

FROM THE CLASSICAL FINANCE TO THE BEHAVIORAL FINANCE

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Abstract: *This paper represents a starting point in the presentation of the three types of stock-market analysis: the technical analysis, the fundamental analysis and the behavioral finance. The fundamental analysis consists in the assessment of the financial and economic status of the company, together with the context and macroeconomic environment where it operates. The technical analysis deals with the demand and supply of securities and the evolution of their trend on the market, using a range of graphics and charts to illustrate the market tendencies for the quick identification of the best moments to buy or sell. Behavioural finance takes into account the human factor, through the perception, own evaluation and emotional elements, which are involved into taking and undertaking an investment decision. The theory looks at the irrational human tendency to quickly achieve profits by selling the title and to postpone accepting losses by preserving the asset. Investors focus on the likelihood that their decisions might trigger gains or losses as compared to the status quo which is set based on prevailing personal perception rather than on the impact of this decision on the entire portfolio. The fusion between classical financial analysis and behavioural finance can help investors and financial analysts to better understand the market mechanism of functioning as well as the investment behaviour of the stakeholders to this process.*

Keywords: *behavioral finance, fundamental analysis, technical analysis, volume analysis, investor*

1. INTRODUCTION

Everyone cannot beat the market...simply because everyone is the market. But that does not preclude the possibility that some investors, utilizing more sophisticated approaches than the public at large, can earn above average returns on their investments. The first step in building a successful investment strategy is to learn as much as possible about where in general are headed.

Game theorists call the stock market a *positive sum game* because in the long run the market rises and in aggregate, all investors make money. An old Wall Street adage goes, *don't tell me what to buy, tell me when to buy it*. In fact, what and when are two sides of the same coin- both essential to a successful investment strategy.

The paper aims at giving an overview of the link between classical and behavioral finance. We are aware that such an approach cannot possibly be covered in a comprehensive manner within one paper. That's why we intend to highlight the progress of finance as study subject by mirroring the theory of efficient market and the prospect theory, the fundamental analysis, technical and volume analysis and essential the role of behavioral finance in the investor's decision taking on what to invest in.

2. THE EFFICIENT MARKET HYPOTHESIS

The theory of modern behavioural finance suggests that all information existing on the market are quickly and fully incorporated into the price of a financial title. According to the key concept of the theory, the individual investor hardly has any chance to beat the market. The Efficient Market Hypothesis- EMH- cannot explain why certain types of shares tend to perform better than others from the investment point of view. Estimating the investment placement in these shares based on the yearly yield is therefore incomplete. If the profitability of the investment were adjusted to the associated risk, there would be a substantial change in the scale of investment attractiveness. Louis Bachelier was the first to launch the idea that all past, present and even future events are already reflected into the current market price. In 1965 professor Eugene Fama introduced the hypothesis of the random movement of prices, which was later on to become the Efficient Market Hypothesis .

Fundamental analysis helps to the process of rendering the market more effective only when it identifies, processes and incorporates into the the current price any change in the information relevant to the previous forming of the price. EMH, in its strong form concludes that the current price of the title is supported by all the publicly available information- the weak form, but also of the private, nonpublic data, the semistrong form. Even if today's technological advance diminishes the relevance of the private information, it becomes paradoxically more and more difficult for the players on the market to issue logical presumptive judgments about the future trend of a stock exchange listings.

40 years after the Hypothesis was introduced, investors have not reached yet any compromise regarding the validity of both hypotheses and of their contents. From the practical side, investors are interested in the relevance of the EMH each time they are trying to identify a certain market trend by using a certain technical analysis, or an under or overevaluated share by using fundamental analysis, or whenever they decide to place fixed capital into a passive mutual fund or to follow a general stock exchange index.

If investors recognized the infallibility of EMH, they would avoid active portfolio management, in favor of the passive one, and they would not support the continuous fluctuation and tradeoff process, necessary to maintaining an effective market.

According to the EMH, the price of an asset reflects all the relevant and available information at that moment: financial, economic, sectorial, political and social environment, and most importantly, the investor's feeling towards the respective title. (Braşoveanu, 2011)

3. FUNDAMENTAL ANALYSIS

Fundamental analysis presumes security prices are based on the intrinsic value of the underlying company. The fundamentalist believes that with time, stocks will move up to minimize the disparity between their present value and their perceived intrinsic value.

Thus, fundamental analysis presumes the future prospects of a security are best analyzed through a proper assessment of the intrinsic value of the underlying company.

In pursuit of value, the fundamentalist collects, analyzes, and models company information, including earnings, assets, liabilities, sales, revenue, and other information required to evaluate the company. Assumptions of the fundamentalist include a belief that markets are not completely efficient and that all necessary information is available to the public, but the company may not always be efficiently priced. Overall, fundamentalists are concerned with what the price should be according to their valuation models.

A turning point in the popularity of technical analysis occurred in the mid-1930s. The Securities Exchange Act of 1934 created the Securities and Exchange Commission (SEC), which was broadly empowered to legislate and regulate the industry. Any attempts to manipulate the market now met with swift and harsh penalties. These reforms provided much needed regulation of the markets and regulation of publicly traded companies. In 1934, about the time of these reforms, Graham and Dodd at Columbia University released *Security Analysis*, now considered the Bible of fundamental analysis. The approach promised that adequate returns and safety could be achieved via a thorough analysis of the underlying company. Through such analysis, they argued that one could identify the “intrinsic value,” or true worth, of a company. Graham and Dodd discounted the importance of the short and intermediate movements of the markets. Instead, they advocated owning stocks as long-term investments, not in timing the market (Dormleiler, 2011).

While price can be observed with certainty, no one can ever be sure what constitutes true value. Although it may be difficult to determine current value, in the light of hindsight it is clear that price does tend to revolve around it. Several indicators have been developed which purport to measure value. (Fosback, 1992)

4. TECHNICAL ANALYSIS

Technical analysis is the study of the market through its creators, the investors. Therefore, the focus of technical analysis is the behavior and motivations of investors observed primarily through their own actions. It is imperfect people who determine market prices, not highly perfected valuation models. However, the technician does not deny that the pursuit of value is a primary source of market movement. Yet, the technical perspective deems that market price is formed by the collective opinions of market participants pursuing value. Thus, in the mind of a technician, price is less about company facts and more about investors’ feelings and perceptions concerning those facts. In the exchange markets, prices are determined by what one party is willing to pay and another is willing to accept. Therefore, price is ultimately the end result of a battle between the forces of supply and demand, manifested through the actions and behaviors of investors.

Price represents all that is known, feared, and hoped for by the market. It is through the diagnostics of price, volume, and other technical metrics formed by the actions and sentiments of market participants that the technician gauges stock performance.

The technician's objective is to develop an understanding of the behavioral forces producing price (such as supply and demand). The core aspects of the technician include believing that the markets are efficient at discounting even future developments, price moves through trends, investors are both logical and emotional creatures, and past behaviors tend to repeat themselves more so when enough time has elapsed that the behaviors have been forgotten.

A string of individual price bars drawn in sequence creates the chart's trend. A price bar contains six key pieces of information: the open, the high, the low, the close, the change, and the range.

The open—The opening value is the first trade of the day. It represents the position clients want to be in at the beginning of the day. After the investors have time to review the markets overnight, the open represents the desired position of investors to begin the day.

The high—The high is the highest point the stock traded during the session. The high is the furthest point the bulls were able to advance the stock higher before sellers regained control to push the stock back down. The high represents a stronghold for sellers and a resistance area to buyers. There is one exception. When the stock closes on the high, it did not encounter any real resistance from the sellers. The buyers just ran out of time.

The low—The low is the lowest point the stock traded during the session. The low is the furthest point the bears were able to force down the stock before buyers regained control to push the stock up. The low represents an area where enough supportive demand existed to prevent the price from moving lower

The close—The close is the last price agreed between buyers and sellers ending the trading session. It is perhaps the most important piece of information of all financial data. The close is the market's final evaluation. The close represents investors' sentiments and convictions of investors at the end of the day when the books are closed. The closing price is the first price the majority of investors desire to know.

The change—The change is the difference from close to close. This is the difference of the closing value one day versus the closing value the next day. When this difference is positive, it tells us that demand is outweighing supply. When this difference is negative, it tells us that supply is increasing beyond demand.

The range—The range is the spread of values within which the stock traded throughout the day. The range spans between the bar's highest point and the same bar's lowest point. It is measured from the top of the bar, where resistance set in, to the low, where support came in. The wider the range, typically, the easier it is for the forces of supply and demand to move the stock price (Dormleiler, 2011).

5. VOLUME ANALYSIS

When securities change hands on the auction markets, the volume of shares bought always matches the volume sold on executed orders. When the price rises, the upward movement reflects that demand has exceeded supply or that buyers are in control. Even the most casual investor knows what matters about a stock—price. You are taught

early on to buy low and sell high. The evening news tracks the major indexes as if they were horse races, so most people naturally believe that a higher close is good news and a lower close is bad; yet you are left none the wiser about navigating your own finances by knowing this daily result. Price surely matters. But this is a market. Waiting for the final number on a given day or week tells you what happened but not why or, more importantly, how.

Volume as a general term describes the amount of a given tradable entity (for example, shares of stock, commodities contracts, options contracts) exchanged between buyers and sellers. If volume is high, more units of a security have changed ownership. If it is low, then fewer units have changed hands.

There are several categories of volume to examine:

- Market volume (trading volume)—The number of shares exchanged between buyers and sellers during a given period of time, typically a day.
- Total volume (exchange volume)—Describes the entire volume of all issues traded on an exchange, such as the New York Stock Exchange.
- Index volume—The cumulative sum of the volume traded in all of the components of an index, such as the Dow or the S&P 500.
- Total trades—How many transactions occurred within the trading session.
- Dollar volume—The value of all the shares traded over the course of the trading session.
- Float—The number of shares owned by the public available for exchange.
- Average volume (typical volume)—Computed as a moving average, which will smooth the peaks and valleys to show a more representative view of typical volume over a predefined period of time. Average volume enables the technician to discern whether volume is increasing or decreasing relative to the past. In short, is the mall fuller this Saturday compared to every Saturday in the past year—or relatively empty?

A trade produces only two pieces of information: the price and price's neglected sibling, volume. Perhaps the least appreciated piece of the puzzle, volume represents fertile ground for technical analysis. Proficiency in volume analysis is a rare skill. Properly understood, though, volume analysis can provide its practitioner with the power to peer deeply into market mechanics. Volume is a literal illustration of the power behind the forces of supply and demand. Volume is understood as the validation of price, the source of liquidity, the substantiation of information, the fulfillment of convictions, the revelation of divergent opinions, the fuel of the market, the proponent of truth, and the energy behind the velocity of money (Dormleiler, 2011).

Volume cannot be properly understood without price any more than price can be adequately assessed without volume. Independently, both price and volume convey only vague market information. However, when examined together, they provide indications of supply and demand that neither could provide independently. Some serious misconceptions among investors exist about how the market functions. According to common perception, the market should be fairly easy to understand. Why does the market go up? The market goes up because there are more buyers than sellers, and the market goes down because there are more sellers than buyers (Suciu T, 2013).

5. BEHAVIORAL FINANCE

Investors are creatures of emotion; they remember the price they paid for a stock and this can influence their decisions of when and at what price to sell it. Investors also tend to allow themselves to be caught up in the market atmosphere of the moment, be it greed, panic, fear or apathy. All those fundamentalists looking at the same factors at the same time tend to move prices to extremes. Thus prices tend to move in trends and trend following has a valid theoretical basis. The reason for great sustained bull market trends is plethora of optimistic earnings reports which emerge after an economic upswing is in progress. Investors tend to jump aboard those issues exhibiting the greatest fundamental improvement and bid them up to greater extremes. Such situations offer profit opportunities to technicians trading with prevailing price trends. At the same time they ultimately spell down, both for the fundamentalists who bought stocks at the high and for the not inconsiderable number of technicians who bought earlier for purely technical reason but then stay with the fundamentals at the peak.

It is also important to bear in mind that the indicated degree of diversification applies to the common stock portion of an investors portfolio regardless of how small a portion of an investors portfolio regardless of how small a portion of his total assets are invested in common stocks. For example, an investor with half of his assets in bonds, one-quarter invested in real estate and the balance in common stock should still hold a minimum of 20 stocks in his portfolio (Fosback, 1992).

As these public information are available to all participants active on the market and as there is no way to foresee when and how other relevant information might appear, as well as how the players might react to this new piece of information, the investor cannot actually measure the future trend of the price. Moreover, as soon as the information becomes public, a sophisticated investor may handle and interpret it in a private way so that public information may turn into a private one.

Behavioral finance takes into account the human factor, through the perception, own evaluation and emotional elements, which are involved into taking and undertaking an investmental decision. The Nobel prize for economics in 2002 awarded to professors Daniel Kahneman and Vernon Smith set Behavioural finance among the Social and economic sciences. They developed the financial Prospect theory which evinces the psychological processes underlying the financial investment decision as well as the differences between these processes when individual portfolio is in the field of gains and losses. The theory looks at the irrational human tendency to quickly achieve profits by selling the title and to postpone accepting losses by preserving the asset.

The prospect theory changes the notion of usefulness of the utility theory with that of value. Utility is defined only in terms of net worth, while value is defined in terms of gains and losses related to a reference point. Potential gains and losses, even if of equal magnitude, do not have the same impact on the decision. Losses produce more psychological discomfort than do emotional gains satisfy by at least 2.25 more, as it has been proven empirically. The prospect theory suggests that investor's utility functions

significantly depend more on the value changes than on the effective value of the portfolio.

Smith and Kahneman submit that that human decisions taken in a financial context are mentally and cognitively limited, because of the cognitive mainstraming trend. People show little interest in the purpose of their decisions over the final position of the assets portfolio.

Investors focus on the likelihood that their decisions might trigger gains or losses as compared to the status quo which is set based on prevailing personal perception rather than on the impact of this decision on the entire portfolio. Decisions can be seen either as a loss or as a gain, hence the importance of the way past performance or likely output of the decision is described and framed. According to the prospect theory, people tend to reach again the zero profitability degree (break even point). Losses can be indefinitely maintained, in the hope of a change to the better that might eventually occur, reversing the loss trend into the profit one, and reaching the break even point. Both from the psychological and the accounting vantage point, loss is considered as unachievable until the very moment of sale.

In the Behavioural finance approach, the efficient portfolio is not the one optimizing the relationship between the standard deviation and profitability, but the one that can best manage and accommodate the lients'personal investing objectives.

The scientific approach of Behavioural finance is based on the finance classical concepts, to which it adds the interest on how investor implements them in practice. The influence of the psychological factor expresses in the way investor thinks and behaves. The new finance theories try and enlarge the classical theories by adding elements of information socializing as the analysis submitted by behavioural finance.

Even when share prices progress according to a random walk movement, the market is not deemed to be effective. Although approaches connected to the formal side of operations accurately reflect the market behaviour, they do not equally identify the sociological and the psychological influences on the logic according to which shares evaluations form, which lay at the basis of transactions carried out in an economically reasonable manner, in individual and institutional portfolios.

However, Behavioural finance submits that judgment, decision and logis are not ifaillible, but are submitted to changes and individual interpretations, different at the moment of their communication to the public and thus, such a past is no longer of use in forecasting the subsequent one (Braşoveanu, 2011).

If the fear of the unknown prevents most people from bearing risks, so does the fear of failure. Any activity in which there is a likelihood of failure is risky. Just as fear of uncertainty and fear of failure goes through in the brain, distorting perception and inhibiting action. Where a loss is signalled, fear will be triggered. Each decision taking requires weighing strengths and weaknesses. Some focus almost only on positive results, while others concentrate on the negative ones.

By analysing the answers given by the brains of various persons, researchers have identified a neural fingerprint making the difference between the cold-blooded and the cold feet. A part of the brain associated with processing physical stimuli, the secondary somatosensory cortex had an increase in activity with the very fearful when they were

informed on the waiting time. Hyperactivity in this network of brain areas can trigger the impulsive and irrational behaviour, at least when it comes to the fear of something unpleasant.

Lo and Repin analysed reactions of investors to instable events (price deviations, price trend reversals and price volatility). They rated businesspeople into either having or not experience, in order to see whether experience has any impact on the individual's autonomous reactions to the market events. Researchers discovered surprising correlations between the physiological reactions and the market trends. Both with non experienced and with the experienced businesspeople blood pressure increased with the maximum volatility of an asset.

Instability was measured as the difference between the highest and the lowest price, over a short period of time, and it was calculated as a fraction of the average price. It was connected to the variation of the asset on short term. The increase of the blood pressure appears much before the respective instable event. This may indicate that the bodies of the business people respond to the market stimuli, preceding the large-scale event and which will then materialize into price variation. This observation reveals the possibility for the brain to take over the subtle signals from the market, those that cannot be found in the trend analyses.

Lo found strong links between positive and negative moods and the daily performances. People are happy when they make money and unhappy when they lose it. These correlations were the strongest for the weakest of businesspeople. They would allow their own feelings influence the perception they have on values, and trouble their decision-making process (Berns, 2010).

CONCLUSIONS

Graham recommends the defensive investor to follow the rules below when selecting the stock: the adequate dimension, solid financial status, uninterrupted payment of dividends over the last 20 years, no loss during the last 10 years, the increase by at least one third of the profit per stock over the last 10 years, the price no higher than 15 times the average profit for the last 3 years (Graham, 2010).

Investment behavior is closely linked to perceived risk associated with the investment. The conventional economic approach copes with risk of outcomes by assuming a maximization of the expected utility. Kahneman and Tversky (1979) expand this model by proposing four key features in their prospect theory of choice under uncertainty:

- Reference point: outcomes are assessed relative to a reference point which often is the status quo but can be manipulated by the framing of a decision.
- Risk attitude: general risk aversion for gains and risk seeking for losses.
- Loss aversion: losses loom larger than gains.
- Non-linear decision weights: over-weighting of small probabilities relative to highly probable events and under-weighting of outcomes that are merely probable in comparison with outcomes that are certain.

These features enable the prediction of a large number of biases and deviations from economic theory that are observed in laboratory studies of decision/making (Otto, p.10).

Investments might be correctly managed in an effective strictly rational mix of economic decision mix, but also with perception, emotion and empathetic understanding of the other investors' financial behaviour. Solutions proposed by behavioural finance have specific practical applications, which can help optimizing the process of distribution of financial assets within and effective investment management. Improving this process may assist the financial decision by undertaking better managed risks.

As human behaviour is however, generally reactive and not proactive, it appears more difficult to be forecasted according to the strictly quantitative provisions of the classical financial analysis. Within this context, the fusion between classical financial analysis and behavioural finance can help investors and financial analysts to better understand the market mechanism of functioning as well as the investment behaviour of the stakeholders to this process.

The human capacity to process, understand and undertake the huge volume of information and stimuli assaulting it, is limited. Decisions that individuals take daily are contained by personal circumstances, by time, psychological, emotional, social factors, and they are rarely based on reasonable economic logic criteria.

The risk is within us. If we over estimate our ability to really understand an investment or to come out clean after a dramatic price period, it doesn't matter what our portfolio contains or what happens on the market. In the end, the financial risk does not lie in what types of investments have we done, but in what type of investor we are. For this, there are five types of investor profiles: very conservative, conservative or moderate, balanced, growth oriented and dynamic or aggressive. Practically, the last two are suitable for a stock market broker.

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