THE IRRATIONAL AGENT: HARD FACT OR THEORETICAL ARTIFACT?¹

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ABSTRACT

Behavioral finance questions the traditional framework for analyzing financial markets. It highlights realities of human mind and behavior, such as biases and irrationalities, which are consistently recorded in market transactions. These behaviors are called irrational in comparison with (for instance) a CAPM world, where fully rational agents interact in completely transparent markets. But would the actual behavior of investors be justified, if an alternative reference replaces the familiar homoeconomicus? Below, we discuss some possibilities towards answering this question.

WHAT IS THE QUESTION?

Baker, Ruback, and Richards (2005) provide a comprehensive review of behavioral corporate finance. They present that the literature in this field takes one of two approaches in modeling market phenomena. Either the managers are acting irrationally in a rational market, or the investors behave irrationally when all else is completely consistent with rational rules. Models generated based on these approaches, would consider irrationality at one of the two sides depending on the kind of anomaly they aim to explain. For instance, if the issue is to make sense of agency problems the model will assume irrational managers acting in a rational set-up (i.e., working for rational investors.) In reality, however, the so-called irrationalities arise from all agents in the market.

How can we come up with more realistic models of the actual behavior in the corporate world? It is widely acknowledged that investors make mistakes. These so called mistakes are the focus of managers who exploit them and cater to them. Also, there is no doubt that managers make mistakes. Regulators and boards are put in place to control and prevent these mistakes. The interesting question, here, is that of combining the two sides of irrationalities. That is, specifying corresponding criteria for different types of

¹ This piece presents primary notes and thoughts that the authors are currently researching for a large project.

management decisions, such as capital budgeting, financing, payout policy, etc. in a set-up where investors' financial decisions allow for mispricing.

Why is this question interesting? The way in which models are constructed so far, provides some descriptive power, especially on the irrational investor side. However, what can be recommended based on the insight provided by these two approaches is not compatible. As Baker et al. remark, "the two approaches take very different views about the role and quality of managers, and have very different normative implications as a result." When irrational managers are acting in a rational set-up, efficiency increases by any mechanism that forces managers to react properly to market signals, whereas, rational managers serving irrational investors must be given ample discretion in deviating from short-term shareholder satisfaction.

In what follows, we first provide a summary of Baker et al. They, too, notice this intriguing possibility of combining irrational investors and irrational managers in one framework, and outline a potential approach. We reflect on their proposed approach and provide our alternative for constructing a framework that allows the simultaneous modeling of observed irrationalities in the financial market. (for the case of IPOs see Loghran and Ritter, 2002).

TWO FORMS OF IRRATIONALITY IN THE FINANCIAL MARKET

We mentioned in the last section that irrationality is either attributed to the investors or (exclusively) to the managers in the existing models that incorporate behavioral phenomena. A rational manager exploits mispricing opportunities that result from irrational investors' decisions. Assuming mispricing exists, the trouble is to also accept that managers are aware of such mispricing, can locate them, and have the ability to recognize fundamental values in such circumstances. The conditions under which such circumstances can exist satisfies at least three qualities for corporate managers: superior information about their own firms (allowing extra return on trades), advantageous positions compared to money managers (because corporate managers are judged based on longer horizon outcomes), and successful rules of thumb (such as issuing equity when market is liquid).

A liquid market suggests irrational investors who overvalue, which makes issuing equity a successful strategy. Theoretical models for this scenario have been developed by several authors (e.g., see Stein, 1996), but there is a major empirical trouble with implementing and testing them. Measuring inefficiency or deviation from the fair and true value in a dynamic market is still an open line of research. Nonetheless, it is well documented that investment is sensitive to mispricing proxies, especially to "short-term mispricing when managerial horizons are shorter." (Baker et al, 2005)

Now consider another scenario that can equally well explain the same phenomenon, with different behavioral assumptions. In a set-up where investors are irrationally overvaluing assets, a manager does not necessarily need to be a rational exploiter to cater to the investors' preferences and beliefs. If the managers are simply optimistic themselves, they would act in the exact same way that they do as smart exploiters. Can these two explanations be detangled at a lower level? How can we reliably attribute the observed managerial behavior to one or the other? There is no answer to these questions as far as we know. Similar cases are found in the matter of other corporate managerial decisions such as capital

structure, debt issues, and dividends, to name a few. (see Ayers and Di Miceli, 2007) The challenge remains to find a justification for attaching theoretically-split descriptive accounts to the observed phenomena in a reliable and testable manner.

RELATING INVESTOR AND MANAGERIAL SENTIMENT

Exploring the behavioral patterns in corporate managerial decisions have mainly employed a specific psychological framework developed originally by Kahneman and Tversky's prospect theory and the work generated by that. The idea is that boundedly rational agents use less than fully rational strategies in making decisions. As we mentioned in the previous section, the actors in the financial market have been modeled separately (not together) as acting boundedly rational. So, either investor or manager is always assumed to have access to full information and the ability to process all available information, whereas, the other agent suffers from cognitive limitations. Thus, real behavior or what is referred to as sentiment in financial literature has not been assumed to be applicable to every actor.

Here is a sketch of an alternative. We want to developing a model of behavior that in its simplest form uses two types of agents: investors and managers. Decision rules are specified that generate final outcomes for both groups. Where these decision rules are not type-specific, they result in different outcomes when used by different types. The reason is that the same problem triggers different search/stopping rules in different types. The main idea is to develop a model of heuristic in the tradition of fast and frugal heuristics (See Gigerenzer et al., 1999), where a process model of choice can be constructed as having three elements: 1) a search rule, 2) a stopping rule, and 3) a decision rule.

The neoclassical assumption of rationality (in the sense of subjective expected utility) will not be imposed. Agents are believed to be ecologically rational, in that they match their strategies according to the best (perceived) fit to the environment. Environment is the context of the problem at hand. It includes the structure of information and the ease (or difficulty) of accessing information. Stopping rules are simple and are drawn from an adaptive toolbox available to all humans as an evolved capacity.

Some preliminary characteristics of such approach are as follows. Agents do not exhaust the possible set of information. That is, a smart system of ignorance is in place that avoids using all available information, much in line with the idea of "less is (sometimes) more." Agents rely on rules of thumb that they have learned from experience, or simply collected by imitation. Imitating the average, or the successful are two possible cases, each fitting a different situation.

POTENTIAL OUTCOME

If both investors and managers are using rules of thumb, and if a heuristic model of decision reveals structurally similar patterns followed by both investors and managers, then one unified theory can account for behavioral observations collected from both types. This theory would then also provide useful insights for setting 'realistic' rules that managers can use in response to different situations that they face. For example, managerial tasks can be categorized based on the context (and content) of management, and relative rules and regulations would emerge that fit those situations.

A careful examination of the real corporate world and the way it performs could reveal that certain structural patterns are already in place. What we seek can be described as a theory that potentially brings all these emerged structures under one overall formal representation. Then each observed phenomena will be a special case of the general theory for given specific parameters (or in a specific range of fundamental variables.) Noteworthy is that in this proposed framework there is minimal importance placed on personality traits. The reason being that if general rules exist that connect our decision processes to the structure of information in the environment, then categorizing agents based on intrinsic personality types would become at best irrelevant in favor of specifiable decision mechanisms.

CONCLUDING REMARKS

The dominant psychological view utilized in behavioral finance relies on maintaining the neoclassical rational framework as a benchmark. Modeling choice behavior under this operational constraint has led to the generation of contradictory implication. Also, the artificial division in modeling corporate decision-making in two exclusive structure that allocates all the irrationalities either with the investors or with the managers, has provided multiple descriptive accounts for the same phenomenon depending on which side have been considered irrational. Could this be an artifact of the presupposed theoretical framework? If so, would more coherent results and therefore useful insights be generated by utilizing an alternative framework? One fact is clear. Market inefficiency exists and plays an important role. If this was not the case, moves such as name change, should be completely irrelevant to investment decisions as predicted by the rationality framework. We reviewed Baker et al.'s view on this issue and provided a sketch of an answer based on alternative (to the traditional psychological) approach.

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