Behavioural Finance – An Evolving Discipline

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Behavioural Economics and Behavioural Finance use the theoretical foundations of psychology and analytical applications of psychometrics to investigate what happens in markets when some of the agents exhibit limitations and complications in their (human) behaviour. This can be termed as irrational behaviour contrary to rational expectations behaviour assumed in financial theory.

The standard neoclassical economic analysis assumes that human beings are rational and behave in such a manner those they would like to maximize their satisfaction levels. The assumption of 'rational' behaviour has enabled economists in deriving several theories relating to consumer behaviour. This has also provided a basic platform for understanding the behaviour of consumers in various financial markets. These developments also helped as a powerful tool for economic analysis. However, in reality whether this assumption is valid is a big question mark. Since behaviour of humans in real life situations are different from rational behaviour assumption, conclusions based on this assumption could lead to unrealistic economic analysis and policy making.

The above narrows down to the main shortfalls in the neoclassical model of human behaviour as detailed below: (Emma Dawnay and Hetan Shah(2005)

1. **Other people's behaviour matters: P**eople do many things by observing others and copying; people are encouraged to continue to do things when they feel other people approve of their behaviour.

   (When the compulsory wearing of seatbelts in cars was introduced in the 1970s, there was widespread public resistance. By 2002, when a survey was carried out to assess public support for state intervention, about 94 per cent of the people asked have supported compulsory wearing of seatbelts. This shows that policy can affect behaviour and create a new social norm that needs little enforcement to maintain.)

2. **Habits are important: P**eople do many things without consciously thinking about them. These habits are hard to change – even though people might want to change their behaviour, it is not easy for them.

   (The deregulation of the utilities companies and the increase in choice of supplier was meant to reduce prices through competition. This policy has not been as successful as expected as people have been reluctant to change supplier. It appears that habit is key to people's behaviour here, and the barriers to changing these habits are higher than expected: there is the hassle associated with changing (identifying which new supplier, filling out forms, and so on) and there is a perceived risk – perhaps the new supplier will not be so reliable. Conversely, the financial gain, which was expected to dominate, is not immediate but comes as a small decrease in future bills.)

3. **People are motivated to 'do the right thing':** There are cases where money is de-motivating as it undermines people's intrinsic motivation, for example, you would quickly stop inviting friends to dinner if they insisted on paying you.

   (When questioned about volunteering, 97 per cent of respondents believed they were fulfilling an important task for society and less than 25 per cent thought that the work should be rewarded financially. This is consistent with **intrinsic motivation** – people feel the task is worth doing for its own sake,

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rather than for reward – and as such this feeling can be offset by **extrinsic motivations**, such as pay, which can reduce the overall incentive. This is corroborated by a study of Swiss volunteers. The average volunteering time was fourteen hours per week but those who were paid did approximately four hours less volunteering work a week than unpaid volunteers.)

4. **People's self-expectations influence how they behave:** They want their actions to be in line with their values and their commitments.

   (If a stranger asks you to watch over their belongings, and you agree, does this make you more likely to protect their belongings from obvious theft? For most people, the answer seems to be yes. In a staged crime, individuals who had agreed to watch over a bag were four times more likely to attempt to prevent a theft as individuals who were aware the bag was being stolen but who had made no commitment to watch over it. Suppose someone asks you if you are going to vote in the forthcoming elections. You consider, and decide that it is the right thing to do as a good citizen, so you tell the questioner yes, you will vote. Will this commitment make you more likely to vote? The answer for most people is again yes, it will. When voters in the US were asked the day before an election "Do you expect you will vote or not?" they all agreed and this action appeared to increase the likelihood of them voting by 41 per cent.)

5. **People are loss-averse** and hang on to what they consider 'theirs'.

   (Many people hold on to their shares in this situation, in the hope that they will recoup their losses. Conversely, when shares have gone up in value, people are happy to sell them to realise their gain. A similar behaviour is also observed for professional traders who tend to hold on to shares with a loss for longer than those with a gain. The traders who exhibit this type of loss aversion to a lesser degree tend to be the more successful ones.)

6. **People are bad at computation when making decisions**: They put undue weight on recent events and too little on far-off ones; they cannot calculate probabilities well and worry too much about unlikely events; and they are strongly influenced by how the problem/information is presented to them.

   (Would you agree to undergo a medical operation if your doctor told you: "of those who have this procedure, 10 per cent are dead after five years"? Would it have made a difference if the question had been phrased differently: "of those who have this procedure, 90 per cent are alive after five years"? Research has showed that more people (including doctors) agree to undertake the risky procedure when the question is positively framed.45 This shows that framing makes a difference: the prospect of a 90 per cent chance of living is, for most people, better than a 10 per cent chance of dying.)

7. **People need to feel involved and effective to make a change:** Just giving people the incentives and information is not necessarily enough.

   (Have you ever felt so daunted by the amount of different things to choose from, that you ended up not choosing anything at all? If so, you are not alone as the results from the following experiment show. A stall was set up in a supermarket for jam tasting. On one day the stall had twenty-four jams, and on a different day only six jams. Although the stall with more jams attracted more attention (60 per cent of the people passing by stopped, compared with only 40 per cent for the small-selection stall), of the people who stopped only 4 per cent at the stall with the extensive selection subsequently bought a pot, whereas 30 per cent of the people who stopped at the small selection stall went on to buy a pot.)

Similar such deviations have been observed in financial markets where in the traders or market participants behave differently than the way Efficient Market Hypothesis assumes. Under this hypothesis no investment strategy can earn excess risk adjusted average returns or average returns greater than are warranted for its risk. Whereas behaviroural finance argues that some features of the deviations in asset prices could be related to the presence of traders who are not fully rational.

Suppose that the fundamental value of SBI share is Rs.1200. Assume that a set of irrational traders are pessimistic about the future prospects of the share and brings about selling pressure of this share and pushes the price to Rs.1000. Under the Efficient Market Hypothesis traders sensing the opportunity would buy the security and at the same time hedge against another competing security say ICICI Bank with similar fundamental prospects. The buying pressure on SBI pushes the price back towards its fundamental price. Behavioural finance takes up the first issue in that even when an asset is wildly mispriced, strategies designed to correct the mispricing could be highly risky and costly, rendering them unattractive. As a result, the mispricing can remain unchallenged.

Why formulating and developing any model of financial markets, it is crucial to assume how agents form expectations. Psychologists have learned through experiments and observation how people appear to form beliefs in practice. Extensive evidence shows that people are overconfident in their judgments. Most people *display unrealistically rosy views of their abilities and prospects [optimism and wishful thinking). People* often use representativeness as heuristic measure in evaluating two different options. There is much evidence to show that once people have formed an opinion, they stick to it too tightly and for too long. When depending on estimates, people often start with some initial, possibly arbitrary value, and then adjust away from it. Experimental evidence shows that the adjustment is often insufficient. Defined in another way, people depend too much on the initial value.

Application: The aggregate stock market; (Martin Sewell(2007))

Researchers studying the aggregate U.S. stock market have identified a number of interesting facts about its behavior. Three of the most striking are:

The Equity Premium. The stock market has historically earned a high excess rate of return. For example, using annual data from 1871–1993, Campbell and Cochrane (1999) report that the average log return on the S&P 500 index is 3.9% higher than the average log return on short-term commercial paper.

Volatility. Stock returns and price–dividend ratios are both highly variable. In the same data set, the annual standard deviation of excess log returns on the S&P 500 is 18%, while the annual standard deviation of the log price–dividend ratio is 0.27.

An early discussion of this aversion can be found in Knight (1921), who defines risk as a gamble with known distribution and uncertainty as a gamble with unknown distribution, and suggests that people dislike uncertainty more than risk.

Predictability. Stock returns are forecastable. Using monthly, real, equal-weighted NYSE returns from 1941–1986, Fama and French (1988) show that the dividend–price ratio is able to explain 27% of the variation of cumulative stock returns over the subsequent four years.

From the above analysis it can be said that the Behavioural finance is concerned about the influence of psychology on the behaviour of financial participants and the subsequent effect on markets. Behavioural finance helps explain why and how markets might be inefficient.

To address the above behavioural aspects, behavioural finance pursued two approached viz., prospect theory and ambiguity aversion. The research evidence on prospect theory shows that an investor prefers to allocate his financial wealth between let us say T-bills and stock market based on the computed gains and losses for each asset and selects the one with the highest prospective utility. While the evidence about ambiguity aversion shows that people dislike such situations as they are not sure what the probability distribution is for such aversion. This is relevant in finance, as investors are quite often uncertain about the distribution of a stock return.

It is also useful to study the events on the stock returns like earnings announcements, dividend initiations and omissions, stock repurchases, primary and secondary offerings etc on the behaviroual impact of investors.

Some of the situations illustrated above could be explained with examples. Close-end funds differ from open-end funds in respect of mutual funds, as the former have limited number of shares while open ended shares could be issued depending on the demand. Close-end funds could be purchased at the exchanged at the exchanges at a prevailing listed price, while in the case of open-end fund, the fund manager could create a new share and sell it at the prevailing Net Asset Value (NAV). The puzzle here is that close-end fund price differ from NAV and normally trade at a discount to NAV.

Behavioural finance had some success in explaining how and what kind of portfolios investors choose to hold and how they trade over time. Research evidence has shown that investors have more preference to the domestic listed shares than foreign listed shares(advanced countries experience) as a result of diversification of portfolios by naïve methods.

Behavioural finance research also explores the view that whether irrational investors affect the financing and investment decisions of firms(Corporate Finance area).

There are several studies on modeling financial markets with less than fully rational agents. These studies relax the assumption of individual rationality like the work of psychologists for effective asset pricing by incorporating human behaviour.

This note gives some insights into the emerging discipline of behavioural finance. This subject employs the aspects relating to behavioural economics and psychology and relates to markets. The evolution of this subject is highly mathematical oriented and requires greater computing power to track the behavioural aspects. This attempt is only to detail few aspects where the behavioural finance models evolved in relation to rational expectation hypothesis through illustrations than with mathematical description.

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