RISK AVERSION AND FINANCIAL EFFECTS INTO THE ASSET MANAGEMENT INDUSTRY

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Abstract

The risk concept is multi-dimensional in terms of the approach taken in the context of studies on financial investor behavior. Risk assumption is context-dependent and, at the same time, subject to observation. Risk attitude is important to explain why an investor is interested or not to invest in capital markets, but also to determine the amount of money it invests. Studies on investor perceptions about risk and return on ordinary financial securities reveal significant differences between professional and non-professional investors. That's why investors' willingness to take risks needs to be analyzed and evaluated in context. There is no best or only way in which attitude to risk can be assessed or predicted, anticipated. This is why specific context-sensitive tools are needed. Depending on economic dynamics, political, social, environmental or demographic changes, the management of the investment portfolio will constantly require careful monitoring and continued adaptation to the requirements or expectations of the financial market.

Keywords: risk aversion, asset management, portfolio, behavior finance

Introduction

In the fever of finding "logical" explanations of how decisions are made and the financial markets are operating, the countless evidence of irrational investor behavior has gradually led to the abandonment of the dominant concepts of neoclassical finances. Moreover, the idea that the 21st century would be "behaviorist" or not (Thaler, 2000) was accredited. For now, one thing is certain: Behavioral finances are "under construction" and set up as solid support for the vast financial sector.

Studies conducted over the past decades have made behavioral finances incorporate standard finances, re-introduce them into new concepts, and establish connections between theory, demonstration, and practice. Statman (2014) notes an essential aspect: Behavioral Finance puts normal people in place of rational people in standard finances.

Behavioral Finance is trying to explain what it is, why, and how it operates in the field of finance from a human point of view, given the limited ability of people to make judgments or optimal choices at all times. Behavioral Finance discovers investor sentiment patterns, including emotional processes, and the degree to which they influence the decision-making system, with direct effects in managing financial portfolios.

Investors' risk behaviors

Kahneman and Tversky (1979) have been the ones who have shown in their research that people are looking for the risk when facing loss situations or when they are below expectations. According to the Theory of Prospectus ("The Prospect Theory" in English) developed by the authors, risk preferences are a behavioral mix of risk-seeking

and risk aversion. The theory describes how people systematically violate the axioms of expected utility theory. The difference from expected utility theory lies in the fact that the probabilities are substituted by the weight of the decision, and the function of the value is defined by gains and losses against the reference point and not by the final benefit / wealth. The authors say people are going through two distinct stages when they have to decide between risky options. In the first phase, it is assumed that decision-makers are willing to formulate a complicated decision through a simpler one, where usually the gains from losses are specified. The purchase of a book, for example, is simplified in the formula for losing the amount of 10 lei and winning a book, while the purchase of a lottery ticket is simplified in the loss of 10 lei and the minimum chance to win 100.000 lei. An essential feature of this decision-making phase is how a decision can vary from moment to moment, depending on the situational circumstances. A person can think of a lottery as a chance of 0.001% to get a 100.000 lei or a 99.999% chance of losing 10 lei. In the second phase, the decision maker chooses between the options available to him. This choice is based on two dimensions, the apparent value of each option, and the weight (similar, although not identical, with the objective probability) attributed to that value or options. These two characteristics are then combined by the decision maker and the option with the highest combined value is chosen.

The two phenomena observed by Kahneman and Tversky, the preference for certain results and the preference for risk when facing losses, could explain some premises of irrational behavior of investors. Because the value point of reference always is correlated with wealth, to stay at the current perceived level of utility investors will have a negative attitude to risk. This proves that people take risks when faced with losses but are reluctant to risk when it comes to winnings. Potential losses or gains, even if they are of equal magnitude, do not have the same impact on the decision; the losses create a psychological discomfort much higher than the emotional satisfaction gains (at least 2.25 times, proven empirically). This phenomenon, called aversion to loss, along with aversion to regret and mental calculus are typical states of mind that affect decision-making processes.

Risk attitude is important to explain why an investor is interested in or not to invest in capital markets, but also to determine the amount of money it invests. McMillan et al. (2011) define risk attitude through the two alternatives an individual has: one is safe to receive £ 50, and the other one is a 50% chance of winning 100 pounds and 50% chance of winning nothing. The expected value in both cases is 50 pounds, one with certainty, the other under the sign of uncertainty. How will the investor behave, do authors ask? There are three options: to choose the game, to choose the 50-pound sum or to remain indifferent. An investor who chooses the game is one that is said to love the risk, is in his search ("risk seeking"). This means that the investor also receives "utility" from the uncertainty associated with gambling. He will accept a lower yield because of the risk associated with gambling. An investor who is indifferent to gambling or guaranteed results is defined as neutral ("neutral risk" in English). McMillan et al. (2011) give the example of a billionaire who can be indifferent in choosing a gamble or an earned 50 pounds. However, if the investor chooses the guaranteed gain, he can be said to have risk aversion because he does not want to take any risk if he receives nothing in return.

Depending on the level of risk aversion, he may want to accept a safe gain of 45 pounds instead of gambling, where he would have the chance to win 50 pounds, but also to lose. As a rule, say the authors, investors stay away from risky investments preferring the smallest but guaranteed yields. They want to minimize their risk for the same amount of return and maximize profitability for the same amount of risk.

Studies undertaken in this field illustrate the difficulty of the comparative definition of individual risk aversion according to individual preferences or circumstances. Numerous applied research conducted in areas related to behavioral finance - psychology, sociology, neurology etc. - illustrates that risk tolerance is a topic explored with much interest. Despite this, there are many authors (Cooper et al., 2014) who came up with arguments about the lack of coherence in how the individual attitude to risk was defined, interpreted and measured, in this case, risk tolerance financial. In addition, Gärling et al. (2009) argue that risk assumption in a given field rarely has relevance, proximity to risk tolerance in another field. In other words, assuming risk in the financial field is rarely associated with risk-taking in the social field, for example. Slovnic (1964) handled a battery of nine different measures on the risk taken by a group of subjects in different areas and found no significant correlations between the different measures. Additional evidence on the same issue came from Weber, Blais and Betz (2002), which measured risk-taking in five areas: financial decisions (separately for investment and gambling), health / safety decisions, decisions in the field recreational, ethical and social decisions. Respondents assessed the likelihood that they would engage in risk-specific activities. The results of these studies support the idea that specific risk assessment measures are needed to accurately determine an individual's attitude to specific risks.

Other authors distinguish between subjective risk and objective financial risk tolerance (Van de Venter et al., 2012). Subjective financial risk is defined as the risk an individual prefers to accept, while objective financial risk is defined as the risk an individual is able to take. Cooper et al. (2014) extend the scope of analysis, considering that risk tolerance can be divided into four key elements: attitude (desire to attract a monetary risk, for example, as measured by responses to hypothetical investment scenarios), predilection (behavior the risk observed in naturally occurring situations), capacity (financial ability to bear risks) and knowledge (eg risk-profitability compromises). Paun (2012, p. 11) says that investors could adopt three different attitudes to risk in investment: aversion, indifference and preference. "Different utility functions are associated with anticipated returns (using probabilities) to explain these attitudes (aversion to risk meaning that investors will associate greater utility to losing money from a risky investment alternative compared to those investors who prefer risk and therefore associate greater utility for potential gains than potential losses). "The author states that there are families of utility functions proposed to describe such behaviors: logarithmic functions are used to describe investor aversion to risk, linear functions for indifferent risk and exponential functions for investors who prefer risk.

Sitkin and Pablo (1992) suggest that risk tolerance is characterized by risk preference, risk perception, and risk mood. The authors distinguish between the three characteristics by defining risk preferences as a personality trait to be attracted to risk while the perception of risk as an individual's assessment of a specific risk situation and the inclination towards risk

as the objective probability of individual assumption or avoidance of risk. Weber and Milliman (1997) explain risk preference as a feature of stable personality, which, according to their study, implies that it can be explained as a variable constant in different areas. A contrary statement, in fact, the one made by Gärling et al. (2007).

Aversion to loss is an argument for understanding and explaining the tendency of investors to keep their losses and to sell their gains too early. Shefrin (2000) called this distortion (bias) "mood effect". The hypothesis was supported empirically by data collected by Odean (1998), which analyzed transactions for 10,000 accounts from a retail brokerage house. The results showed that the investors kept the shares on the loss for 124 days on average, while the earnings shares were kept on average only 104 days. With an experimental call market, Heilmann et al. (2000) were able to demonstrate that the number of assets offered and sold was higher during periods of increase in trading prices than in periods of declining trading prices. This risk aversion to gains, which leads to a hurried sale of shares, directly leads to a fall in prices relative to the fundamental values. On the other hand, the fall in share prices will cause investors to resist too long in making a trading decision, which will cause stock prices that have had a negative momentum momentarily to exaggerate their core values. Studies show that the level of risk tolerance of the investor fluctuates with changes in the stock market. As a rule, investors use the open market price to build their attitude of risk tolerance.

The disproportionate aversion to losses also has an effect on the way choices are made in the decision-making process, i.e. how alternatives are "framed". Matching a decision concerns the way in which a problem is seen and the possible outcomes. The decision frame is undoubtedly influenced by the perceptions and personal characteristics that determine the tolerance to risk. The amount of risk that an investor is willing to expose at any given time is determined by the maximum level of uncertainty accepted in making the decision. The trend towards market prices and other related data and information on monetary growth and Gross Domestic Product (GDP) are the main reasons that influence stock prices and determine constant behavior, high risk tolerance and market anomalies. Research shows that financial decision and emotional behavior are affected by capital market anomalies. The existing relationship between return on equity and risk tolerance explains why investors buy risky assets, which illustrates gregarious behavior when market prices increase. The phenomenon of the "herd" also manifests in the opposite direction: when prices fall, investors tend to sell. A study on consumer credit (Yao et al., 2004), through cross-sectional research over the period 1983-2001, allowed the testing of changes in the financial risk tolerance of investors when yields and prices fluctuated. The authors were able to see that the level of tolerance of financial risk increases when yields of shares increase and vice versa. The study also showed that the correlation between tolerance to financial risk and price fluctuation is negative.

Although the importance of assessing financial risk tolerance is well documented, in practice, the evaluation process tends to be very difficult due to the complexity of the concept and the subjective nature of risk taking. Carducci and Wong (1998) conducted a research to identify personality factors that can influence the assumption of financial risk. They have suggested that investigating the factors that determine financial risk and risk tolerance can be extended beyond testing purely psychological factors. Demographic,

socio-economic and attitudinal characteristics are essential factors to consider in determining how a person's behavior influences the financial risk assumption.

Specialist literature supports this idea with countless results related to factors of influence such as gender, age, education, marital status, occupation, income, race, ethnicity, etc. Slovic (1966, p. 169) says that "*a predominant belief in our culture is that men should, and even do, take higher risks than women*." Numerous studies show that the level of tolerance to risk is inversely proportional to age, but directly proportional to the increase in the level of studies and incomes. Wang and Hanna (1997) examined the relationship between risk and age tolerance based on data collected from the consumer credit survey between 1983-89. The authors developed a life-assurance hypothesis by measuring the risk tolerance by the ratio between asset risk and total wealth / wealth. This has been defined by combining human capital and net worth (human capital and net worth). By analyzing descriptive tools, the authors suggest that risk tolerance increases with increasing age.

Individuals, compared to married ones, have a higher level of risk tolerance, as are people with a high occupational status or a higher level of knowledge in the field of investment. Based on these differentiations, Carducci and Wong (1998) identified two types of personality: A and B. Type A, characterized by increased risk tolerance, but also with higher levels of education, financial knowledge, income and occupational status. Achieving financial success from this perspective can only be explained with caution, because the demographic, socio-economic, and attitudinal factors used in the Carducci and Wong study (1998) explained only 22% of an individual's tolerance risk.

Other authors (Harlow, Brown, 1990) have attempted to demonstrate by empirical measurements that there is a significant relationship between certain psychological and biological characteristics and aversion to risk. Harlow's studies of biological behavior show the interaction between neurochemical processes and human behavior. The whole neurotransmission process, described as the activity of catecholamine systems, appears to be closely associated with characteristics of individual personality. Various behavioral traits, such as risk-seeking, impulsiveness, extrovert attitude, etc. have been shown to be related to this biochemical activity. The obtained results reveal neurochemically clear differences between extroverted individuals, characterized by a high level of risk sensation, impulsivity, and those at the opposite end. The first is willing to take on financial risks, but interesting is the fact that the sensation of seeking the risk diminishes according to the aging (the level of monoamine oxidase MOA increases) "*All these findings are in line with the empirically observed characteristics of individuals' perception of risk and the degree of risk management of the equity portfolio. Studies have shown that investors with higher risk tolerances are usually younger. Moreover, individual portfolios tend to be less risky as people age.* "(Harlow, Brown, 1990, p. 47). The authors conclude that the levels of MOA and other components of the neurological system seem to have a strong genetic influence on individual behavior versus risk in general and financial risk in particular. The study of human behavior from a neurochemical perspective highlights the heterogeneity of individuals' economic preferences and risk aversion, but also how these differences can change over time.

The effects of risk aversion on the management of financial portfolios

According to the opinions formulated in both profile literature and financial specialists (Reilly, Brown, 2012), portfolio management focuses primarily on risk management rather than on yield management. The first step in the management of a portfolio, whether we are talking about the investor on our own or the one assisted by the financial consultant, is the development of an investment policy. The investor has to establish from the very beginning what kind of risks he can assume, what are the goals he is pursuing and what are the constraints to which he is exposed. The investor's needs and financial market expectations are the focus of the investment strategy. Depending on economic dynamics, political, social, environmental or demographic changes, portfolios management will constantly require careful monitoring and continuous adaptation to the requirements or expectations of the financial market. Investment policy will allow for an accurate analysis and assessment of the performance gained in this management, by reference to the benchmarks adopted: the benchmark portfolio or the standard performance objectives. The reference portfolio reflects the investor's risk preferences and appropriate return requirements. In turn, standard investment performance should be compared to this benchmark portfolio. For example, an investor seeking low-risk and high-risk investments should compare the standard investment performance set to that of a low-risk and high-risk portfolio.

Asset allocation is an essential component in the process of managing a financial portfolio. In its simplest form, the allocation of financial assets is the process of determining the categories and number of classes of financial assets that will be included in the investment portfolio, as well as the percentages that each class will represent in the portfolio. Asset allocation is the most important decision an investor makes when designing its investment portfolio in terms of expected or anticipated performance. Allocation of assets is a step taken by all scientific rigors (it is a quantitative approach), but also a subtle one from a qualitative perspective (it is an art). Most of the time, in this process, there is a tendency to pay more attention to the quantitative aspect - the expected yield, the effective border, percentages etc. as inputs in the asset allocation selection process - and less to the elements that refers to the subjective part of an investment. However, in the efficient management of the portfolio, subjective factors - psychological distortions, risk tolerance, investor typology etc. often have a huge impact on the asset allocation decision.

A principle that has "made a career" in the history of decision making theories dates back to 1738, and we find it in the work of Daniel Bernoulli. According to the Swiss mathematician's observations, people show aversion to risk at least for mixed outcome earnings decisions that include both earnings and losses. At the time, Bernoulli noted that people are already beginning to show a marginal utility for money in terms of earnings. In other words, a $ 10 gain is less important for a rich person than a poor person. Second, people show aversion to loss, which means that a certain financial loss has a greater impact than the same amount won. These general trends, well documented over time in research literature, have led to the conclusion that they can lead to aversion to risk in the financial decision-making process.

However, even if people generally show aversion to risk, it is equally obvious that attitude varies considerably depending on the degree of financial risk they are willing to

bear. In the early version of the theory of expected utility promoted by Bernoulli, these differences in risk predisposition are attributed to the differences in investor wealth, with wealthy investors willing to bear a higher risk, according to the Swiss scholar. Subsequent studies have highlighted a whole series of situations that have led to the assumption that people show different attitudes to risk independently of their financial situation and that of course these attitudes affect investment behavior. Different explanations have been advanced to justify these differences in attitude to risk. For example, the theory has advanced that the feature that characterizes the willing person in the investment field may be associated with a general personality characteristic, such investors exhibiting a common availability to tolerate anxiety or a normal need to seek out the excitement states (Zuckerman, 1994). On the other hand, there are other categories of people characterized by the willingness to focus on potential losses rather than earnings, a behavior that psychologists label as a "focus on prevention". This attitude may vary from person to person (that is, be a personal feature) but may also vary with the same person or over time, depending on various circumstances.

The effects of risk and uncertainty on asset prices, rational decision-making rules used in the selection and management of securities portfolios have attracted more attention in recent years to economists, financiers and other categories of professionals in capital markets. A whole series of economic and financial theories imply that investors act rationally and rapidly arbitrate any price differences. This implies that prices fully reflect all relevant information. However, investors act in accordance with the "feelings" of the market, many of whom follow their personal (intuitive) feelings when making financial decisions. The logical question is, of course, what happens if the number of "emotional" investors dominates? In this case, price distortions would be common and could be used to build portfolios that are superior to passive management. Expert literature abounds in examples demonstrating that emotional crowds dominate market pricing as well as volatility. They drive prices based on the latest pessimistic or optimistic scenarios. Because the traded shares are practically free, there is little natural resistance of the shares, which amplifies these "emotional" movements of the price. Rational data-based investors are able to build portfolios to take advantage of these distortions as they are eventually corrected by the market either rationally or simply because the crowd is moving in another direction.

The most appropriate allocation of assets within a portfolio (i.e. which asset classes and in what amounts) depends on the investor's objectives and the inherent constraints, so as to ensure the necessary congruence with the allocation characteristics (strategic and tactical) and his behavior. Normally, an investor's ROI should be the starting point in the process of building up and then managing the asset portfolio. These should be defined both quantitatively and qualitatively, with emphasis on the quantitative side. The profitability objective has a significant impact on the asset allocation decision. If the profitability target is high, then a mix of assets will be selected focusing on higher returns and higher risk asset classes. If the profitability target is low, of course, the opposite option will be used. Asset allocation within the portfolio, both strategic and tactical, is typically routed through a modeling process that is based on assumptions of profitability, risk, and asset class correlations. In the example below, you can see Merril Lynch's recommendations to his clients about asset allocation by category, depending on risk.

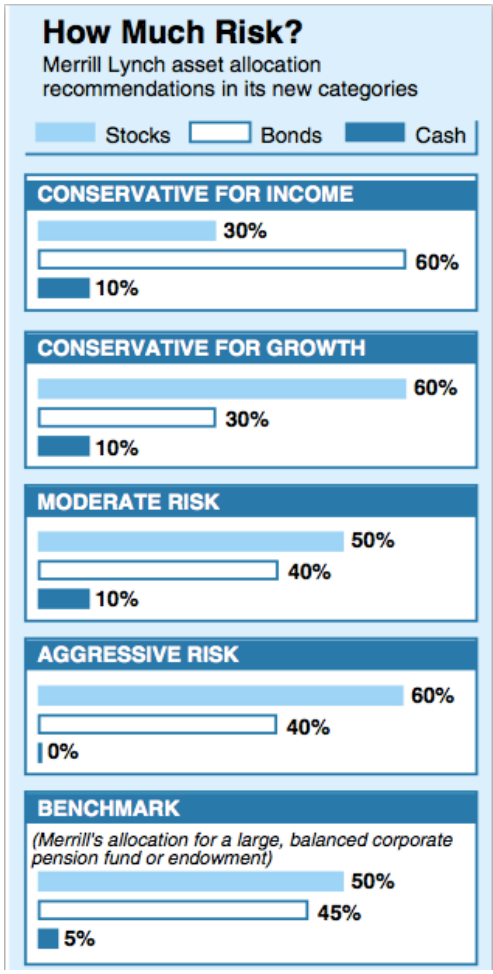

Figure 1. *Risk categories and suggestions for asset allocation for Merrill Lynch customers*
Sursa: Reilly, F., K., Brown, K., C. (2012), *Investment Analysis & Portfolio Management*, 10th Ed., South-Western, Cengage Learning, p. 43

In most cases, the portfolio options observed are not consistent with the standard asset allocation models. As a consequence, several studies have focused on analyzing empirical failures of portfolio optimization theory. The biggest failure is generated by the fact that most individuals do not have fully diversified portfolios, even if the percentage of individual investors who have risky assets has increased over the last decade. Studies conducted in recent years show that some individuals, especially young investors and entrepreneurs, have a higher share than expected in safe-fit financial assets in their portfolios, in order to diversify the risk of business and illiquid personal projects.

An important factor, which is related to the client's mental mood and can significantly influence aversion to risk, is the tendency to aggregate the results within the asset classes. Studies have shown that aggregating results over longer or multi-asset

classes tends to reduce investors' risk aversion, a finding that has a major impact on how counselors or financial institutions can choose to present their portfolio performance. Whatever the cause of risk aversion, it is important to be able and to assess the individual differences in attitude towards risk. It is already unanimously accepted that investors' risk attitude is a key predictor of their level of comfort with different investment strategies and perhaps their level of worry-freeness if unfavorable investments result.

The traditional finance approach seems to play a limiting role in understanding and interpreting certain aspects, such as how investors choose and build their portfolios to be able to meet their personal goals and constraints, or why yields sometimes differ so quickly, for reasons other than those related to risks. Over the past eight decades, capital market theory has seen two reference paradigms and is currently facing the emergence of the third. Each paradigm in part tried to explain as much as possible the capital market prices movement.

The first model of capital market analysis was the one launched by Graham and Dodd in 1934, by publishing the book Securities Analysis, which provided the first systematic approach to analyzing investment in shares. Graham and Dodd have tried to come up with convincing arguments in support of the idea that portfolios with higher values can be built on a thorough fundamental analysis and a set of simple rules on decision-making. The authors' rules were based on emotional mistakes made by the market, mistakes that could be identified through fundamental analysis. The approach of the two reputed economists was successful, especially since the book was published even at the end of the great economic crisis, a depression that shook the entire capitalist world. The paradigm has been replaced by only four decades later with the modern portfolio theory that focused on the idea that there are many emotional investors but also enough rational investors able to arbitrate far from pricing mistakes according to the principle that stock prices are including all the existing information. The axioms of the utility theory claim that investors are (1) fully rational, (2) able to cope with complex choices, (3) risk aversion, and (4) eager to maximize wealth.

The modern theory of the portfolio had as a basic idea the determination of a profitability model, with a special emphasis on the determination of the investment risk and the efficiency border. Markowitz's approach to optimizing mid-range variance as an effective tool for investors and professionals was the main part of asset allocation practices, many investors and financial advisers using this financial instrument to deliver portfolios corresponding to the level of tolerated risk individual. In determining the performance of portfolios of financial assets for risk quantification, the standard deviation of portfolio profitability (Sharpe Indicator) and covariance between portfolio returns (Trynor or Jensen's indicator) are typically used. These measurement systems are frequently used by financial advisors, as many investors are trying to get the highest Shape ratio in portfolios by minimizing volatility per unit of yield based on diversification into multiple asset classes. Practitioners estimate inputs for each asset class of expected return, yield volatility, and correlation between all asset classes. Then optimizes the mix of asset classes to create an effective boundary, representing the best possible risk and profitability combinations for a particular set of asset classes.

The modern theory of the portfolio has encountered problems quite quickly from publication. Basu (1977) attempted to demonstrate in the study *Investment Performance of Common Stocks in Relation to Their Price-Earnings Ratios* that the shares with a low price-earnings ratio exceeded shares with a high price / earnings ratio. Another economist, Banz (1981, pp. 4-5), showed on the basis of the analysis that the small shares exceeded the large shares: "*The results show that between 1936 and 1975, joint ventures of small firms had, on average, risk-adjusted returns higher than joint ventures of large firms. This result will now be referred to as the "dimensional effect*". Without explaining these records, the modern portfolio theory has described anomalies as "yield factors". But with the increase in the number of "nonconformities" highlighted by other studies, the need to explore how individuals make investment decisions has become increasingly apparent.

Many financial practitioners start the risk assessment process by filling a risk tolerance questionnaire that evaluates the quantitative and qualitative risk tolerance factors of an investor. Malkiel (1999, p. 360) is of the opinion that "*The risks that you can afford to depend on your overall financial situation, including types and sources of income other than income from investment.*" Applying risk tolerance questionnaires, usually classify the investor in one of four or five risk categories, depending on the expressed wishes and the ability to take risks. But it is particularly important to evaluate behavior, as investors often overstate their risk tolerance. The same Malkiel (1999, p. 363) comments several pages further in his paper: "*But, the key to determining which asset allocation is advisable for you is if you sleep at night. Risk tolerance is an essential aspect of any financial plan and only you can assess your attitude towards risk.* "Behavioral finance focuses on individual, psychological, or other attributes that shape financial and investment practices. Unlike traditional assumptions about maximizing expected utility for rational investors in efficient markets, behavioral finance assumes that people are normal.

Managing the financial portfolio is essentially the construction and maintenance of a set of investments in such a way that the choice of the different asset categories gives the investor the guarantee that the total risk of the portfolio is minimized while expecting a maximum profit. This approach mainly involves reducing risk, rather than increasing profitability. This component is obviously important, but the ultimate goal of the portfolio manager or the direct investor is to reach a certain level of profitability by taking the lowest possible risk.

Despite the great interest in this area, risk remains a complex notion, if only viewed from the perspective of the different measurement methods used in the financial practitioners community: the Sharpe ratio (average yield obtained in addition to the risk-free rate per unit of volatility or total risk); VaR (the maximum loss that is not exceeded with a given probability, defined as the confidence level over a certain period of time); pure risk based on aspiration criteria and likelihood of failure; other risk measures that include standard volatility / standard deviation, maturity risk, expected shortfall etc. Even financial theorists do not fully agree on the basis of measuring the underlying risks, usually examining the useful measures for applicability in financial practice, without explicit connection with the normative decision theories (Valev, Chater, Stewart, 2009).

Tolerance to financial risk is defined as the maximum amount of uncertainty that one is willing to accept in the process of making a financial decision. Although the

importance of assessing financial risk tolerance is well documented, in practice, the evaluation process tends to be very difficult to achieve because of the subjective nature of risk-taking (the willingness of investors to recognize and disclose their risk tolerance), but also objective factors (Grable, Lytton, 1999, 2001).

Observations on how capital market investments are made have highlighted the fact that high-income people often have greater tolerance to risk. Conservative investors are usually people who want to have a portfolio that provides a consistent source of inflation-adjusted income. They opt for a balanced portfolio with assets that do not include any risk or low risk. Moreover, this type of investor tends to overshadow the small possibility of risk, which will increase risk aversion. In return, investors with high risk tolerance opt for risky asset classes, such as a sector, small businesses, and rising mutual funds. (Vlaev, Chater, Stewart, 2009).

In traditional financial advice, young investors are usually encouraged to take a higher risk than older investors, and similarly older investors are usually encouraged to hold more bonds in relation to the number of shares, than younger investors. The reason behind this advice is that young people benefit from a higher investment horizon than older people, so they have enough time to deal with ups and downs of the market, or they can adjust their job offer in response to uncertain investment returns (Campbell, 2003). This advice is economically valid as long as investor wealth is not correlated with the returns of shares. However, some specialists have the opinion that the distinction between a short-term and long-term investment horizon may not make sense, under certain performance sharing conditions and utility functions. Indisputably, the length of the investment horizon affects the portfolio's risk, so short horizons usually lead to rather conservative portfolio strategies. More specifically, when investor aversion to risk does not systematically depend on their wealth, and when investors have only a balance between income and financial wealth, they should behave with “extreme care" and their portfolio should meet the best short-term characteristics (Campbell, 2003).

In making investment decisions, practice often illustrates that investors compromise between risk and profitability. Depending on the actual market situation and the behavioral particularities, investors who are willing to risk and are concerned about high returns are likely to have a low perception of risk, while those who have aversion to risk have a perception on much higher risks, which, of course, influences the decisions on return on investment (Rana et al, 2011).

Considering the complexity of choosing an appropriate investment portfolio to suit the circumstances and personal preferences for risks, it is not surprising that people tend to follow simple or heuristic strategies. The study by Benartzi and Thaler (2002) on asset allocation decisions in pension funds shows surprisingly that investors do not have well-defined preferences. Despite the fact that the survey participants received clear information on the distribution of the results they could achieve in their own built portfolios, clear information being also available for the average portfolio chosen by the experts, the majority even among those with well-diversified portfolios, tended to prefer the average portfolio instead of self-built portfolios. The results obtained indicated that "*most participants simply lack the skills and / or information available to choose portfolios that align with their risk attitude*." (Benartzi, Thaler, 2002, p. 4). In terms of

differences of opinion, the authors note that while the participants have different views on future returns, these differences do not have a significant impact on the choices made within the portfolio. Benartzi and Thaler found that when individuals have three options ranging from low risk to high risk, there is a significant tendency to choose the middle way. "*For example, people who see options A, B and C will often find that B is more attractive than C. However, those who see options B, C and D will argue that C is often more attractive than B. Simonson and Tversky (1992) illustrated similar behavior in the context of consumer choice, which they called aversion to extremes* "(Benartzi, Thaler, 2002, p. 4). These preferences reveal that the elections are not rational, with no support based on standard economic criteria. The authors of the study are of the opinion that when problems with choices are difficult, people usually resort to empirical processes, such as the rule of thumb (for example, in order to cope with pressures .

Without a doubt, investors' decisions are affected by a whole range of objective factors, traditional theories, some of which have won Nobel prizes, classifying financial risk as quantifiable, so measurable by yield volatility and individual trade-off between risk and profitability . Numerous studies show, however, that risk perception and risk predilection are the most important variables. Sitkin and Pablo (1992) identified a number of contradictions in past successes that led to investors' willingness to engage in risky behaviors and proposed an alternative model of the determinants of risky behavior. The authors have suggested that risky behavior is determined by two individual factors, namely the predilection of risk and the perception of risk. The prediction for assuming risks refers to investors' tendencies to take or avoid actions that they feel risky. Sitkin and Pablo (1992) have argued that the relationship between risk-taking predisposition and risk behavior is mediated by risk perception. Risk perception is a source of communication that can prepare investors to plunge at a certain level of risk, depending on their understanding and the psychological factors that characterize them (Rana et al, 2011).

Although there is little research in the field, the idea that risk perception plays a particularly important subjective role in determining the best alternative in different investment decisions has gained more ground in research. The decision-making behavior is affected by the attitude towards risk, as well as by the way in which the investment risk is perceived by the investor. Depending on the level of risk perception, the investor will make certain decisions about his investments. Therefore, measuring individual attitudes towards risk has become an important goal for many professional investors, financial advisers, profile institutions and, of course, for researchers. The latter consider that there are some important theoretical aspects that need to be dealt with in order to decide how to assess risk tolerance in the most appropriate way. The first problem is the consistency of risk attitudes and behaviors in a given area. In the study by MacCrimmon and Wehrung (1990), regarding the assumption of managerial risk, three different types of risk predisposition measurement are based on: a) behavior in hypothetical risk situations; (b) relevant attitudes towards risk deduced from behavior in naturally occurring risk situations; c) self-reported attitudes of risk. The authors identified higher correlations within the same type of assessment than according to the types of measurement and concluded that assuming risk predisposition is a multidimensional system. Weber, Blais and Betz (2002) consider that it is important to distinguish individual differences in risk

perception and differences in risk behavior. The authors note that if the goal is simply to predict the future risk behavior of individuals, the degree to which risk predisposition is due to perception or behavior can not be crucial. Cordell (2001) proposes that risk tolerance in investment be divided into four components: a) risk predisposition (in the sense of risk behavior observed in naturally occurring situations); b) behavior (in the sense of a wish to attract a monetary risk, as measured, for example, through replies to hypothetical investment scenarios); c) Capacity (financial capacity to bear risks) and knowledge (for example, compromises between risk and profitability).

In their research, Vlaev, Chater, Stewart (2009) also identifies some concrete ways of risk perception by investors. They found that: a) capital loss; b) below-expected yield; c) Economic uncertainty is the most frequently associated with investment risk. These situations are associated with knowledge deficits and the sense of lack of control, which illustrates that risk is perceived not only quantitatively but also qualitatively.

Conclusions and implications

Risk tolerance is the attitude of a person to taking risks. This is important because it has implications for both financial service providers (asset management or financial advisors) and investors. Risk tolerance is a subjective but also relevant factor because it can determine the appropriate composition of more assets in a portfolio to be optimal but also to satisfy investors in terms of risk and profitability in relation to individual needs. For this reason, it is essential to recognize how individual investors, who have different perceptions of risk and risk tolerance manifestations, make their choices about products in the investment portfolio.

Studies have highlighted a particularly important aspect, namely that qualitative elements (predictors such as knowledge, concerns, control, etc.) play an important role in assessing the risk even for financial experts, not just for individual investors. This is why the successful investment is emotionally difficult.

Proper understanding of the types of risks, knowledge of their behavior, and the use of specific management tools to measure risk factors allow the investor to more accurately manage the portfolio of assets in order to improve the likelihood of anticipated results. In order to be a successful investor, it is necessary to make a conscious decision to redirect natural impulses and concentrate on a careful and well documented analysis.

Although the theory of traditional finance implies that investor decisions always rely on objective risk assessment and expected returns, psychological factors show that risk perception often plays a vital role in investor capital market decisions. Behavioral finances have emerged to respond to such issues, questions and help to understand how individual investors behave in choosing and appropriately allocating assets within a portfolio.

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