

Unveiling the Intricacies of Behavioral Finance: A Critical Analysis

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Abstract

Behavioral finance attributes major market dislocations to systematic investor irrationality and a range of cognitive biases. This paper critically examines that claim and argues that much of the behavior labeled “irrational” can be understood as a rational response to uncertainty, limited information, and institutional frictions. First, it assesses how the behavioral finance literature operationalizes irrationality, noting that it is often inferred from broad psychological markers rather than evaluated against explicit decision-theoretic benchmarks. It then explains why deviations from model-based prescriptions need not indicate self-harming preferences, but may instead reflect noisy valuation models, informational constraints, and market and regulatory limits. Building on this framework, the paper reinterprets several prominent “biases”, including herding, loss aversion, the disposition effect, mental accounting, the conjunction fallacy, overconfidence, and the endowment effect, and shows how each can arise from plausible, goal-directed decision making (e.g., informational cascades, expectations of mean reversion, long-horizon strategies, or tax considerations). The paper also notes concerns about the external validity and replicability of some experimental findings used to motivate behavioral explanations. It concludes that policies and practices that improve transparency and information quality and strengthen prudent market institutions may offer more reliable avenues for financial stability than treating investor psychology as the primary source of mispricing.

Keywords: behavioral finance, investor rationality, cognitive bias, market efficiency

JEL Classification: G02, G12, G150

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1. Introduction

The 2008 global financial crisis, among other periodic sharp reversals in asset prices, once again raised serious questions about the rationality of the securities markets. In rational markets, asset prices tend to closely track their fundamental values, so there is little or no chance of price bubbles (Fama, 1970). During the run-up to the 2008 crisis, however, many asset prices, including those in the housing sector, appeared to deviate significantly from their true values, leading to subsequent financial crashes around the globe.

Not surprisingly, many detractors of market rationality soon had a field day in pointing out a host of investor psychological shortcomings as the main culprits behind the periodic episodes of market mayhem. Enslaved by their emotions and manipulated by their animal spirits, many investors were thus accused of regularly succumbing to their baser instincts by engaging in excessive speculative behavior (Akerlof & Shiller, 2009). Indeed, a new field of behavioral finance soon emerged, attributing almost all financial crises to investor follies and the madness of the crowds. More specifically, and relying on the application of psychology to finance, this new school asserts that most investors are subject to a host of cognitive biases and defects, such as herd behavior, loss aversion, mental accounting, overconfidence, and statistical illiteracy, among many others (Barberis & Thaler, 2003; Bikhchandani et al., 1992; Kahneman & Tversky, 1979; Odean, 1998; Thaler, 1985). Furthermore, these cognitive deficiencies, it is claimed, can cause many investors to fall prey to unwarranted waves of optimism and pessimism, which in turn can lead them to invest impulsively and, thus, be subjected to painful financial consequences.

To document the presence of cognitive failures, the proponents of behavioral finance often rely on a host of carefully designed laboratory and field experiments, in which the findings of simple student tests are casually extended to much more complicated real-life situations (Camerer & Loewenstein, 2004; Duxbury, 2015). What is more, and regardless of their contextual merits, the results of some of these experiments have been questioned on the grounds that the underlying findings have struggled to replicate, giving rise at times to accusations of academic misconduct (Bartlett, 2024; Lee et al., 2025). Notwithstanding these controversies, the discipline of behavioral finance has continued to be a lucrative cottage industry. The proponents of the school have capitalized on this to obtain prestigious appointments, research grants, and consulting and speaking fees. In addition, members of the behavioral finance fraternity have enriched themselves by publishing books on how market participants can become more successful investors by both fighting their own irrational impulses and exploiting those of others.

Given the foregoing, this paper presents critical observations about the empirical validity of behavioral finance as a model of investor behavior. It advances the thesis that what is often regarded as irrational investor behavior is frequently a rational response to uncertainty. To support this assertion, the next section examines how the behavioral finance literature defines and operationalizes irrationality, and shows how apparent departures from model prescriptions can be justified under limited information. The subsequent section illustrates the paper's main thesis by offering rational interpretations of several widely cited cognitive biases. The final section concludes.

2. Understanding “Irrational” Behavior

One searches in vain for a clear definition of irrationality in the behavioral finance literature. Instead, one often confronts a series of vague psychological markers as the

tell-tale signs of irrational investor behavior. However, based on a few psychological glitches, one can hardly characterize individual investors as irrational (Thaler, 1985). If investors were indeed irrational, they should have intentionally aimed at achieving the worst, rather than the best, possible investment results (Shefrin, 2002). Thus, instead of maximizing their returns and minimizing their risks, investors should have been observed to do the exact opposite. But such an inverted investment behavior is almost never observed in the securities markets. For all that we know, investors in general try to strike it rich on Wall Street. In other words, while investors may on occasion display a lack of sound judgement, this is not the same thing as asserting that they are intentionally acting out of sheer stupidity to harm their own best interests (Barberis & Thaler, 2003; Odean, 1999). Given the foregoing, what seems more likely is that the presumed irrationality is in fact nothing more than rational behavior in the face of uncertainty (Gigerenzer & Todd, 1999; Tversky & Kahneman, 1974). Lacking sufficient information about the future trends in the security prices, many investors simply resort to a host of arbitrary rules of thumb to make investment decisions. Such rules may include extrapolating the past into the future, herd behavior, or following the advice of established security analysts (Bikhchandani et al., 1992; Shiller, 2000). In addition, given the shaky foundations of the field of financial analysis, even the best advice offered by these analysts is subject to a wide margin of error. Indeed, many financial models are based on such unrealistic assumptions concerning the stochastic properties of the underlying security returns that their findings regarding the correct investment values of these securities should be taken with a hefty grain of salt. This explains why on occasion many investors simply forego such models in favor of their own intuitive judgements. In addition, given this lack of knowledge about the exact investment values of most securities, it is not surprising that their market prices can temporarily over- or undershoot their correct values. In the

long run, however, as more information becomes available, the market prices will eventually revert to their more rational values (Fama, 1970; Kahneman & Tversky, 1979; Shleifer, 2000). As the preceding implies, given full and complete information, no investor will hesitate to make rational decisions. For example, if investors were offered the information about the exact fundamental value of a given security, it is doubtful that the market price of that security will take more than a few seconds to adjust to its correct value. The fact that this adjustment may in practice take some time is, therefore, no indication of irrationality on the part of investors but rather a sign of investors having incomplete information (Grossman & Stiglitz, 1980). Needless to add, even in the presence of full information, some price adjustments in the securities markets may be prolonged by such factors as the limits of using leverage or the restrictions imposed by certain regulatory practices. Again, however, such delayed adjustments are hardly indicative of the presence of market irrationality (Merton, 1987).

3. Interpreting “Cognitive Biases”

To support the paper's main thesis that rational responses to uncertain situations can be misdiagnosed as irrational behavior, this section examines some frequently cited examples of the so-called cognitive biases in the behavioral finance literature. These include “herd behavior,” “loss aversion and disposition effect,” “mental accounting,” “conjunction fallacy,” “over-confidence,” and “endowment effect.” As the following pages show, each of these biases can be interpreted as a rational investor reaction to uncertain situations.

3.1 Herd Behavior

Few terms in the finance literature are as widely abused as the term “herd behavior”. To the extent that some investors blindly follow the crowd, with occasional disastrous results, there is certainly some justification for this abuse. However, there are also many occasions when

following the crowd may make rational sense, especially when there is a dearth of relevant information. The literature also suggests that herding can be rational under specific conditions, such as when individuals lack complete information or experience asymmetry in knowledge. Cipriani and Guarino (2010) discuss how herding occurs when traders act contrary to private signals due to observed market trends, especially in environments with asymmetric information, where mimicking behavior reduces perceived risk. To cite one example, consider the customers who are interested in purchasing a new car with a price range of, say, \$28,000 to \$30,000. Not familiar at all with the qualities of the existing cars in this price range, these customers will do well by simply following the lead of their friends and purchasing a car that is popular among them, say, a Toyota Camry. As another example, consider a couple who is invited to an evening wedding party far in the suburbs of a major city. In the absence of the Google map, this couple will again do well by simply following the distant column of the lights belonging to the cars heading to the same party. This same idea has been more formally put forward by Bikhchandani et al. (1992) who emphasize that herd behavior can stem from informational cascades, where investors mimic others based on observed actions rather than private knowledge. This tendency often emerges in contexts with limited information, as following others may seem safer or even optimal.

3.2 Loss Aversion and the Disposition Effect

Another popular piece of evidence presented in the financial behavior literature in support of cognitive failures among investors concerns the delayed selling by some investors of their losing investment positions due to their supposed aversion to admitting defeat and to recognizing their paper losses. Once again, such a reluctance to sell the losing positions can be a rational response to the possibility that these positions may eventually rebound to turn the current

paper losses into potential capital gains, a phenomenon that is also termed the “disposition effect” (Shefrin & Statman, 1985). Indeed, given the prevailing wide fluctuations in security prices over time, such rebounds in security prices are more than a possibility; they are often quite likely. In this light, if investors were assured with great certainty that their losing positions would never recover, there is no question that they would have all rushed quickly to liquidate such positions.

At the same time, we should also remember that many investors are regularly advised to avoid market timing and to stick even to their losing positions as part of a broader and more long-term buy-and-hold strategy. Under these conditions, it makes little sense to expect these investors to sell their positions as soon as they incur short-term losses. Moreover, tax considerations can also influence selling behaviors. Investors often sell losing investments to offset capital gains elsewhere in their portfolios, thereby reducing their overall tax liabilities. This practice, known as tax-loss harvesting, demonstrates that the same investors who exhibit loss aversion may willingly realize losses when these losses offer a tax advantage. Odean (1998) discussed this behavior, noting that for tax purposes, investors should capture tax losses by selling their losing investments.

In summary, while loss aversion can highlight a behavioral tendency to avoid realizing losses, a host of other rational factors—such as expectations of price rebounds, adherence to long-term investment strategies, and tax considerations—can also explain why investors might delay selling their losing positions.

3.3 Mental Accounting

This example of the presence of cognitive biases in investors rests on the assertion that investors tend to mentally differentiate between what they deem as their predictable incomes from such sources as salaries and interest on bank deposits, and unpredictable windfalls from such sources as their tax refunds or their capital gains on various financial and nonfinancial assets (Thaler, 1985). Given the supposed fungibility of money, such an unwarranted differentiation is then credited with causing erroneous spending and investing decisions by individual consumers and investors. However, this idea of the fungibility of money runs counter to the decades of consumer research, in which there is ample evidence that consumers treat different incomes differently. After all, the key theoretical point underlying Milton Friedman's celebrated consumption function (Friedman, 1957) is that consumers make a sharp distinction between the permanent and transitory components of their incomes. Based on this distinction, Friedman then advances the thesis that consumers quite rationally base their spending decisions mostly on the permanent part of their incomes, while tending to save most of what they consider as only temporary windfalls. In other words, consumers tend to simply smooth out their fluctuating overall incomes from all sources over time to ensure a stable level of living standards. Under these conditions, and in a similar vein, unexpected tax refunds should reflect unintended savings, whose proceeds can then be rationally spent. On the other hand, should such refunds be expected, then they will present intended savings, whose proceeds should not be spent.

3.4 Conjunction Fallacy

This type of cognitive bias rests on the assertion that many individuals mistakenly consider the joint occurrence of two events to be more likely than the occurrence of each event separately, thereby violating the rules of probability. Perhaps the best example of this bias is the so-called "Linda Problem" introduced by Kahneman and Tversky (1979). Suppose

Linda is a young college graduate who is very bright, conscientious, and highly active in social causes. Given this information, the question is then raised as to which of the following is more likely:

- 1) Linda is a bank teller, and
- 2) Linda is both a bank teller and a feminist.

On purely probabilistic grounds, clearly the first option is more likely, simply because it is less restrictive. After all, not all bank tellers are necessarily feminists. Despite this, most people consider the second option more likely, indicating that they presumably suffer from erroneous cognitive judgments. However, as some critics have observed (Brogaard, 2024), this answer is not necessarily wrong if we consider the fact that humans have the valuable skill of reading between the lines of any semantically straightforward question. That is why when we are asked if we have already had lunch, we know immediately that the reference is to today's lunch rather than yesterday's. Likewise, most respondents to the Linda question are really trying to see which of the following two options is more likely:

- 1) Linda is a bank teller only and not a feminist, and
- 2) Linda is both a bank teller and a feminist.

Given Linda's background, it is only natural that most will choose the second option.

3.5 Overconfidence

According to this type of cognitive bias, many investors are prone to frequent bouts of overconfidence in their ability to make highly profitable investment decisions. Not surprisingly, many of these decisions can therefore be rash and misguided, with disappointing, if

not disastrous, results. There is no question that some investors can be periodically carried away by their excessive and unjustifiable optimism about their own levels of knowledge and expertise. However, it is also that many others can err in the opposite direction by consistently questioning their own talents and abilities.

To illustrate the preceding point, we can only consider the attitudes of some of our students before any given exam. Once the exam is taken, we are usually bombarded with emails from the students who feel they have done poorly on the test, going over a host of reasons for their supposed less-than-par performance. In short, many of these students seem to suffer from having a low opinion of their abilities. However, in most cases, the grading of the exam provides results totally at variance with what, as graders, were led to believe. If anything, our long experience in academia has convinced us that overconfidence among students is indeed a rare commodity. On the other hand, the way in which overconfidence is usually measured in the finance literature is also subject to question. Participants in such measurements are usually asked to provide their subjective probabilities for various events. These probabilities are then compared with their more objective values, resulting in a verdict of over-confidence should the former exceed the latter. However, depending on how the question is posed and on insufficient knowledge of the matter under discussion, participants may offer exaggerated probabilities in response. For example, suppose we ask the question of what percentage of smokers will eventually contract lung cancer. Many polls indicate that the public believes the answer to be around 40 percent, while the correct answer is under 5 percent. Clearly, this is not an issue of overconfidence, but rather a combination of general ignorance and a phobia about the dangers of smoking.

3.6 Endowment Effect

Another popular piece of evidence in support of cognitive failures is the so-called “endowment effect,” in which individuals seemingly place a higher value on what they own compared to their current market prices. Such an attitude on the part of individuals, however, is hardly proof that they are irrational. Many investors, for example, hold on to their securities on the belief that these securities are currently underpriced because the market has failed to appreciate their true potential as worthy investments. In addition, some of these securities could have been purchased at even higher prices before, making their liquidation a losing proposition. Again, as stated earlier, this is not just a case of loss aversion, but rather an indication of investors still hoping for a rebound in these securities.

In addition, as we have learned from the economic theory of consumer behavior, consumers tend to continue buying additional units of any good so long as the value they place on the marginal unit exceeds its market price. This means that the total value to consumers of all units already purchased must exceed the current market value of these units. In other words, the intrinsic value to the consumers of any endowment must necessarily exceed its market value. Put differently, the intrinsic value of any endowment equals the sum of its market value and the consumer surplus associated with it.

4. Conclusion

The preceding discussion should clarify that any worthwhile study of finance should pay close attention to the underlying historical contexts and relevant financial market characteristics, rather than focusing solely on investor behavior and cognitive abilities. In particular, the best way to prevent short-run inefficiencies and excessive speculation in the securities markets is to render these markets more transparent, more regulated, and more prudent in the use of funds to finance leveraged investments. Indeed, the more the availability of relevant

information, the less the need for investors to rely on their own arbitrary heuristic rules, and therefore, the greater the scope for the financial system's stability.

In addition, even if present, there is little evidence to indicate that such psychological glitches and biases will necessarily prevent investors from achieving their best possible outcomes. After all, if it were true that, say, impatient individuals generally made poorer investors, or that pessimistic people made poorer spouses, then we should have found disproportionately more of the former broke and more of the latter divorced. In reality, of course, there is scant evidence to support any of these contentions.

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