

Behavioural Finance, Overconfidence and Chinese Investors

Yue Zhao

Lancaster University, Lancaster, United Kingdom, LA1 4YW

*Corresponding author: zhaoyue20010718@163.com

Abstract. Behavioural finance is the application of psychology to finance and investment. It yields insights into how investors think and behave and how financial markets behave. The main elements can be divided into two parts: limits of arbitrage and psychology. Behavioural finance is essentially the study of how people behave in the markets using models from psychology.

Keywords: Behavioural finance; overconfidence; investor behaviour; origins of this bias, blind box.

1. Introduction

Behavioural finance is a fringe discipline at the intersection of finance, psychology, behaviour and other disciplines, and is an application of psychology to finance and investment, revealing the irrational behaviour and decision-making patterns of financial markets (Kapoor and Prosad, 2017).

Behavioural finance is closely related to bias. Biases influence our behavioural tendencies, but behavioural finance aims to identify these biases and help individual investors, investment advisers and financial institutions deal with them (Kumar and Goyal, 2015). Biases are deeply ingrained in our subconscious and have an impact on almost all decisions we make, and they can be difficult to identify and avoid. One of these biases, overconfidence, can have a significant impact on Chinese investors. This paper will start with overconfidence and focus the context on Chinese investors in order to understand how this psychological trait arises.

This essay is structured in the following way: the first section will introduce the definition and relationship between behavioural finance and bias. Then the second section will elaborate on overconfidence. Next, the third section will provide explanations of how this psychological bias affected Chinese investors' behaviours. Finally concludes.

2. Behavioural Finance and Bias

Israeli psychologists Daniel Kahneman and Amos Tversky (1979) published a paper entitled "Prospect Theory: An Analysis of Decision Under Risk", which began a systematic study of finance from psychology and created the discipline of behavioural finance. People make decisions about what to buy and what to sell in the financial markets. In 2002, Daniel Kahnman was awarded the Nobel Prize in Economics, marking the formal recognition of the discipline by the academic community (Altman, 2004). Behavioural finance theory suggests that the market price of a security is not determined solely by the intrinsic value of the security, but is also influenced to a large extent by the behaviour of the investor body, i.e. investor psychology and behaviour have a significant impact on the price determination and movement of the securities market.

A number of mathematical models have been developed by the financial and academic communities in finance, capital markets, trade and commerce, securities pricing, portfolio construction and investment management, all based on the assumption that people behave rationally and that such emotions play little or no role in the way people or markets behave. Traditional economic theory assumes that people are rational and that the decisions they make are optimal (Bromiley and Papenhausen, 2003). With the flourishing of the field of psychology in the 20th century and the introduction of Herbert Simon (2010)'s "bounded rationality" theory, which won the 1978 Nobel Prize in economics, there has been a more scientific approach to behavioural finance. However, studies have also shown that there is no such thing as "limited rationality" (Lipman, 1991).

However, behavioural finance research has shown that irrational behaviour and emotion-based decisions are more common than initially thought, casting some doubt on the accuracy of classical

financial theory at the time (Calzadilla et al, 2021). We cannot be rational all the time, and in the process of making decisions, we are often influenced by inherent biases and emotions, including our own biological limitations, the legacy of evolution, social and cultural inhibitions and the stimuli of the here and now, so that we end up choosing the most satisfying option for ourselves (Rehan and Umer, 2017). This has now become a well-known conclusion in the investment world.

In Daniel Kahneman's *Thinking Fast and Slow*, published in 2012, he details the physiological and psychological roots of irrationality, namely the two systems of thought in our brains, System 1 and System 2, which Sailer directly refers to as the "intuitive thinking system" and the "rational thinking system" respectively. This is discussed by comparing our primitive responses with our reasoning abilities to show how they work together in a subtle and subconscious way to help people make decisions (Shleifer, 2012).

The result of this interaction is to make quick decisions, a trait that was crucial to early human survival and is now embedded in our DNA through evolution. To make quick decisions, the brain uses shortcuts called heuristics and seeks help from our emotions. This process provides us with the remarkable ability to make quick decisions, but we pay the price by compromising accuracy in these shortcuts (Kannengiesser and Gero, 2019).

The inaccuracy in thinking manifests itself in our behaviour as bias due to the numerous gaps in thinking caused by the discord between the two systems.

"System 1 operates unconsciously and quickly, without much mental effort, without feeling, and in a state of complete autonomous control. System 2 shifts attention to brain activities that require brain power, such as complex arithmetic. The operation of System 2 is usually associated with subjective experiences such as behaviour, choice and concentration." -*Thinking Fast and Slow*.

3. Overconfidence

A particularly typical cognitive bias is the "planning fallacy", which generalises that we will always take more time to complete tasks than we planned (Buehler et al, 1994). One reason for this dilemma is that people are always 'over-optimistic'. Psychologists have found through experimental observation and empirical research that people tend to place too much faith in their own judgement, overestimate their chances of success, attribute success to their own abilities and underestimate the role of luck and chance - a cognitive bias known as 'overconfidence' (Fagerström, 2008). Overconfidence is a psychological factor that leads to the 'hindsight bias'. Hindsight bias is the tendency to see what has happened as relatively inevitable and obvious, without realising that the review of the outcome will influence people's judgement (Roese and Vohs, 2012). It leads people to believe that the world is actually quite predictable, but they are unable to say how they are influenced by information about an outcome (Pohl et al, 2002).

3.1 Overconfidence and Chinese Investors

In China, with an increasing number of young consumers, the blind box market is gradually emerging, with consumers buying blind boxes as an investment, as they will pay a premium once they have drawn a hidden model (Wang and Zhou, 2021). A common belief is that the blind box, which is now a big hit in China, first originated from the Japanese Twister (Chen, 2020). 2010 saw the opening of the first blind box shop in Bubble Mart, which was expected to be the first blind box stock. Because the player base was relatively small, the development of the blind box market remained lukewarm for more than five years thereafter. It was only in 2016 that the Bubble Mart side entered the online e-commerce platform (Chi, 2021). The industry believes that the early blind box is slow to develop, mainly due to two factors: one is the entry of too few players, it is difficult to form a blind box atmosphere; two is the consumer habits are different, that period of consumers prefer certainty in the consumption model (Daxueconsulting 2021). 2017 onwards, the combination of online and offline blind box play, so the whole market began to gradually heat up. According to Yunjing, an expert in the operation of Tmall's mother and baby parent-child toys & trendy toys, there

are two main reasons for the change in the blind box market: firstly, a new generation of consumers has started to rise, with post-90s and even post-95 consumers preferring the sense of surprise brought by uncertainty; secondly, there are more and more quality blind box brands and more and more good IPs. In all consumer booms, consumers are a key force in shaping the consumer process (Bangladesh Open University 2021). The popularity of the blind box is certainly inseparable from the development of the company itself and the promotion of the platform, but what is more inseparable is the recognition of consumers. In turn, consumers can act as investors after drawing blind boxes, as they draw the hidden models that everyone wants to draw at a serious premium. (Luo, 2022)



Figure 1. Popular IPs of POP MART (POP MART 2021.)

"The uncertainty mechanism of the blind box will also go a long way in creating a sense of overconfidence in consumers through random returns." Chen Jie, Professor of Marketing, Antai School of Economics and Management, Shanghai Jiao Tong University, believes said. For this reason, she gives an example: if you buy a blind box at random and open it, it turns out to be the one you like, which is actually a random reward set by the merchant, but most people will think they are luckier than others, thus creating a psychology of overconfidence. This sense of luck and confidence then drives consumers to make consistent, repeated purchases. Thus, this fun, certainty in uncertainty of reward attracts more and more people to participate.

Drawing a blind box is, in fact, a game of probability, provided, that the game is fair. Most people who draw a blind box have in mind a hidden model from that collection. Depending on the series, the probability of a hidden item is usually between 1/144 and 1/720, but humans are small in the face of probability because the human brain is relatively weak in dealing with probability (compared to the rest of the human brain), especially when it comes to complex probabilities (Yu, 2019). Only a few people mentally calculate before drawing a blind box that "the probability of getting the hidden item this time is only 1/144, i.e. 0.69% ". Instead, they infer that the probability of getting the hidden item within two or three draws is high, based on a small sample of "someone getting the hidden item on the second draw", which is actually a very small probability. They may even paralyse themselves by believing in unfounded rumours that "by shaking skillfully, they can increase the probability of winning the hidden money". This reminds me of speculators who say things like "other stocks will fall, but my stock will rise, even if thousands of stocks fall, my stock will rise", ignoring systemic risks and deceiving themselves and others with blind confidence.

Chen Wei, founder and CEO of 52TOYS, agrees with this view. On a more micro level, he believes that "this uncertainty is actually uncertainty on a small scale, because the reason you want to draw this blind box must be because this series of products you feel good, no matter which one you draw you won't feel depressed because you don't like it."

4. Summary

From the POP MART dominated Chinese blind box market, it is evident to see the attitude of investors in blind boxes and, in turn, consumers towards the commodity. Driven by overconfidence, investors are prone to frustration in their investments, which leads to a series of consequences: firstly, investors tend to overestimate their ability to judge market trends and the accuracy of the information they receive, which leads to frequent trading, resulting in a much lower success rate of investment decisions and an increase in transaction costs. Secondly, selective filtering, where investors are willing to accept information that supports their own judgement and filter out information that does not, leads to greater trust in their own judgement and overestimation of the value of their investments is one of the consequences of overconfidence. Thirdly, overconfidence tends to make investors neglect risk control and see only short-term gains when chasing the wind, resulting in gambling-like operations.

To reduce the impact of overconfidence, investors should be able to remain in awe of the market. Besides, they should maintain an open and compatible mind, prevent selective filtering, obtain and analyse all kinds of information comprehensively, and understand the market and investment behaviour from different perspectives. Again, investors are required to adhere to their own circle of competence when investing. Within the circle of competence, investors have a deeper understanding of the laws of investment and a more complete knowledge of the underlying investment, which can enhance the probability of winning the investment.

References

- [1] Daniel, K. (2017). Thinking, fast and slow.
- [2] Kahneman, D. and Tversky, A., 2013. Prospect theory: An analysis of decision under risk. In Handbook of the fundamentals of financial decision making: Part I (pp. 99-127)
- [3] Shleifer, A. (2012). Psychologists at the gate: a review of Daniel Kahneman's thinking, fast and slow. *Journal of Economic Literature*, 50(4), 1080-91.
- [4] Kapoor, S. and Prosad, J.M., 2017. Behavioural finance: A review. *Procedia computer science*, 122, pp.50-54.
- [5] Kalantari, B., 2010. Herbert A. Simon on making decisions: enduring insights and bounded rationality. *Journal of management History*.
- [6] Buehler, R., Griffin, D. and Ross, M., 1994. Exploring the "planning fallacy": Why people underestimate their task completion times. *Journal of personality and social psychology*, 67(3), p.366. Available at: <https://doi.org/10.1037/0022-3514.67.3.366>
- [7] Altman, M. (2004). The Nobel Prize in behavioral and experimental economics: a contextual and critical appraisal of the contributions of Daniel Kahneman and Vernon Smith. *Review of Political Economy*, 16(1), 3-41. Available at: <https://doi.org/10.1080/0953825032000145445>
- [8] Lipman, B. L. (1991). How to decide how to decide how to...: Modeling limited rationality. *Econometrica: Journal of the Econometric Society*, 1105-1125. Available at: <https://doi.org/10.2307/2938176>
- [9] Kumar, S. and Goyal, N. (2015), "Behavioural biases in investment decision making – a systematic literature review", *Qualitative Research in Financial Markets*, Vol. 7 No. 1, pp. 88-108. Available at: <https://doi.org/10.1108/QRFM-07-2014-0022>
- [10] Bromiley, P. and Papenhausen, C., 2003. Assumptions of rationality and equilibrium in strategy research: the limits of traditional economic analysis. *Strategic Organization*, 1(4), pp.413-437.
- [11] Kannengiesser, U., & Gero, J. S. (2019). Design thinking, fast and slow: A framework for Kahneman's dual-system theory in design. *Design Science*, 5. doi: <https://doi.org/10.1017/dsj.2019.9>
- [12] Rehan, R. and Umer, I., 2017. Behavioural biases and investor decisions. *Market Forces*, 12(2).
- [13] Calzadilla, J.F., Bordonado-Bermejo, M.J. and González-Rodrigo, E., 2021. A systematic review of ordinary people, behavioural financial biases. *Economic Research-Ekonomska Istraživanja*, 34(1), pp.2767-2789.

- [14] Fagerström, S. (2008). Behavioural Finance: The psychological impact and Overconfidence in financial markets. Available at: urn:nbn:se:his:diva-1326
- [15] Roese, N. J., & Vohs, K. D. (2012). Hindsight bias. *Perspectives on psychological science*, 7(5), 411-426.
- [16] Pohl, R. F., Bender, M., & Lachmann, G. (2002). Hindsight bias around the world. *Experimental Psychology*, 49(4), 270. Available at: <https://doi.org/10.1026/1618-3169.49.4.270>
- [17] POP MART International company limited. 2020. 2020 Annual report. POP MART. Retrieved on 30 December 2021. Available at: <https://popwebsite.paquapp.com/pdf/二零二零 年年报.pdf>
- [18] Chen, S. 2020. China's Blind Box Economy. *Chinaskinny*. Retrieved on 28 December 2021. Available at: <https://www.chinaskinny.com/blog/china-blind-box-economy/>
- [19] Chi, R. 2021. Why China's blind box economy is a good bet for brands. *The drum*. Retrieved on 28 December 2021. Available at: <https://www.thedrum.com/opinion/2021/10/20/why-china-s-blind-box-economy-good-bet-brands>
- [20] Consumer behavior theories. 2021. Bangladesh Open University. Retrieved on 31 December 2021. Available at: http://www.ebook-bou.edu.bd/Books/Text/SOB/MBA/mba_4321/Unit-02.pdf
- [21] Boice, M. 2021. The 13 Top reasons consumers shop online. *JungleScout*. Retrieved on 29 December 2021. Available at: <https://www.junglescout.com/blog/reasons-consumers-shop-online/>
- [22] Destination unknown: The newest addition to the blind box economy in China – Airplane tickets. 2021. *Daxueconsulting*. Retrieved on 28 December 2021. Available at: <https://daxueconsulting.com/blind-box-economy-in-china-airline-tickets/>
- [23] Luo, J. (2022). Brand Marketing Behind the Blind Box--Analysis on the Brand Marketing of POP Mart. *Frontiers in Economics and Management*, 3(2), 564-567. Available at: 10.6981/FEM.202202_3(2).0067
- [24] Wang Dijun, Zhou Changcheng. Blind box consumption: a new phenomenon of contemporary youth consumption lifestyle[J]*Gansu Social Sciences*, 2021(02): 120-126.
- [25] Yu, S. 2019. Blind Box, the Latest Trend Taking Over China by Storm. *Pingwest*. Retrieved on 28 December 2021. Available at: <https://en.pingwest.com/a/3720#:~:text=The%20idea%20of%20blind%20box,“fortune%20bag”%20in%20Japanese>