INVESTOR SENTIMENT IN THE STOCK MARKET

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The main thesis of this paper represents the importance and the effects that human behavior has over capital markets. It is important to see the link between the asset valuation and investor sentiment that motivate to pay for an asset a certain prices over/below the intrinsic value. In the first paper I briefly presented a comparison between behavioral finance and academic finance based on the Efficient Market Hypothesis. The main behavioral aspects discussed are: emotional factors such as: fear of regret, overconfidence, perseverance, loss aversion , heuristic biases, misinformation and thinking errors, group coalitions and their consequences and the limits to arbitrage as another main pillar of the Behavioral Finance. In the second part of the paper I presented the effects of the Romanian investors' sentiment over the local capital market for the last few years.

***Keywords**: Behavioral finance, Investor sentiment, "Random walk" pattern, Behavioral biases, Arbitrage, Abnormal return, Asset valuation*

***JEL Classification**: G12, G14, G17, D81*

During the last decades, the world equity markets have shown important volatility and made a lot of finance researcher to study the behavior of the markets. In some cases, conventional economics and academic finance have failed to explain how asset valuations by the market had been made.

Behavioral finance is a new area of financial research that studies the psychological factors and behavioral biases that affect investors and investment decisions. It tries to explain the market anomalies that cannot be explained by the academic quantitative finance. Behavioral finance is considered to be a broader social science, related to psychology and sociology. In most cases, behavioral finance contradicts the academic finance and the efficient markets theory. Over the last 20 years, the researchers have tried to explain scientifically that investors act irrationally or do not disseminate all the information that is available in their decision making procession.

Academic finance, the conventional part of the finance literature, is built on the arbitrage principles of Miller & Modigliani , the portfolio construction of Harry Markowitz, CAPM theory of Lintner and Sharpe, Black-Scholes, and Merton theories.

The origin of the Efficient Market Hypothesis (EMH) is attributed to Eugene Fama, because of his paper "Random Walks in Stock Market Prices". In his study, consisting of serial correlations between daily prices of 30 stocks compounding the Dow Jones Industrial Average, concluded that the stock markets would function in a way that all the information were incorporated in the prices, similar to the perfect competitive market. "In an efficient market, on the average, competition will cause the full effects of new information on intrinsic values to be reflected "instantaneously" in actual prices. According to EMH, all the assets are well priced and the abnormal return cannot be reached by looking for miss priced assets. But the "random walk" pattern of the stocks violates the Efficient Market Hypothesis, and market anomalies are the one that lead to abnormal returns (semi-strong form of EMH):

Price Earnings Ratio (PER) effects: there might be some stocks with the same return, but one of them with lower PER. Lower PER means higher risk, at least by the perception of the market participants, but anyhow, why buying something more expensive with equal return?

Book Value to Market Ratios effects: companies with high Book Value to Market Ratios are expected to outperform comparing to stocks trading with lower ratios

Earning Announcements: stocks prices ay decline or rise depending of the expected versus actual results.

Small Caps Effect: small companies tend to outperform larger companies because they are more robust and have a better relative potential of growth.

Liquidity Effect: Small Caps have a reduced free-float and institutional investors tend to neglect them due to their illiquidity. Illiquidity makes them appear riskier because of their larger bid/ask spreads and investors expect a higher risk-return compensation.

Practically, behavioral finance studies mainly two aspects: cognitive psychology and the limits of arbitrage:

Psychologists discovered many patterns, ***cognitive biases*** regarding people behave:

- *Overconfidence*: despite that most of the investors do no have a solid knowledge regarding investments; they are very confidents in their abilities. It is well known that investors tend to allocate less time in analyzing companies in order to buy stocks in a certain amount of money than analyzing home appliances, cars or other things in a quarter percent of that amount.
- *Loss aversion*: people feel pain of loss twice as much as they derive pleasures from an equal gain.
- *Perseverance and Conservatism*: investors tend to persists in a certain strategy even if it tends to be a losing one. The hesitation to act firmly after new information arrived, leads to momentum gaps between the reactions to the news.
- *Fear and regret to act*: investors tend to hold positions too long in hope that will recuperate losses. Averaging down is not always a good solution, especially not in a bearish market.
- *Crowd effect*: investors are very influenced by others or by persuasive news and analysis. They don't always check the real facts.

Misinformation and Errors

- *Biased information, wishful thinking:* the personal objective analysis are distortion because of the personal biases
- *Representativiness:* investors tend to believe and extrapolate the results based on limited assumptions, observations, or too recent period of observation that can not grant a enough trust.
- *Mental accounting:* thinking about an asset as a singular investment and not as a part of an portfolio in terms of driving performance.
- *Forecasting errors*: it is quite usual that on tops many people to see that stocks prices may never fall and on the bottoms that the stock market may never recorded. The same thing could be seen with the oil prices: when oil was near 150$ / Barrel many researchers and analysts predicted that there will be shortages of oil and the price will rise even more than 250$/ Barrel in the near future term. But it went less than 50$ in less than 12 months after those "predictions". When was reaching less than 40$, many analysts forecasted that it could go even lower the price because of the world recession and the dumping global demand for oil – they were targeting the oil barrel price somewhere less than 25$/barrel. Of course, that it did not happen that and the reversal to 50$/ Barrel has begun.

Limits to arbitrage

Why some of the stocks are more speculative than others and why arbitrageurs don't take in consideration the advantage of miss pricing stocks and arbitraging them until their prices reaches intrinsic values? The answer might depend by the market conditions. If we are living tremendous and long turbulences, the miss pricing could get even worse and therefore present a higher risk to arbitraging. The influence of the market biases could be larger than the force of arbitrageurs, and it is also possible to misinterpret and miscalculate the real intrinsic value. After all past results does not guarantee future success. Financial models might be inaccurate and short selling could

be sometimes very risky and costly for certain stocks. Arbitrage it is sometimes too risky and many institutional investors are not permitted to sell short.
The greatest critique of behavioral finance is that it is not considered an actual science, like the quantitative finance. It is too general. It is not possible to calculate and quantify exactly behavioral factors neither for one person nor for a crowd. It is important for professional money managers, academics and other investors to spend time learning about the investors psychology because understanding better the investors and the market sentiment, the price momentum and price reversals can be better found and this way allows creating wealth for themselves and for their clients.

Measuring Investor Sentiment

Investor Surveys : among investors to see the changes in their confidence
Retail investor trades / new accounts opened : the retail investors are usually individual investors without too much experience and acces to professional information and disclosure. They usually entered the markets based on the crowd effect, on tops formatting asset bubbles.

Sentiment Proxies and Correlation with others stock exchanges: for the last two years has been recorded a pavlovian style of trading in the Romanian stock market, after global exchanges. Intraday and eventually minute differences between the main global stock exchange indices: FTSE100, DJIA, S&P500, DAX.

Mutual fund flows: the appetite for risk may be seen when they inflows are larger for equity funds and lower when outflows migrate to bonds, less risky assets or even cash.

IPO First Day Returns: After the Transgaz listing to Bucharest Stock Exchange, all the IPO's First Day Return were severely negative (Casa de Bucovina, Stk Emergent), the first day prices falling more than half their asking price.

Dividend Premium : the companies offering important dividends are considered to be more predictable and more stable.

Trading volume, and Option implied volatility: When the prices of stocks record a greater volatility, the options prices' volatility risesSince its introduction in 1993, VIX has been considered by many to be the world's premier barometer of investor sentiment and market volatility.

The effects of the crisis on the Romanian Capital Market and on the Romanian Investor's sentiment

The today's world is facing one of the most severe global recession determined by a deep financial crisis. The current crisis began in August 2007, when Federal Reserve's concern replaced inflation with financial stability.
The root causes of the current financial crisis are both macro and micro economic level:. mismatches between assets and liabilities (held by financial institutions or by the non financial sector), currency mismatches, excessive leverage, adverse market conditions or insufficient assets to cover liabilities, fraudulent management activities, conflicts and interests of credit rating agencies, shadow financial systems, credit default swaps and other complex or misunderstood derivatives, greed and fear.
During the last decade, large amounts of capital flew into the emerging financial markets. The exchange rates tended to appreciate, asset prices and commodities bubbled and the wages rose rapidly. On the other hand, when the optimistic investors' sentiment got worse, the flows reversed or even suddenly stopped, and the asset prices gave back their gains, forcing hard landing adjustments and the economy and on local financial markets.

Domestic Causes

Some possible causes for the collapse of the stocks prices listed on BSE and the loss of investors trust might be:

Structural problems of the Romanian stock market and structural problems of the Romanian economy (chronic deficits and lax, evasive, confusing regulation)

Lack of institutional reform for BSE / Sibex and for the market participants in general

Interference of politics with economics in the stock market

Excessive regulation for intermediaries (so they cannot protest or take initiatives in order to reform the market) and very lax and ambiguous regulation if not inexistent regarding some aspects for the issuers listed to BSE

The unwillingness of the brokers to merge BSE with a regional modern stock exchange, to have a common regional trading platform.

All above reasons presented above were stringent and were necessary to correct them also when the markets were in good shape, but probably then, the local participants greed, the limited financial education among investors and the abundant funds oriented to emerging markets and under valuated listed companies, made possible to seem those structural and strategic problems of the Romanian capital market, less important. On the contrary, because of the greed and because "it was possible", the stocks prices rose very much due to an irrational exuberance. During 2003-2007 the main indices recorded double and triple digits gains year by year. During 2006-2007 companies listed on Rasdaq recorded three and four and some even five digits gains. Some of them conquered in global tops of gains.

2008 was far the most difficult year for the Romanian Capital Market since last two decades. The main indexes BET, BET-C and BET-Fi lost more than 70% of its value in 2008. Practically, the final part of the year 2008, the investors have lost all the profits since 2007, 2006 and most of 2005.

According to SSIF Intercapital SA, the most dramatic return from price, variation, dividends and share capital in EUR, at the end of 2008, were the following issuers: SSIF Broker Cluj (-95.7%), Compa Sibiu (-94.78%), Impact Developer & Contractor (-94.31%), Flamingo International (-92.12%), Electroputere Craiova (-91..51%), Dafora Medias (-90.63%) Turbomecanica (-90.22%), and the list may continue. The evolution of the prices on BSE was totally unusual. It is largely accepted that the evolution of a company is directly influenced by the economic sector that it activates. Usually, in recessions, the defensive companies are the utilities company (energetic, utilities, food and beverages, health).

Indexes	21.12.2007	23.12.2008	Max 2007	Min 2009	Evolution 2008	Evolution Max 2007 – Feb 09
BET	9827	2901	10813	1887	-70,4%	-82,54%
BET-C	6665	1997	7432	1231	-70,04%	-83,43%
BET-FI	78669	12549	95111	7861	-84,05%	-91,74%

Table 1 The evolution of the main BSE indexes during 2007-2009.

Source: Bucharest Stock Exchange website

Because of the illogic evolution and non-fundamental situation (according to the financial statements of the moment), the investors effectively have lost any rationality and confidence in the issuers and in the markets. In October 2008 there were companies with the cash/capitalization ratio well above 1 (listed on Rasdaq mostly) and some cases that cash covered almost all the capitalization (Impact Bucuresti, Zentiva , Prodplast, Armas Gaz, Translectrica). Practically, Transelectrica (-74.39% in 2008) and Transgaz (-57.05% in 2008), because of their strategic and

national importance, simply cannot fail, but their prices crashed. The panic surrounded all the market and investors could not think and act logic.
Practically, he would have lost almost the same (in term of percents) if he had bought Sifs in 23.07.2007 (Betfi 93710 – loss up to date of 87%) comparing to 12.05.2008 (more than 75%). The losses are dramatically for the same investments. That is why the panic surrounded investors. They say that no matter what they buy, they will have losses. The fundamental long term values had nothing to do with the spot prices. The trust had been lost and the investors watched very carefully the evolution of the global markets. Some investors even made jokes about the pavlovian style of trading stocks on Bucharest Stock Exchange. Practically, the intraday evolution of the main stocks (Sifs, BRD) and especially futures contracts DESIF listed on Sibex (Sibiu Monetary and Financial and Commodities Exchange) followed in majority of the cases, the intraday evolution of FTSE100, DAX, CAC40 and electronic CFD/futures based on DJIA / S&P500 indices. After a year and a half of dramatically losses, very few investors had trust to buy and hold for a long period of time, because of the sound fundamentals. Many of them preferred to speculate intraday or swing transactions trying to anticipate the short term evolution of regional and global financial markets.
It is very interesting the perception of investors, how can the sentiment of investors be changed so drastically. In 2006 and 2007 it was something very normal to buy stocks with Price / Book Value more than 3, Price Earning Ratios more than 20, 25 even 40 in construction field companies. It was considered that economy would boost and the "today" PER of 30 will be the PER of 5 after one year. The economy and the companies will grow forever, due to the emerging economy and the potential that Romania has, the gap that we have to fill in order to complete the process of "catching up" the rest of the Europe. We had companies bought even with last 4Q's PER in 2007 of almost 100 (Dafora Medias). It was considered a star.
Today, the perception is totally opposite, we have many companies listed on Rasdaq with yield dividend (of course not very liquid stocks) more than 15%,-20%, capitalization less that the liquid assets and PER less than 3. They are considered "very risky" because of the" great potential" of default. Some of them have net assets double or even triple their capitalization but investors are still afraid to buy them because they don't trust the financial statements and they don't believe that the historical profits earned in 2007 will be repeated for the next 5 years.
It is considered much safer speculating the rebounds based on the evolution of the foreign main indices. This might be also a consequence for the lack of the financial education among investors for the last decade. They were used to win no matter what with "buy and hold" strategy, they bought everything during 2002-2007 no matter the price paid related to the intrinsic value, because the majority of the stock climbed and now they don't buy anything because they all crash, no matter what the price might be. For instance, Sif Oltenia's capitalization at 25.02.2009 was 197.256.343 RON. Only the package owned at BRD valued more than 130 million RON (aprox 5%). Sif Oltenia owns also 6% of BCR and 3.48% of Bancpost. The packaged owned at BCR must be at least valuable as it is the package at BRD (6% not 5% and the value of BCR should be greater than BRD). And we have not taken yet another hundreds of small participations to other companies listed on Rasdaq and other not listed companies or the deposits opened to several Romanian banks. Practically, Sif Oltenia's capitalization is hilarious, but investors still did not regain trust in investments.
As the investors exaggerated upside during 2000-2007 buying stocks at any price, because their prices will always rise, now they are exaggerating downside, in the meaning that no matter what you buy, you will lose, all the companies might default. Practically, the actual prices and capitalization include a global collapse of the real economy. It is known that the stock exchange anticipates. If the BSE anticipated 18 month ago the problems of the Romanian economy, probably BSE will anticipate the economy recovery at least 12 months before, so how much

stock prices may fall? As a joke, will we have to bring more money from home, because the prices will be negative? Will we have to pay the buyers only to get rid of the stocks?

When written in Chinese, the word crisis is composed of two characters. One represents danger and the other one represents opportunity. I do believe that if we are more responsible we can win tremendous from this crisis. It is almost a once or twice life opportunity. No crisis has last forever. In these times of crisis, investments can be very profitable. It is a bargain period and bargain hunting should gain importance. Probably is not yet to right moment for bargain hunting, but the moment definitely will be one day, and depends only by us whether we will choose it right or not. “Be *Fearful When Others* Are *Greedy* and *Greedy When Others Are Fearful*” - Warren Buffett.

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