INVESTING PSYCHOLOGY - KEY ELEMENT IN THE EVOLUTION OF SHARE PRICE OF THE STOCK EXCHANGE LISTED ENTITIES

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Abstract
The information contained in this article is intended to clarify the evolution of the stock price of listed companies under the influence of their own strategies, on the one hand, and under the impetus of the actions of "panic buying" and "panic selling" specific to group mentality, on the other hand. The price of shares on the stock exchange is getting formed depending on supply and demand whereas the price of a transaction is made wherever the demand meets the offer. The higher the demand, the higher the price is, namely those who want to buy shares are more than those who want to sell them, and inversely if the supply of a share is higher than the demand, namely those who want to sell are more than those who want to buy, then the price will decline. In addition to supply and demand, the share price is also influenced by other factors such as: company's internal events, economic performance and results, events related to the industry wherein the issuer carries out his activity or news related to competitors, dividends granted, increment or reduction of the share capital, massive share purchases or sales by a single investor, as well as the economic, political and legislative, national or international background. The price of shares can be influenced by the general market sentiment and investors' psychology. This is difficult to explain from an economic point of view, but that does not mean that it does not impress on the price of shares, so it is important for potential investors to be receptive to the market signals and get connected to the economic reality.

Keywords: *shares; investors; the stock market; investing psychology; price.*

JEL Classification: *D53, E44.*

I. INTRODUCTION

The human thinking system is built in such a way so as to identify permanently patterns. The environment in which each person carries on their activity is complex and the capital market makes no exception.

In such an environment, dynamically influenced by hundreds of different variables, the identification of patterns and templates goes far towards to simplifying the background, adapting behavior and assessing of future events. All of these are being applied in many areas of human activity, including the capital market. Models are very useful, but there is a risk that things can be simplified too much and that models can be identified everywhere. This is true, for example, in the field of technical analysis.

In fact, many of the elements of technical analysis, such as trends, levels and thresholds, also rely on investment psychology. For example, if an index is approaching a so-called psychological level (basically a round-up value, such as 1000 points) then that threshold is relevant precisely because many investors will think that the other investors will consider it relevant. It is precisely this collective thinking that gives relevance to a value of 1000 points, which happens to be relevant only because it is a rounded value when expressed on the basis of 10.

When it comes to money and making trading decisions, people who invest in the stock market are not always as rational as they think, often coming to wonder why they made a bad decision. There are a number of theoretical notions of investment psychology that any investor should know to be successful in trading (http://www.kmarket.ro/000/PulsCapital488.pdf, p. 1, accessed on 30.03.2017).

The basic idea dealt with and developed in this article - investment psychology - has long attracted the interest of many researchers from the most famous universities in the world. The following paragraphs highlight some opinions of outstanding scholars about the subject.

Thus, in 1982, the researcher Maital Shlomo, in *Minds, Markets, and Money: Psychological Foundations of Economic Behavior*, states that *"from the outside, financial markets appear to be dry, technical and strictly economic – having in view only decreases in percentages, volume, margin call and paper losses. However, the internal mechanism of the markets is psychological. All markets, financial or of other type, are arrangements where real, financial assets, money or assets are being delivered from one hand to another. It is vital to keep in mind that these hands are human and attached to thought and feelings"*. (Maital Shlomo, 1982).

In classical and neoclassical Western literature human beings are described as being rational, making the right decisions in situations of complete transparency. This perfect human being - often called *"homo* *oeconomicus"* - is always successful in optimizing the desired profit and receives complete information that has an impact on his/her decisions and alternatives - an ideal situation that certainly does not exist in the real life of investors Hubert's Fromlet says in *Behavioral Finance-Theory and Practical Application* (Fromlet Hubert, 2001, https://www.highbeam.com/doc/1G1-78177931.html, accessed on 01.04.2017).

In many cases, the losses registered by investors on stock markets find their cause in the subjective and influenced decisions they make. When markets collapse in the absence of significant changes in economic fundamentals, a frequent explanation is that investors behaved like a flock that gets suddenly panicked without cause. The herd behavior or the mutual mimetic contagion (contagion has become a phenomenon and it is the phenomenon of globalization, an affirmation belonging to Lawrence Summers, former chairman of the White House Economic Council (Dezsi Eva, 2013)) is a widely used concept by economists to explain the irrationality that governs some investors (Park Andreas and Sabourian Hamid, 2016, http://economics.uwo.ca/newsletter/misc/2007/park_oct22.pdf, accessed on 01.04.2017).

Taking into consideration that the list is not exhaustive, I also mention other papers dealing with the subject of attention in this article:

- ✓ Hung-Wei Lai, Cheng-Wei Chen & Chin-Sheng Huang - *Technical analysis, investment psychology and liquidity provision: evidence from the Taiwan Stock Market*, 2014;
- ✓ Denis J. Hilton - *The Psychology of Financial Decision-Making: Applications to Trading, Trading and Investment Analysis*, 2010;
- ✓ Mickael Mangot - *Psychology of Investment and Marches*, Dunedin, Paris, 2005;
- ✓ Martin J. Pring - *Investment psychology explained. Classic strategies to beat the markets*, published by John Wiley & Sons, Inc., 1993;
- ✓ David N. Dreman - *Psychology and the Stock Market: Investment Strategy beyond Random Walk*, 1977.

II. OWN STRATEGIES *VS*. GROUP MENTALITY

There is a series of subjective influences on the stock market, reflecting, at some point, an unreasonable optimism about the opportunities of obtaining benefits. In this situation, the stock market trend reflects no longer the dynamics of the real economy, displaying even a real-world financial opposition.

Thus, there are many situations in which investors cease to invest according to their own strategy based on concrete and accurate elements and prefer to follow the path imposed by other investors. According to behavioral finance, the less an investor knows, the easier he is to be affected by the *"group mentality"*. The more "ignorant" the investors are, the faster they get into panic, thus creating the premises of real stock market crashes.

Concerning "group mentality", two actions can be distinguished:

- ✓ *"Panic buying"*: when investors see the increase in the price of a share and without waiting to buy, they also buy the share in hopes of obtaining significant profits. They omit to document in detail the economic and financial situation of the respective company and guide their strategy according to the general opinion of the other investors. Thus, there is a risk that these investors take, by buying a single share of the shares of some companies; they will find out after a certain period of time that the results are below their initial expectations;
- ✓ *"Panic selling"*: corresponds to the moment when the speculative bubble that caused the unfounded growth of the market "breaks" and the investors try to reduce as much as possible their losses by selling their shares. The pressure to sell shares only leads to the collapse of the stock exchange.

Behavioral Finance explains that, when opening positions on the market, participants are not primarily attracted to how cheap or expensive some titles are, but how much they expect to increase or decrease these prices. Alan Greenspan, an American economist and chairman of the Federal Reserve Board (https://www.britannica.com/biography/Alan-Greenspan, accessed on April 1st, 2017), kept warning in 1996 of the existence of "irrational exuberance". However, investors who sold shares that seemed overvalued at that time had to accept large losses as prices reached even higher levels (http://suntinvestitor.ro/psihologia-investitionala/, accessed on 11.04. 2017).

Therefore, market volatility, for its most part, must be attributed to investors' psychology. In fact, irrational investor decisions produce most of the risk, due to their exaggerated optimism that increases in prices beyond the real value of the companies in question.

The psychological patterns of the financial market are based on how human psychology influences the decision-making process and explains the rationality of investors' departure. Perceptions and knowledge of the individual bring contribution in the decision-making process (the rational consumer model) and the decision is based on available information, being highly influenced by preferences, attitudes, feelings and motives.

In psychological literature, there is evidence that individuals have limited information processing capabilities, are prone to make mistakes, and often tend to rely on other people's views. Therefore, any investor should always be informed, educated and rational in investment decisions (http://suntinvestitor.ro/psihologia-investitionala/, accessed on 11.04.2017).

Similarly, a level of resistance or support is becoming relevant because it is considered relevant by a large number of investors - the higher the level in question is, more times it is being reached. Finally, trends set by minimum and maximum successive ascending (ascending trends) or declining trends (downward trends) are relevant because they are tracked, considered relevant, and included in strategies by a larger number of investors.

Illustration: A speculator who observes a growth trend in the market will stake that this one will continue to grow and thus he will buy shares; after a while, other speculators will be convinced that the trend is serious and will also buy, prolonging growth (after the concept of *self-fulfilling prophecy*). However, as each beginning has to end, inevitably at some point there are also fundamental factors (reaching a level of overvaluation of shares through comparative analysis with other markets or other periods, negative macroeconomic indicators, declining financial performance of issuers, issues related to interest or currencies, natural disasters, economic recession, etc.) that dictate a trend change.

Finally, collective psychology is the basis of many tools and models used in technical analysis. Here above simple examples are dealt with, but there are also more complex mechanisms (which generate more technically more useful and more useful technical analysis approaches). Returning to patterns and to the over-simplification trend, it can be stated that this does not mean that all market developments can be explained on the basis of historical price developments that will be repeated in the future. Although it is true that some of these models will be relevant, this relevance does not extend to all developments; it is up to the investor to discover which ones are useful and which ones are not. Otherwise, there is the risk of making mistakes when a *V*-shaped model is being identified that should indicate future growth, but if that does not happen, the investor console himself with the idea that it is actually a *W*-shaped model which eventually indicates an increase; when this one does not occur either, then the identification of a *zig-zag* pattern is being concluded. And finally it turns out that the benefits are null and in fact a *head-and-shoulder* pattern is discovered.

The fundamental cause leading to such problems is precisely the tendency of the brain to over-simplify various phenomena and situations and to find order in chaos. Of course, there is also the theory that the daily prices of a single share are independent of each other, which means that the current price has absolutely no connection with and it is not influenced in any way by prices, patterns or developments of the past. Such a theory, though widespread, seems to be quite radical (and, among other things, denies any form of technical analysis). Practice has shown that there are major exceptions that contradict it. However, although some repeatable patterns in the evolution of shares exist, many developments also include a massive dose of random, unrelated phenomena. And the mistake that can be made is to confuse the random with the patterns of past developments. A more subtle form of this type of error occurs when models and patterns are correctly identified, but they do not influence in any way future developments. In other words, as well as a mandatory indication from various documents related to the capital market, past performance is not a guarantee of future results. It is often forgotten that the existence of a correlation between two phenomena is not always accompanied by causality. Finally, it can be said that not all correlations are devoid of causality; stock volumes are correlated with stock returns because entering larger amounts of money in the market can lead to higher purchases and price rises.

Another example I would like to highlight is that the developments on the Bucharest Stock Exchange are correlated with those in other markets as large investors have a global or regional approach to equity investments, causing similar developments in several markets (http://www.kmarket.ro/000/PulsCapital488.pdf, accessed on 10.04.2017).

Theoretically, the technical analysis should be used by investors to choose the right time to act (sell or buy), depending on the price history and thresholds that accumulate. When a quotation fluctuates around a certain threshold, there is an important emotional influence on the investor who decides to enter or exit the market according to the direction indicated.

In the opinion of the broker Adrian Caramiha, *"For 100 years such psychological influences have been witnessed. Once the market breaks down a certain support, it starts to sell and vice versa when it gets higher they buy over resistance."*

Marius Plugaru, director of Fortius Finance, explains that *"these movements are manifested in volatile actions, which form several thresholds in the technical analysis charts and are based on a psychological influence. There is a tumble in the market and everyone is trying to tell in which direction that action will go. The one who works with the technical analysis focuses on these types of indicators, used by professionals"*. (http://www.wall-street.ro/articol/Piete-de-capital/40406/Psihologia-investitorilor-Presiunea-indicatorilor-de-analiza-tehnica.html, accessed on April 24th, 2017).

These moments in the evolution of the price of a share or index, marked by the strength thresholds and supports, are interesting and exploited to the maximum by speculators. Typically, they are familiar with these data and information and take advantage of psychological moments, "playing" with the trend and the thresholds.

At the same time, historically speaking, these moments are constant and repeat over a certain period of time, so their use is important, but not as a decision-making factor, but as an extra argument.

Although this type of influence exerted by the technical analysis is not abnormal or specific to the Romanian market, the effects are often not very beneficial. According to the same Adrian Caramiha, *"this influence is not beneficial many times, but it exists because there is an emotional market, the future is not being traded as it should be normal, the focus should go on the fundamentals and the potential of long-term issuers. Excessive importance is given to the present moment, uncertainties, correlation with other markets, and the lack of long-term investors who are scared by excessive volatility and these factors"* (http://www.wall-street.ro/articol/Piete-de-capital/40406/Psihologia-investitorilor-Presiunea-indicatorilor-de-analiza-tehnica.html, accessed on April 24, 2017).

History, and especially recent history, shows us that psychology plays a role, if not identical, perhaps more important in the movements of financial markets. Investors live in a world where the future is uncertain. This uncertainty persists, although investors always look for patterns in the past to understand the future. The technical analysis attempts to answer a series of questions about the future evolution of the markets based on the history, but here too we can speak of probabilities, not of certainties.

III. STOCK EXCHANGES IN THE WORLD

Economic models do not require the formation of irrational bubbles. If an asset or a share is expensive, its sale can make economic sense; but at the same time, its subsequent appreciation well above initial estimates may increase the cost of opportunity to place that money in another theoretically undervalued asset that does not evolve in the same rhythm as the first share. Empirically, we can see that *bull markets* are dominated by an approach that minimizes risk perception by investors, while *bear markets* are dominated by a mindset that increases risk to the detriment of growth potential.

The chart below highlights the comparison between the consumer confidence in Romania (KIC) and the evolution of the stock market (BET-XT), showing that there is a positive correlation between the feeling about the short-term economic evolution (6 months) and the evolution of the Romanian stock market, but the degree of this correlation is rather low (http://www.despreinvestitii.ro/857/elementul-rational-sentimentul-investitorilor-si-evolutia-pietelor/, accessed on 24.04.2017).

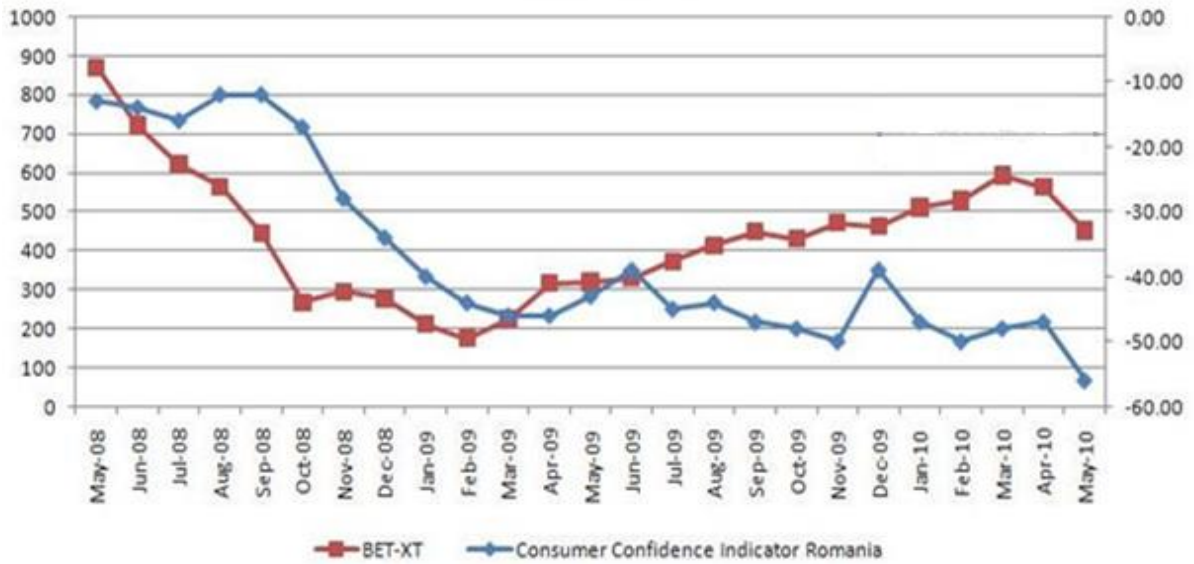

Figure 1. *Comparison of CCI vs. BET-XT*
Source: http://www.despreinvestitii.ro/857/element-rational-sensation-investitorilor-si-evolutia-pietelor/

Analysts state that some bubbles are getting formed on the stock exchanges in the U.S. and in other parts of the world as well. These are at historical highs, but optimism in excess often makes the point of recklessness, warns *The Guardian,* for which the question is not whether a bubble has been created on the market but the moment when it is broken. The current US president, Donald Trump, with his economic stimulus plans, is fueling the markets, which are at that point in the cycle where every piece of news is a reason to buy shares. Inflation is getting accelerated, indicating that the global economy is taking speed, which will make good profits for companies. The Federal Reserve System of the United States (Fed) suggests that it will increase the monetary policy rates, which is a sign of confidence in the health of the world's largest economy (http://www.zf.ro/business-international/bombele-cu-explozie-intarziata-din-economia-americana-16170473, accessed on April 25th, 2017).

The world's largest stock market, the New York Stock Exchange (NYSE), with a capitalization of 18,500 billion dollars, represents over a quarter (about 27%) of the total stock market capitalization worldwide, while at the opposite end are Stock exchanges in islands such as Malta, Cyprus or Bermuda, with values of all titles listed here ranging from $ 1 billion to $ 4 billion. Among these the Bucharest Stock Exchange (BVB) is whose capitalization does not exceed four billion dollars. These four stock exchanges represent less than 0.01% of the global securities market capitalization.

There are only 16 exchanges in the world that have more than a thousand billion dollars. This select group including famous institutions such as NYSE, Nasdaq, London Stock Exchange, Deutsche Börse or Japan Exchange Group together hold 87% of the total value of publicly traded securities worldwide.

The other stock markets together hold about 9,000 billion dollars, which represents less than 13% of the market value of all shares listed on stock exchanges.

In terms of geographic distribution, the northern hemisphere is dominant. Thus, the North America has the most developed stock markets (representing 40.6% of the total), second place is held by Asia (33.3% of the total), the largest financial centers being Shenzhen, Hong Kong, Tokyo and Shanghai, while the European stock markets account for 19.5% of the world market (Figure 2).

To the South of the equator there are only four stock exchanges that count: the Australian Stock Exchange, the Stock Exchange, the Johannesburg Stock Exchange and the Brazilian BM & F Bovespa Stock Exchange.

Stock exchanges, which are considered the barometer of the global economy, have been declining since mid-2015, with the downward trend sharpening in 2016, with the Asian markets followed by the European and American markets.

The volatilization of thousands of billions of dollars in the stock markets is the cause of concern and a signal of a new global recession (http://adevarulfinanciar.ro/articol/cele-mai-mari-burse-din-lume-capitalizarea-cumulata-a-burselor-europene-nu-o-ajunge-pe-cea-a-new-york-stock-exchange/, accessed on April 25, 2017).

Figure 2. *Capitalization of European stock exchanges (billions USD)*

Source: http://adevarul.ro/economie/business-international/cele-mai-mari-burse-lume-capitalizare-cumulata-burselor-europene-nu-ajunge-cea-new-york-stock-exchange-infografie- 1_56ca74e25ab6550cb810f46f / index.html

IV. CONCLUSIONS

Economic theory is based on the premise that the actions of market members are rational. According to this, all financial market actors use all the available public information, receive them at the same time and react as if they take into account all possible probabilities for the future evolution of the market they act on. These forecasts are updated whenever new information appears on the market. Under these circumstances, any change in investor's market positions is due to their rational response to the changes that occurred. Consequently, speculative bubbles thought to be chronic inefficiencies in the markets would have little chance of occurring.

From a historical point of view, in developed markets, this relationship between consumer confidence and share price evolution has shown a positive correlation, but rather low.

However, this relationship has been driven by the evolution of the stock market followed by the evolution of consumer confidence. Empirical observations show that a positive development of confidence does not have a significant impact on the market developments, while market developments can influence consumer confidence.

Traditional finances, based on the assumption of efficient markets and the optimization of statistical figures, such as means and variations, suggest that the investment has many things in common with mathematics. However, behavioral finance has captured people's attention. People make mistakes - even in investment decision making, which leads to inefficiencies on the market. Based on behavioral finance, the investment is 80% psychology (Renisa Meta, 2015).

Meanwhile, behavioral finance has created methods that can help investors identify typical mistakes while finding the right portfolio for them. The more investors will use this school of thought, the more efficient the markets will become. As far as behavioral finances are concerned, these ones propose a synthesis on the efficient management of individual finances with the assessment and quantification of influences of the psychological factors on the investment decision at the level of a dynamically managed portfolio, being proactively correlated with the individual financial profile (profiling at investment and financial risk, profiling), with its evolution and change according to the personal, economic, professional, social circumstances of the individual.

The final conclusion is focusing on the urge to caution: potential investors must be aware of risks before making a decision, and it is appropriate to choose the right combination of risk and profitability, the identification of such an appropriate financial behavior being useful in this sense.

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