

The Contrarian Challenges Facing Behavioral Finance

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Abstract: In behavioral finance, the efficiency of markets is questioned due to potential influences of irrational human behavior. This paper investigates how these behaviors conflict with traditional finance theories and summarizes prominent behavioral traits. While there are many more non-rational human foibles than covered in this paper, this paper has presented just three behaviors that are viewed as non-rational. Those that have been presented are sufficient to cast doubt on the validity of our traditional views of finance and financial models. It is unclear at this time whether markets are completely efficient, only partially, or completely inefficient. It is important to ascertain the extent to which markets reflect efficient prices or not. Furthermore, it is possible that markets are generally, but not always, efficient, as many argue. The answer to this conundrum will profoundly affect the extent to which we accept or reject the traditional valuation models.

Keywords: Rational Expectations, Efficient Market Hypothesis, Utilitarian Theory, Behavioral Finance, Prospect Theory, Endowment Effect, Bounded Rationality.

1. Introduction

Traditional finance assumes that investors are “rational.” Rationality implies that humans make decisions based on a complete fact set, infinite capacity for mental calculations, and an emotionless mindset. In this paper, the notion of Rational Expectations and its corollary theory, the Efficient Markets Hypothesis (EMH), are challenged based on empirical observations of non-rational human behavior.

This paper explores how heterodox behaviors are inconsistent with traditional financial theories and models. In so doing, an unresolved question will be posited having to do with the extent to which these challenges partially or completely negate our understanding of financial behavior and, therefore, valuation models.

2. Literature Review

Traditionally, Economics and Finance assumed that market participants at all times make decisions “rationally.” The concepts of “Rational Expectations” and, in general, rationality, assert that individuals look for those opportunities that provide the best results at the lowest possible costs. This concept was first introduced by John F. Muth (Muth, 1961). If we assume that everyone makes decisions rationally, which is also to say that decisions are arrived at in the same manner, then current values for goods and investments would all be the same and outcomes would be virtually identical.

For instance, if people expect the prospective supply of a good to be higher than currently, then people would also expect the price to decrease. Assuming that the individual incorporates rational thinking into his/her decision-making process, he/she may defer his/her purchase to a later time when the supply reaches his/her marketplace and prices have decreased. To make the purchase immediately and not defer his/her purchase until a later date where he/she could potentially obtain a lower price would be considered irrational.

An illustration of the Rational Expectations Theory is depicted in the decision-making process of a high school graduate selecting a college major based on projected earnings in various fields over the forthcoming years. For instance, consider the field of computer science, which was

highly lucrative in the early 2000s and continues to be so today. The high demand coupled with a limited supply of coders and software engineers led to exceptionally high salaries, thereby incentivizing more students to declare computer science as their major. Consequently, as the supply of computer science graduates increased and surpassed the demand, salaries began to decline. Subsequently, fewer students would likely consider their college major as computer science, due to the decline in salary of software engineers.

In finance, the investor will seek out the highest possible return with the lowest possible risk. Return is profits expressed in percentage terms. More specifically, return is profits divided by the amount of money invested. Risk is a measure of the extent to which the actual return will differ from the expected return. If there is no risk, then actual returns will match the expected returns (Schoemaker & Schramade, 2023).

The Efficient Market Hypothesis (EMH) which is based on the work of Eugene Fama (1970), depends on Rational Expectations as applied to financial markets. Once again, as with Rational Expectations, the EMH assumes similar pricing relative to similar investments. Therefore, two securities with similar or identical risk characteristics should be priced similarly. If not, one or the other security would be viewed as being under- or over- priced. If markets are thoroughly efficient, “mispricings” should not occur, or otherwise would be short-lived.

The EMH defines “efficiency” as the accurate pricing of securities based on both return / risk variables, which in turn is based on the information available to investors. It is, after all, the price of a security that reflects the information which informs risk versus returns. Due to the fact that investors have the same information at the same time and employ the same rational tools to make investment decisions, Fama asserts that it is virtually impossible to consistently earn returns that exceed what would be expected given certain risk parameters. In other words, investors can not consistently “beat the market.”, though this statement is not without controversy (Baumann, 2022).

The efficient market hypothesis (EMH), popularly known as the Random Walk Theory, is the proposition that current

stock prices fully reflect available information about the value of the firm, and there is no way to earn excess profits (more than the market risk-adjusted allowance would provide), by using this information (Clarke, 2001). The only way to achieve higher returns would be by taking on higher risk.

Due to the assumption that all investors act rationally, we can now say that markets reflect the optimization of risk and return. The EMH asserts that aggregate markets acting rationally, consuming information, and using the same tools of analysis will price securities efficiently. "Efficient markets" assumes that risk-return ratios are always optimized.

In contrast, Utilitarian theory emphasizes maximizing overall benefits derived from rational decision-making. The idea of utilitarian theory, in its original form, considers the balance between pleasure and pain in a purely ethical context. Pleasure was considered a good and pain was considered a bad (MacAskill, et al., 2023).

In Financial Markets, we may expand on Bentham's notions of good and bad by applying it to risk and return. Return would be considered desirable, a good, while risk would be considered undesirable, a bad. In making any financial decision, investors must consider the balance of return and risk, the good and the bad.

Investors will display different tolerances towards risk. As a result, risk-reward ratios will differ from one investor to another. The differences will determine individual portfolio composition. The theory of Rational Expectations assumes that individuals will act to optimize net personal benefits. While the investor is unable to outperform the market on a risk-adjusted basis, she/he will choose the risk level consistent with his/her utility function, or "risk profile."

However, Behavioral finance challenges Rational Expectations Orthodoxy. It is arguably incorrect to assert that investors, at all times, act rationally in the sense asserted here. Clearly, human beings have emotions, which at times may interfere with rational decision-making processes. Additionally, individuals act without having a complete fact set about matters at hand. Finally, investors are not capable of spontaneously engaging in the highly complex calculations needed to optimize risk-return ratios.

3. Behavioral Finance

In this section, we will survey various behaviors that contradict Rational Expectations Theory. Behaviorists, such as Daniel Kahneman and others, have studied the various manners in which people make decisions. Kahneman introduced "Prospect Theory" which asserts that, unlike our understanding of risk in traditional finance, investors value gains and losses unequally.

Prospect theory posits that individuals... give more weight to losses than to comparable gains, and that they are generally risk-averse with respect to gains and risk-acceptant with respect to losses (Levy, 1992).

In addition to Levy, Kahneman & Tversky made the following comments.

Losses (outcomes below some reference point) are weighted substantially more than gains (outcomes above the reference point) in the evaluation of choice options (Kahneman & Tversky, 1984).

People tend to avoid losses more than to pursue equivalent gains. An investor will fear a prospective loss more than he/she will be encouraged by an equivalent gain.

Another example of irrational behavior is the Endowment Effect. People ascribe more value to things merely because

they own them. Ownership does not change the inherent value of the item, but the fear of loss does. An example of this was in 1980, when Dr. Thaler presented half of his Cornell class with coffee mugs, and suggested for them to trade with the latter half of the class, which did not own mugs. Due to the endowment effect, little trading occurred, because owning the mug allowed the students to prescribe the value of the mug unattainable to their counterparts. The half of the class which owned mugs were reluctant to trade their mugs away, even though they would likely have taken little to no interest in owning the mugs, if there was a price listed on them.

Thaler presented half the students in a class with Cornell University coffee mugs and then allowed them to trade with their less fortunate classmates. Surprisingly little trading occurred... Apparently, briefly owning a coffee mug raised its value to the owner sufficiently to price it beyond the reach of most non-owners (Reb & Connolly, 2023).

The loss in utility associated with giving up a good is greater than the gain in utility associated with getting that good. Or, more simply, losses loom larger than gains.

Though some humans are perceived as "rational", "Bounded Rationality" asserts that decision makers intend to be rational, but because of limited cognitive capabilities, they sometimes fail on important decisions. Bounded rationality tends to occur when people need to make a decision based on complex factors, people are making decisions based on inaccurate or incomplete information, people are influenced by emotions that distort judgement, and when people are not able to collect all relevant information due to constraints, such as time or pressure.

The term 'bounded rationality' is used to designate rational choice that takes into account the cognitive limitations of the decision-maker — limitations of both knowledge and computational capacity. Bounded rationality ... is deeply concerned with the ways in which the actual decision-making process influences the decisions that are reached (Eatwell & Newman, 1990).

In addition to Eatwell & Newman, Selten adds the following comment.

Fully rational man is a mythical hero who knows the solutions of all mathematical problems and can immediately perform all computations, regardless of how difficult they are (Selten, 1999).

Full rationality requires unlimited cognitive capabilities, while humans only have limited cognitive ability. For this reason, the behavior of human beings cannot adhere to the idea of full rationality, and the concept of Rational Expectations.

4. Conclusion

This paper has presented just three behaviors that are viewed as non-rational. While there are many more non-rational human foibles than covered in this paper, those that have been presented are sufficient to cast doubt on the validity of our traditional views of finance and financial models.

It is unclear at this time whether markets are completely efficient, only partially, or completely inefficient. It is important to ascertain the extent to which markets reflect efficient prices or not. It is possible that markets are generally, but not always, efficient, as many argue. The answer to this conundrum will profoundly affect the extent to which we accept or reject the traditional valuation models.

5. Suggestions for Future Research

Given the numerous challenges posed by behavioral finance, it remains to be seen whether these challenges pose a fatal blow to Rational Expectations and Efficient Market Hypothesis based models. The question regarding the correlation of heterodox behaviors with one another will affect the extent to which security traders will be able, or not be able, to exploit the idiosyncratic “errors” that non-rational players make in the markets’ arenas. If idiosyncratic behaviors are diverse, then it is conceivable that non-rational actions cancel one another out (Shleifer, 2000). Future researchers may explore the correlation and universality of irrational behaviors as it affects security market valuations.

Acknowledgment

I would like to thank Dr. Kenneth Bigel, professor of finance at Touro University and adjunct professor of Social Impact Programs at Stern School of Business, New York University for advising this research project.

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