fail. He might be described as “wrong for the wrong reason” (or “unlucky”). An investor may take an appropriately cautious stance only to see an irrationally overpriced market become more so, as prices soar for years. He looks terrible, a victim of the old adage that “being too far ahead of your time is indistinguishable from being wrong.”. But before the expected appreciation in price of the real estate or the stock can take place, a market crash brings on a margin call, and he’s wiped out. As John Maynard Keynes said, “The market can remain irrational longer than you can remain solvent.”

The Conclusion of the Study

The statistical interrogation of the study describes the sampling methodology, the frequency of data and the empirical methodology that lead to analysis of the results and concluding remarks. The study provides details on raw statistical test scores, regression results and analysis. In this study, I evaluate the association between investors’ behavior and her portfolio results. In the research reported here investigated the market pattern zigzag to see any predilections or biases or a random walk. Analyzing the data for this study leads to the academically interesting conclusion that individual psychological biases and differences should not be confounded with noise within econometric models but rather manifest a solid influential role on the dependent variable – investment outcome.

Data base source for the article shows that psychological characteristics have salient relationships with various aspects of investment decision making process making and the transactional activity of the individual investor.

The findings suggest that psychological biases can have an impact on risk return optimization, asset allocation on investment portfolios and finally on investment outcome. The sources of investor biases that lead to investor finance errors the investment management industry can apply the data for the development of products and services (automated pilot investing) that may help save investors from sabotaging their financial standing and future prospects. Also, new behavioral portfolio construction methods should combine evidently classic finance math with rigorously quantified psychological metrics to improve models for operators use in giving financial advice and crate investor portfolios that enhance investors chances for reaching their life time financial goals.

Students of Behavioral Finance still have much to research on influence of psychological profile dissimilarities between individuals and how these dissimilarities manifest in real financial investment decision and behavior. Personality and other individual circumstances and differences systematically influence investment decisions.

BIBLIOGRAPHY