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Behavioral Finance:

Islamic Decision Making in Portfolio Investment

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Abstract ;

The classical paradigm of finance is based on two basic hypotheses: the rationality of the decision and the efficiency of prices. However, Observations made on the markets and in the laboratory have challenged this theoretical framework, thus opening the way to new explanations. Since the 1990s, Behavioural finance was thus established, by formulating new realistic hypotheses to understand investment decisions are really made. In addition, behavioral finance did not take into account the emerging new behavior of Muslim investors. These investors do not follow the classical behavior (Maximize profits) in decision-making. They follow the principles of Sharia. In this paper, we develop how Muslim investors behave and how they make their investment decisions.

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1. *Introduction*

The financial market is the meeting place of offers and demands of agents driven by the maximization of profit. the gains/losses resulting from the decisions of the agents come from the differential between the purchase and sale prices. Thus, the traditional field of economics was the first to develop the variables in order to understand financial behaviour and dynamics. The classical approach that has dominated the financial field is the liberal paradigm with the two models of CAPM (Markowitz, 1952) and Sharpe (1964) and the random market assumption of prices (Fama, 1965). This paradigm dominates financial sciences and has inspired financial development. However, during the 1980s, many econometric works questioned market efficiency and the optimal portfolio model. These critics founded a new field called behavioral finance. Behavioural finance has begun with Daniel Kahneman and Amos Tversky in the 1970s. Their research started with investigating anomalies and contradictions in human behavioral. They proved that people's attitudes toward risks concerning gains may be quite different from their attitudes toward risks concerning losses. Kahneman obtained his consecration with a model price in 2002, whose perspective theory developed conjointly with Tversky constitutes an important cornerstone in economics, especially in financial economics. Behavioural finance is an approach that has emerged in response to difficulties faced by classical theory. This approach investigates the influence of psychology on investor decisions, and it helps explain some financial phenomena.

In addition, recently, it is observed that Islamic finance is growing rapidly around the world. It is based on the application of Sharia principles and specific rules. Indeed, Islam prohibits transactions based on interest (riba), speculation, and gambling (maysir). The Muslim religion also excludes exchanges of goods considered Haram such as pornography, consumption of alcohol, pork, gambling and weapons. These fundamental principles, therefore, require a more appropriate and morally grounded practice of finance. Many works prove that Islamic Finance has the potential to revolutionize the world of traditional finance (such as the report developed by The World Bank Group and the Islamic Development Bank Entitled Global Report on Islamic Finance — Islamic Finance: A Catalyst for Shared Prosperity?). The rules of Islamic finance define an ethical financial intermediation system based on the principle of sharing profits and losses in non-prohibited activities (halal) and without the practice of usury. The behaviorour followed by investors requires great transparency and encourages closer monitoring of projects, which increases efficiency in terms of the construction and operation of infrastructure. The first part of this article will focus on presenting the characteristics of behavioral finance. The second part presents the role of Islamic finance in decision-making.

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2. Behavioural Finance

Through the introduction of the psychological factor, behavioral finance has gradually introduced in finance models. The confrontation of the points of view of finance and psychology make authors develop the behavioral finance approach. Several researchers have long considered that psychology plays a key role in determining and analyzing market behavior. Indeed, the most widespread idea in this area is that the study of psychology can help to analyze the efficiency of financial markets. This helps to understand several phenomena, such as stock market anomalies, market bubbles, and crashes. LINTNER (1998) defines behavioral finance as the study of the individual behaviour in analyzing and making financial decisions. Behavioral finance theory is based on the use of these cognitive sciences. Investors are no longer considered rational and independent but rather as individuals obeying the influence of their emotions, and who necessarily represent the object of several reasoning biases (Thaler (2016)). In this section, we present a literature review of behavioral finance theory.

2.1 Treatment of Information

There has been a growing debate on the role of investors' cognitive psychology in decision-making. Kahneman and Tversky (1974) consider that many decisions are based on beliefs concerning the likelihood of uncertain events and can be expressed in numerical form or odds or subjective probabilities. These beliefs can be determined by how people assess the probability of an uncertain event or the value of an uncertain quantity. In this paragraph, we present cognitive bias-orientating judgment.

2.1.1 Representativeness

Representativeness refers to the tendency. Generally, when judging an event which is uncertain, individuals tend to assimilate it to a further one that was particular for the decision maker in the past. Kahnman and Tversky (1974) prove that when people try to judge the probability that an object or event A belongs to a class or process B, the probabilities are evaluated by the degree to which A is representative of B, namely, by the degree to which A is assimilated to B. The heuristic representativeness leads to different biases.

- The momentum bias: The momentum bias refers to the fact that people put too much weight on recent experience and consider that events that happened in the past can be reproduced in the future. This representative bias can lead to errors in anticipation. De Bondt (1993) finds a significant and negative relationship between investors' sentiment and future returns. He documents that trading behavior is affected by historical return changes. De Bondt (1993) investors' beliefs and anticipations on the Dow Jones evolution depend on the market

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performance during the latest six months. Welch (2001) examines the opinions of the finance and economic professionals with regard to their expected stock market performance at the end of both 1999 and 2001, respectively after six years of American market increase and after two years of a decrease. Results show that the equity premium consensus forecast has dropped during the last 2 to 3 years, a period with a low realized equity premium. It stands at about 3% to 3.5% over a 1-year horizon and at about 5% to 5.5% (arithmetic) over 30 years. Using trade data, Choe, Kho and Stultz (1999) examine the impact of foreign investors' behavior on stock returns in Korea from November 30, 1996, to the end of 1997. They find positive feedback trading and herding by foreign investors before the period of Korea's economic crisis during the last three months of 1997. Results show that the evidence of herding becomes weaker during the crisis period and positive feedback trading by foreign investors disappears.

- The False consensus effect: The false consensus bias *is defined as the tendency to see our own behavior, attitudes, and beliefs as being typical.* Mullen et al. (1985) employ a metal analysis of 115 hypothesis tests. They show that the false consensus is a very stable effect, and it is shown in behaviours, in decisions, opinions, evaluations and also in characteristics. Hsee and Weber (1997) examined how people predict the risk preferences of others. They used 50/50-lotteries and participants had to choose between the lotteries and sure options. Besides, they had to predict the choice concerning the same lottery of another subject that is described in three different ways: the average American, the average student on campus and the person sitting next to the participant in the classroom. The authors find that the risk preference of the average American and the average student on campus is overestimated. As a result, the studies reported show that participants are poor at predicting others' risk preferences. Engelmann and Stroebel (2004) present an experiment to study the dependence of a false consensus effect on the prominence of representative information. In the first stage, subjects made a single choice whether or not to play a lottery within their group of four subjects. Then, in the second stage, they gave an estimate of how many of the twelve subjects in three other groups had chosen the lottery. They find that the false consensus effect appears without any additional information. Indeed, if information about choices in the own group is explicitly provided, the false consensus effect disappears in the estimation of the other groups. however, when the information about the own group is implicitly provided, the false consensus effect in predicting other groups' behavior reappears again.

2.1.2 Availability Biases

Kahnman and Tversky (1974) consider that when forming estimates, sometimes, individuals start with looking for some initials, instances or occurrences brought in mind rather than examining other procedures or alternatives. However, availability leads to predictable biases:

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- Familiarity bias: This bias refers to the fact that investors choose one option among others just because they are familiar with. Heath and Tversky (1991) prove that ambiguity aversion can explain why low-knowledge bets are less attractive than high-knowledge bets. In addition, they argue that familiarity can help explain why investors sometimes forego the advantage of portfolio diversification.

- Effectiveness of a search set: Kahneman and tversky (1974) argue that there are many cases in which people evaluate the frequency of a class or the probability of an event by instances brought to mind. For example, the authors find that most individuals judge words beginning with a given consonant to be more numerous than words in which the same consonant appears in the end position. they explain that it is easier to search for words by their first letter than their last letter.

- Imaginability bias: Kahneman and Tversky (1974) indicate that when evaluating the frequency of a class whose instances are not gathered in memory, individuals can establish several instances and evaluate frequency or probability with the ease with which the relevant instances can be constructed.

- Illusory correlation: It represents the phenomenon of forming false associations between two variables. Kahneman and Tversky (1974) take the example of Chapman and Chapman (1969). The former studied the effect as it relates to psychodiagnostic signs. They show that although projective testing is not helpful in the diagnosis of mental disorders, some psychologists continue to use such tests because of a perceived, illusory, correlation between test results and certain attributes.

2.1.3 Conservatism and Confirmation

Among available information, agents give more attention and weight to those confirming their beliefs. Face to new information, individuals become reticent to change their beliefs and rely too much on their priors. Ritter (2003) considers that when things change, people can show an underreaction because of the conservatism bias. However, if there is a long enough pattern, then they will adjust to it and probably they may overreact by underweighting the long-term average. Edwards (1968) experiments with such behaviour. He considers two urns, one containing 3 blue balls and 7 red ones, and one containing 7 blues balls and 3 red ones. He makes an individual draw randomly 12 balls, with replacement, from one of the urns yields 8 reds and 4 blues. The probability that the draw was made from the first urn is 0.97 but most people estimate a number around 0.7.

Generally, once individuals form opinions they cling to them too tightly and for too long. They behave as if new information is not consistent with their beliefs and avoid scrupulously being

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confronted with opposite information. Thereby people misinterpret evidence that goes against their beliefs as actually being in favour.

Confirmation bias is an example of agents' tendency to adjust beliefs to justify past actions. It is termed by Festinger (1957) as cognitive dissonance which means that people tend to revise their beliefs to reduce apparent logical contradictions. Erlich, and al. (1957) used cognitive dissonance in order to examine how the consumer reacts to advertising after purchasing a new car. They find that after purchasing a new car, the owners observe advertisements that re-enforced the efficacy of their decision and they do not pay attention to competing for car advertisements that may increase the uncertainty of their choice. De Bondt and Tahler (1985) experiment with people's reactions, in violation of Bayes' rule, to unexpected and dramatic new events. Empirical evidence shows that investors emphasize recent firm performance in forming future expectations. Being consistent with the predictions of the overreaction hypothesis, the authors find that the portfolio of 'prior' losers outperforms prior 'winners'.

DeLong, et al. (1990) develop a simple overlapping generations model in which both irrational noise traders and erroneous stochastic beliefs affect prices and earn higher expected returns. They find that the unpredictability of noise traders' beliefs increases the risk in the price of the asset. This prevents rational arbitrageurs from aggressively betting against them. Thus, even in the absence of fundamental risk, asset prices can diverge significantly from fundamental values. In short, the authors find experimental evidence of the role of investor psychology in decision-making. Goetzmann and Peles (1997) use the dissonance theory to present evidence about recollections of past fund performance. The authors use a questionnaire from two groups of investors about their personal holdings and mutual fund choice. Results show that even well-informed investors tend to bias their perceptions about past performance. Using a cross-sectional study of equity mutual funds, the authors examine the magnitude of psychological and economic frictions in the mutual fund industry. Being consistent with investor 'inertia', results show that poorly performing funds manifest unusually high frequency. Finally, the authors examine the differential response of investment dollars to past performance. Results confirm that the differential response still persists, but the effect is confined to the top quartile. The study proves that there is little evidence showing that the response to poor performance is unusual.

2.1.4 Anchoring

Kahneman and Tversky (1974) argue that in many situations, people make estimates by starting from an initial value and then adjust away from it. The authors consider that adjustments are typically insufficient. Different starting points may yield different estimates. This phenomenon

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is called anchoring. Kahneman and Tversky (1974) experimented anchoring effects, and they find different biases:

Insufficient adjustments: in an experiment, subjects were asked to estimate various quantities. For example, subjects are asked to estimate the percentage of African countries in the United Nations. Before giving a percentage, they were asked whether their guess was higher or lower than a randomly generated number between 0 and 100. Different groups were given different numbers for each quantity and these arbitrary had a marked effect on estimates. Anchoring occurs also when people base their estimates on the result of some incomplete computations. In an experiment, two groups of high school students estimated a numerical expression that was written as follows:

$8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$

Another group estimated:

$1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$

To rapidly answer such equations, students may estimate the product by extrapolation adjustments. As a result, this should lead to underestimation. Since the first multiplication is higher in descending sequence than in the ascending sequence, the former expression is judged larger than the latter.

Biases in the valuation of conjunctive distinctive events: In this framework, subjects are given the opportunity to bet on one of two events. Three types of events were used: simple events (drawing a red marble from a bag containing 50% red marbles and 50% white marbles), conjunctive events (drawing a red marble seven times in succession, with replacement, from a bag containing 90% red marbles and 10% white marbles) and disjunctive events (drawing a red marble at least once in seven successive tries, with replacement, from a bag containing 10% red marbles and 90% white marbles). Most subjects stake on the less likely event in both comparisons. Studies show that people tend to overestimate the probability of conjunctive events. Since the started probability of the elementary event provides a natural starting point for the estimation of the probability of both conjunctive and disjunctive events, the final estimates can be close to the probabilities of the elementary events in both cases. As the probability of a conjunctive event is lower than the probability of each elementary event, the general probability of a disjunctive event is higher than the probability of each elementary event. Because of anchoring, the overall probability will be overestimated in conjunctive problems and underestimated in disjunctive ones.

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Anchoring in the assessment of subjective probability distributions: Individuals are often asked to express their beliefs or judgments about an event. For this purpose, individuals are called to choose values of the quantity that correspond to specified percentiles of their subjective probabilities distribution. The subjects state overly narrow confidence intervals which reflect more certainty than justified their knowledge about the assessment quantities. Kahneman and Tversky (1974) consider that this bias is common to naïve and to sophisticated subjects, and it is not eliminated by introducing proper scoring rules. This effect is attributed to anchoring.

Campbell and Sharpe (2007) test the anchoring bias described by Tversky and Kahneman (1974). Particularly, they investigate whether expert consensus forecasts of monthly economic releases from Money Market Services surveys during the period 1990-2006 have a tendency to be systematically biased toward the value of previous months' data releases. The authors find broad-based and significant evidence for the anchoring hypothesis. Consensus forecasts exhibit bias towards the values of previous months' data releases, which can sometimes result in sizable predictable forecast errors. Then, they examine the response of interest rates to economic news in order to investigate whether the market participants anticipate the bias. Results show that bond yields are affected only by the residual, or unpredictable, component of the surprise and not by the expected piece of the forecast error apparently induced by anchoring. This proves that market participants anticipate the anchoring bias embedded in expert forecasts.

2.2 Emotions in Decision Making

The classical financial theory, investors maximize their utility function in a risky and uncertain environment. In this framework, emotions and sentiments are not integrated. We will develop in this section a literature review on the importance of emotions in guiding judgments and decisions.

2.2.1 Affect Heuristic

Affect heuristic means ` *the specific quality of 'goodness' or 'badness' (i) experienced as a feeling state (with or without consciousness) and (ii) demarcating a positive or negative quality of a stimulus. Affective responses occur rapidly and automatically - note how quickly you sense the feelings associated with the stimulus word 'treasure' or the word 'hate'*[1]

Emotions and effects have important impacts on the reasoning process. Individuals rely on sentiments when making judgements and taking decisions. Funcane and al (2000) find that there is an inverse relationship between perceived risk and perceived benefits. They explain this

[1] Solvic *et al*., (2007), p 1333.

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relationship by the fact that people rely on affect when judging the risk and benefits of specific hazards. Firstly, they examine the inverse relationship between risks and benefit judgments under a time pressure condition. Results show that the inverse relationship becomes more important when time pressure was introduced. Secondly, authors show that when providing information designed to change the favourability of one's overall affective assessment of an item would systematically change the risk and benefit evalaution for that item. Funcane and al (2000) conclude that people use an 'affect heuristic' that improves judgements efficiency by deriving both risk and benefit evaluations from a common source, namely, affective reaction to the stimulus item. MacGregor and *al.* (2000) argue that that imagery and affect are part of a coherent psychological framework for evaluating classes of securities. In an experience, advanced business students in a securities analysis course were asked to evaluate a number of industry groups represented on the New York Stock Exchange in terms of a set of judgmental variables. After providing imagery and affective assessment for each industry group, the participants evaluate the likelihood that they would invest in companies associated with each industry. The study shows that imagery and affective ratings were highly correlated with one another and with the likelihood of investing. As measured by weighted average returns for the industry groups studied, judgments of performance are poorly correlated with actual market performance.

2.2.2 *Emotions*

'Emotions are viewed as represented by information structures in memory, and anxiety is thought to occur when an information structure that serves as a program to escape or avoid danger is activated. Emotional processing is defined as the modification of memory structures that underlie emotions. It is argued that some form of exposure to feared situations is common to many psychotherapies for anxiety; and that confrontation with feared objects or situations is an effective treatment' (Foa and Kozak (1986))

Foa and Kozak (1986) propose mechanisms that govern the processing of emotional information, particularly fear reduction. They cite psychological activation and habituation within and across exposure sessions as indicators of emotional processing and examined variables that influence activation and habitation of fear responses. They analyze these variables to investigate to what extent information must be integrated for the emotional processing of a fear structure. They argue that elements of such structure are considered cognitive representations of the stimulus of the fear situations of the individual's reactions to it, and aspects of its meaning for the individual. They find that treatment failures are interpreted with respect to the interference of cognitive defenses, automatic arousal, mood state, and erroneous ideation with the reformation of target fear structures. Loewenstein, Weber, Hsee, and Welch (2001) study the role of affect experienced at the moment of decision-making by proposing an

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alternative theoretical perspective, namely, the risk-as-feelings hypothesis. They show that emotional reactions to risky situations often deviate from cognitive assessments of those risks. When such divergence takes place, emotional reactions often drive behavior. In their study they propose a model of risky choice that highlights the role of anticipatory emotions-immediate visceral reactions (e.g., fear, anxiety, dread) to risks and uncertainties that arise at the time of decision-making. In contrast to theories that do take emotions into consideration and typically view emotions as a consequence of one's decision, Loewenstein, Weber, Hsee, and Welch (2001) suggest that gut feelings experienced at the moment of making a decision, which is often quite independent of the consequences of the decision, can play a critical role in the choice one eventually makes. As a feeling hypothesis, the risk explains a variety of phenomena that have puzzled decision theorists who have attempted to explain them at a purely cognitive level.

2.3 Overconfidence

Overconfidence means that individuals believe and overestimate their capacities, knowledge, and future without taking into account the eventual risks. De Bondt and Thaler (1995) consider that 'the most robust finding in the psychology of judgment is that people are overconfident. Wang (2001) develops a general population dynamic for a large economy. He takes rational and non-rational traders according to the process of wealth accumulation in capital markets. The dynamic shows that the growth rate of wealth accumulation leads to an evolutionary process in asset markets. The author applies the dynamic to examine the survival of overconfident traders in a pairwise contest and the survival of noise traders in a playing-the-field contest. Results show that neither under-confident nor bearish sentiment can survive. On the other hand, investors that have moderate overconfidence or bullish sentiment can survive in the long run. In addition, if the fundamental risk in the market is sufficiently large these moderate overconfident investors may dominate the market. Barber and Odean (2001) test whether overconfident investors trade excessively. They use account data for over 35,000 households from a large discount brokerage and analyze the common stock investments of men and women from February 1991 through January 1997. Results prove that men trade 45 percent more than women. Trading reduces men's net returns by 2.65 percentage points a year as opposed to 1.72 percentage points for women. Overconfidence can be defined as the overconfidence of investors in their judgments, in the information they have, and in their success and capacities. It is known as a self-attribution bias which means that individuals attribute success to their talents and judgments and failure to bad luck or external factors (Fishhoff, Solvic, and Lichtenstein (1997)). Optimism can be defined as hopefulness about the future and the outcomes of events and confidence in capacities and knowledge.

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2.4 Mental Accounting

Thaler (1993) defines mental accounting as `*a kind of narrow framing that involves keeping track of gains and losses related to decisions in separate mental account, and to re-examine each account only intermittently when action relevant*`. Shefrin and Statman (2000) develop a positive behavioural portfolio theory and explore its implication for portfolio construction and security design. They present the model in two versions. In the first version, the portfolio is integrated into a single mental account. In the second one, the portfolio is divided into multiple mental accounts. The authors find that a portfolio within multiple mental accounts is similar to layered pyramids where each layer is associated with a particular level of aspiration. Results show that, because of overlook covariance between layers, multiple mental account investors can combine a short position in a security in one layer with a long position in the same security in another layer. In addition, the authors compare the positive behavioural portfolio efficient frontier to the mean-variance efficient frontier. They find that the two frontiers are not the same and the positive behavioural portfolios are also different from CAPM portfolios.

2.5 Limits to Arbitrage

According to the analysis above, investors can cause asset prices to deviate from their fundamental values. The latter are obtained according to models based on perfect markets. According to Ritter (2003) misvaluation can be caused by temporary supply and demand imbalances. In this case, 'arbitrageurs' can take positions (shorting overvalued stocks or buying undervalued stocks) to correct the misevaluations. However, arbitrage is limited; since irrationality can have a substantial and long-lived impact on prices. Investors face two risks: i) The fundamental risk: when buying an undervalued asset, a piece of bad news about the asset's fundamental value causes the price to fall further, leading to losses, ii) The noise trader risk: the noise trader risk is introduced by De Long and al. (1990) and Shleifer and Vishny (1997). It is the risk that pessimistic investors causing the asset prices to be undervalued become even more pessimistic, lowering prices even further.

2.6 Loss Aversion and Regret Theory

Regret aversion theory is a model developed in 1982 by Graham Loomes and Robert Sugden (1982), David E. Bell, and Peter C. Fishburn (2000). The model makes it possible to develop choice models in a context of uncertainty that takes into account the anticipated effects of regret. This theory incorporates a regret term in the utility function which depends negatively on the obtained product and positively on the best alternative product given uncertainty. Regret is usually an increasing, continuous and non-negative function. Regret theory assumes that

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individuals anticipate and incorporate into their choice and their desire to eliminate or reduce the possibility of regret. Individuals who have to make a decision in an uncertain case where the information about the best decision comes after the decision has been made are often faced with regret. The conscious anticipation of regret creates feedback that allows it to be integrated into the case of rational choice theory as it exists in decision theory.

Behavioral finance uses the regret theory to explain investors` behavior in financial markets. Koening (1999) develops an analysis in which he showed that regret theory explains consensual investments in financial markets. By investing in this type of investment, investors, even if they make the wrong choice, expose themselves to less regret if they believe that collective errors are more acceptable than individual errors. Based on the theory of regret, Michenaud and Solnik (2008) proposed a new theory. This approach explains the phenomenon of investor preference for domestic assets. Muermann et al. (2006) propose to analyze the optimal allocation of risky assets through the theory of regret in a framework where the reference income corresponds to the maximum income that the investor could achieve ex-post. In their formalization, they prove that investor never perceives any joy.

3. Islamic behavioral finance

In conventional finance, the theory of the efficiency of financial markets is closely linked to the notion of the rationality of investors both in terms of behavior and expectations. Indeed, any investor must behave in a coherent manner in the face of the present situation. This behavior implies that each individual seeks to maximize his expected utility function without running any additional risk. This approach is relieved of any reference to an axiological doctrine. However, Islamic ethics are based on values of responsibility, equity, social justice, sharing, mutuality and balance. Islam makes no division between the spiritual and the secular because religion is factored into all financial decisions. Quran and Sunnah have made it clear how true Muslim should behave. Islam is broken down into three elements: `Aquida`, `Akhlaq`, and `Sharia`. After showing Islamic finance development, we develop how Muslims make their financial decisions.

3.1 Islamic Finance development[2]

The principles and practices related to the rules of Islam have been used for centuries by traders in Muslim countries. The institutionalization of bank sector took place very recently. The theorizing is often attributed to the Pakistani Maulana Maududi and the first applications to the Egyptian Ahmad El Najjar when he created the Mit Ghamr Savings Bank in 1963. The success

[2] This paragraph is heavily borrowed from Huet *et al.* (2014).

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of this institution was nationalized in 1972 to become the Nasser Social Bank. Also in the 1960s, Malaysia developed a similar activity through the creation of the Pilgrims Management Fund.

The first oil shock causes the explosion in the price of oil immediately impacted societies in the Gulf countries, where Islam obviously plays a key role. In 1975, we see the creation of the Islamic Development Bank, which serves as a development bank in the Arab world, and the Dubai Islamic Bank, and in 1977, the Kuwait Finance House. These banks are now considered among the top 15 Islamic banks ranked by total assets. In 1979, Sudan decided to proceed with the complete Islamization of its financial system, followed in 1983 by Iran; Pakistan also takes this decision but the State will not be able to ensure the transition.

In the 1990s financial institutions began to create “Islamic departments” within conventional banks. This initiative was implemented by Arab banks and then taken over by European banks established in the Middle East.

Financial flows following the 11 September event generated excess liquidity in the Gulf region, which contributed to the growth of the Islamic financial industry. The first Islamic products, called the sukuk, was created in 2001 and similar to Western bonds. Malaysia stands out as a pioneer in the sukuk field since it quickly becomes the largest issuer of sukuks. This product is also experiencing an internationalization initiated by the German state of Saxony-Anhalt, which was the first European to carry out this type of issue. The product, takaful, makes it possible to adapt the concept of insurance to Sharia regulations. It is based on the principle of pooling and equitable sharing of risks and profits.

Indeed, not only Muslims are interested by Islamic Finance. Several Western countries are interested in this field since it has several characteristics in terms of transparency and banking regulation. In the United Kingdom, the Financial Services Authority has created standards for these new financial products and opened a specific department dedicated to Islamic finance. In 2004, the Islamic Bank of Britain was the first Islamic institution in Western Europe. In Germany, the Turkish Islamic bank Kuveyt Türk has established itself in Frankfurt and other major German cities such as Berlin by marketing banking products such as "Sharia-compatible" mortgages. In France, many “traditional” credit institutions now offer banking products and solutions that comply with the principles of Islamic finance.

The emergence and development of Islamic Finance in the world brings out a new behavior that does not conform to the hypotheses of rationality and market efficiency. this behavior can be called Islamic behavioral finance. Next paragraph develops the basis of this new behavioral.

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3.2 Islamic Finance Behavior

Islamic finance is based on the principles of Islamic law, Sharia, and seeks to convey a vision of justice, fairness and transparency. Islamic finance differs from conventional finance by putting forward the idea of ethics and Islamic morality by drawing their sources from divine revelation, from the sunnah (prophetic tradition) and from economic and financial practices in time of the Prophet Muhammad. In this paragraph, we develop Islamic finance behavior.

3.2.1 The 'aquida (Faith)

It is also called Islamic creed and Islamic theology. According to Holly Quran Muslims have to believe in God and tawhid (monotheism), in the angels, in the Islamic holy book, in the prophets and messengers, in the Last Judgment and Resurrection, and in predestination. In investment, Islam demands that humans believe that money and wealth belong to God only and Allah created the world for a special purpose. The Quran is rich of verses that confirm this:

``*Did you think that We had created you in play (without any purpose), and that you would not be broght to us?*`` (Quran 23:115)

A true Muslim is a person acts on what Allah enjoins all of us to do in both the Holy Qur'an and Sunnah. Thus, Muslim behaviour in investment is unique because Muslims are called to devote themselves to developing their potential by organizing expenditures and planning how Islamic investment should be made. Muslims believe that any kind of wealth belongs to Almighty Allah and they are created to spend and invest money not only to maximize their future own wealth but, especially, to look for Allah's satisfaction. Therefore, individuals are called, firstly, to create wealth through hard work and fair means, and investments should bring benefits to oneself and others. In addition, Islam encourages spending money on the poor and needy.

Muslims, true believers, fear Allah. This behaviour is a feeling that incites the believer's faith, as well as his love and respect for Allah. This fear prevents the person from adopting attitudes that Allah does not like, and restrains the limitless overflowing and malevolent desires of the personality. This fear constantly gives rise to the right actions and right attitudes, when experienced in a positive perspective, and directs the believer towards the satisfaction of Allah and thereafter, thereafter will be saved from the fear of the last day and the eternal fear and terror of hell. It is said in this Quranic verse:

` *Those who spend their wealth by night and day, privately and publicly, will receive their reward from their Lord. They have nothing to fear, nor shall they grieve*`(Quran: 1, 274)

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3.2.2 The akhlaq (morals and ethics)

Quran and Sunnah have made it clear that Muslims have to be honest and have moral characters in business and monetary dealing with others. Islamic finance prohibits the use of interest rates and excludes investment in Haram matters such as alcohol, tobacco, weapons, pork, or pornography. Investment in Islam must have a real economic impact (prohibition of speculation) and it must contribute positively to the world. In addition, Islam prohibits Riba which is translated within the meaning of Islamic law by usury and interest. Koran and the Sunnah forbid riba, even at low-interest rates, as both illegal and unethical or usurious. Islam encourages trade in Halal goods and services. The only loan that is licit in Islam is the loan of honor (Qard Hasan) instead of a usurious loan and Allah Himself multiplies the merits of the one who helps someone by giving him a loan (without interest):

` *Who is he who will offer God a generous loan, so He will multiply it for him manifold? God receives and amplifies, and to Him you will be returned*.` (Quran: 2, 245)

In addition, Islamic finance encourages believers to conduct profitable business which should be shared. Islam does not allow risk to be transferred at the same time as capital, as is the case in conventional finance. The risk is therefore shared between the holder of the funds (investor) on the one hand, the financial intermediary of the bank and the user of these funds (the borrower) on the other hand. Islam requires that the profit of the investor be proportional to that of the entrepreneur. If the result of the trade is positive, the profits will be shared according to a quota determined at the time of the conclusion of the contract. If the result is negative, the financial loss will be supported by the holder of the capital, the entrepreneur will then have wasted his time and made vain efforts. [3]

In addition, Muslim investor must have good morals, namely: honesty. Honesty: it means choosing not to lie, cheat, or steal. In the Quran God commands: "*O you who believe! Fear God, and be with those who are true (in word and deeds)*." (Quran 9:119)

Fairness, honesty, and generosity were traits constantly encouraged in believers. the true Muslim is he who is honest and upright in his business and monetary dealing with others. Allah and The Prophet Muhammad advised merchants to always be honest and give regularly to charity. He forbade merchants to assert to buyers that a higher price had been offered to them for a given commodity in order to urge them to buy. In addition, Allah warns traders who cheat in weights:

[3] KARICH (2002), p.62.

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"*Woe to those that deal in fraud, - those who, when they have to receive by measure from men, exact full measure, but when they have to give by measure or weight to men, give less than due. Do they not think that they will be called to account- on a Mighty Day when (all) mankind will stand before the Lord of the Worlds*." Qur'an (133: 1-6)

Islam wanted believers to be known for their honesty and generosity. Thus Muslims are called to give a little more when they weighed or measured.

Moreover, Islam advised those to whom money or goods were owed to be patient and indulgent, and even to release the debtor from his debt if circumstances permitted. The Prophet said to them, "*Whoever wishes God to save him from the calamity of the Day of Resurrection should give the debtor in bad financial condition more time or discharge him from his debt.* »

3.2.3 Sharia (which describes the practices of the religion)

Sharia is the divine law of Islam as written in the holy book (the Quran) and represented by the Sunnah (words and deeds of the Prophet Muhammad). In the context of Islamic finance, Sharia verifies compliance with religious principles through the economic and financial practice of investors and financial actors. Sharia is divided into two bodies: Ibadah and Muamalat. The Ibadah translates the obligation of worship of man towards God and the Muamalat explains the daily facts and gestures which govern relations between men. The Muamalat thus regulates political, commercial and social practices. Banking and finance are an integral part of business practices.

4. CONCLUSION

Behavioral finance formulates more realistic hypotheses to understand behavior in financial markets. The research made about the problems of the efficiency of substantial rationality constitutes a real revolution in finance. It allows finance to be currently one of the most fruitful and realistic. Moreover, the development of Islamic finance and the interest of investors in ethical and Islamic investments have contributed to the appearance of a new behavior that does not comply with the assumptions of rationality and market efficiency. According to CEDEF, in 2019, nearly 2,400 billion euros in assets worldwide; it could reach approximately 3,100 billion euros by 2024. Islamic finance requires investors to invest their money in financial products that comply with the principles of Koranic law, which presuppose the prohibition of interest, uncertainty, speculation, prohibition of investing in sectors considered illicit (alcohol, tobacco, betting on games, etc.), as well as respect for the principle of sharing profits and losses. Moreover, the Muslim investor manifests the fear of God and seeks to prevent His punishment by obeying Him and keeping away from what He has forbidden. This explains why the Muslim

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investor does not only seek to maximize his final wealth but also seeks to ensure that his investments comply with Sharia**.**

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