

# ***The Anchoring Effect and Related Applications: Cognitive Inertia and Habitual Thinking***

**Huang Junbo<sup>1,a,\*</sup>**

<sup>1</sup>*Western University, London ON N6A3K7, Canada*

*a. 1104111219@qq.com*

*\*corresponding author*

**Abstract:** By analysis research on the anchoring effect of previous scholars, it was found that irrational judgments in financial markets due to the anchoring effect are significant with the influence of past information. By analyzing data from the equity and securities markets, we find that even professionals can make inaccurate judgments due to the anchoring effect. In addition, we found that the anchoring effect does not require a significant information factor to be implemented, as different experiments have shown that the subconscious mind can also influence people's decisions. However, it is interesting to note that the anchoring effect can also influence behavior in the opposite way, by limiting the sales of a product and thus increasing the sales of that product.

**Keywords:** anchoring, cognitive inertia, habitual thinking, behavioral

## **1. Introduction**

The anchoring effect, an important research phenomenon in behavioral economics, was originally identified as the idea that human behaviour is influenced by initially preset information and that newly added information brings about new changes in behavioral perceptions [1]. However, in our study of the anchoring effect, we have found that it is not only new information that has an anchoring effect, but also that some people are more inclined to historical information anchors, as is well illustrated in the financial and equity markets. In this regard, a new hypothesis has been put forward: does the anchoring effect have a significant effect on professionals? The answer is surprising: the effect of the anchoring effect on professionals in the field is almost indistinguishable from that of the general population [1][3]. On the one hand, the anchoring effect uses the initial anchor to influence the behaviour of the average person. On the other hand, the anchoring effect uses reverse psychology to influence the judgement of professionals, making their judgement too dependent on their expertise.

In general, the distinctive feature of people's judgement is its comparative nature, usually in terms of circumstances, norms, standards, etc [3]. The anchoring effect has been shown to be considered an initial anchor or what might be called a base point of comparison. However, it is usually set in an active way to influence people's cognitive behaviour. During the course of our research, we discovered that initial anchors can be influenced by subconscious behaviour. When a behaviour is added that has no active influence on the judgement, it can influence their judgement of the outcome to some level. Although we did not find a significant enhancement of judgments by subconscious anchors, the results still provide sufficient evidence of the possibility of such behavioral influence. In the meantime, subconscious anchors can also be associated with inertial thinking, which we conclude

does not necessarily need to be positive but can also be reversed [10]. A derivation of this behaviour in supermarkets, for example, could be that when a limit is set on the quantity of an item to be purchased, it triggers more purchases than a positive discount, even if the act of limiting this reverse prevents the dumping of stock.

The main structure of this paper is to examine the impact of new information, subconsciousness, and reverse setting on the implementation of the anchoring effect and related judgments by presenting different studies.

## **2. Application of the Anchoring Effect**

### **2.1. New Leads in the Anchoring Effect**

The effect of information on judgments is significant, and according to the anchoring heuristic theory first described by Tversky and Kahneman [8], when a piece of information is predetermined in advance, people will favour that predetermined piece of information more than judgments made without it. The fact that information is usually given that is highly relevant to their judgments raises the question of whether macro information that is not as highly relevant can bring about an anchoring effect. To understand this further, it is necessary to look at the financial markets, where there is a clear distinction between macro and micro-level information. In Birz, Dutta and Yu's [1] research, it was found that the impact of stock market prices on macro information is usually accompanied by a delay. That is, new releases of macroeconomic information do not affect the immediate price of a stock. The study examined expected market prices by monitoring historical stock announcements and comparing stock prices after the release of information from the macro level. The final result is that most "rational" investors also take an average of four days to adjust their positions. Campbell and Sharpe [2] also demonstrate that their macroeconomic impact on the Treasury market is negligible relative to other markets, and that only changes in interest rates in unpredictable market conditions can be observed in a statistically significant way. In their study, they compared the retail market with the Treasury market in response to macroeconomic information and concluded that the retail market was influenced by macroeconomic news in favor of the original theory of Tversky and Kahneman [8] that the anchor point would adjust in response to new information. In contrast, the Treasury market, whether two-year or ten-year, has a smaller adjustment component in response to macroeconomic news. The core reason for this is that certain market participants in forecasting market interest rates already add macroeconomic policies that may be made in the future jointly as a consideration to the initial anchor. Interestingly, initially, we thought that specialists in their field could avoid the effects of the anchoring effect in their specialization. On the one hand, the anchoring effect relies on the initial anchor, which we consider that experts can choose to ignore by being aware of the existence of the anchor through their expertise. On the other hand, we believe that experts present a more accurate expectation of the market than the average participant and have a better review pattern of expected new information. However, the results are unexpected. The results of Birz, Dutta and Yu [1] find that professional forecasters produce irrational results that underestimate the impact of macroeconomic news, which we believe is essentially due to the cognitive inertia of market participants with respect to past historical announcements in financial markets. In other words, professional investors do not see through the anchoring bias and the market is not information efficient.

### **2.2. Subconscious Anchoring and Habitual Judgement**

The effect of information on the anchoring effect is significant, and it has been demonstrated through previous studies that its information does not need to be highly correlated to cause errors in judgement on those it influences. In Tversky and Kahneman's [9] study it was elaborated that their information

has a corresponding effect on behavioral value judgments by way of an initial anchor point for an active setting. In our series of studies, we have found that initial anchors can be set or influenced in a subconscious manner. According to Mussweiler and Englich [7] in a related experiment it was concluded that even in a non-directive way, with random characters or high frequency of interference, people's judgments can be influenced. By having the experimenter stare at an area of the computer screen in which different words were placed at a disrupted rate, the experiment was then concluded by asking the experimenter to judge the value of the car. It was found that the experimenter's valuation of the value of the car increased in a statistically significant way when items in the random string of letters that embodied a generally expensive value were presented at a slower speed relative to the other characters, even though their response potential was controlled for very slight differences. Although the experiment does not clarify the extensiveness of the emergence of subliminal anchors, the rigorous process of its three cross-validation experiments greatly avoids the 'false positive results' mentioned in Maniadis, Tufano & List [6]. Therefore, we believe that subliminal anchors have a significant impact on people's reliance on habitual judgments of thought. On the one hand, Furnham and Boo [5] have shown that the effects of active anchoring cannot be eliminated by contrarian arguments once the anchor is in effect and can last up to a week. On the other hand, in the context of the previous financial markets, could subliminal anchors have a similar impact on macroeconomic news if they were widely disseminated with the slogan "The first investment for young people"? It follows that subliminal anchors and their associated scope are widespread and should not be ignored.

### **2.3. External Anchors for Reverse Decision-making in Judgement**

The anchoring effect is practiced in most cases by being positively influencing people's judgmental perceptions after being actively set with external anchors. In the previous section, it was discussed that the influence of psychological anchoring on judgement cannot be ignored either. However, it was found that the implementation of anchoring effects can also influence people's decisions by reversing them in multiple setting situations. several comparative experiments were conducted in the article by Wansink, Kent & Hoch [10], in which experiment one used a compound sales policy for the same items (positive influence), experiment two added a purchase limit (reverse influence), and experiment three used promotional terms but no offers (positive influence). All three experiments resulted in an increase in sales volume, but the core reasons for this were found to be different through the results of the study. Experiment one's sales volume increase was positively correlated with the relationship between discount strength and multi-unit price performance; experiment two's sales volume increase was found to be influenced by limiting units (initial anchor point) after removing bias and had a statistically significant increase; while experiment three was compared through no discount but promotion versus the same item but with different levels of discount, resulting in a sales volume increase quantified within its promotion. The data showed a positive correlation, i.e. "people should buy ten" was more effective than "people should buy some". The three experiments above each represent two potential direct expressions of how people should buy more (offers in Experiment one, behavioral influences in Experiment three) and how people should buy less (limiting purchases in Experiment two). However, we found that people were more likely to trust their own judgement when making choices than direct external influences. In Experiment two, although consumers were not told directly that they needed to buy more, they were asked to think by setting limits such as "Is it possible that if I don't buy it, I won't be able to buy it?" "Why are these quantities limited?" The consumers were prompted to make the "right" decision. Once the consumer has made his or her own decision, the internal anchor has already been set, so we call this process reverse decision making, i.e. the setting of external anchors leads people to set their own internal anchors. Wansink, Kent & Hoch [10] conducted a fourth experiment to investigate whether internal anchors could control the effects of external anchors by asking a certain number of consumers a survey question about a particular item

before they made a purchase. Questions such as "How much of this item do you think you will consume in the next period of time?" and "How much of this item do you usually buy?" were then used to monitor participants' consumption of this item under different purchase limits and offers. The experimental data confirmed that the internal anchors were effective in counteracting the effects of the external anchors, and that the number of purchases made by all subjects who were asked the survey questions was barely found to be statistically influenced by changes in the external anchors. This confirms that the influence of internal anchors is greater than that of external anchors in specific situations, and does not exclude the possibility that specific situations may be extended to general facts.

### 3. Conclusions

Through in-depth research, we have found that the anchoring effect may have broader consequences for people's cognitive judgments and behavioral decisions than is known. Despite the fact that anchoring effect theory is almost fifty years old, the knock-on effects of its core theory continue to be expanded in the new research. In this study, we found that internal anchoring has a more significant effect than external anchoring in previous studies, and can even facilitate the setting of internal anchors by influencing subconscious behavior. We believe that when information is disseminated on a large scale in a biased manner, it cannot be ruled out that it can influence the macro market economy in a subconscious way, and thus influence the dynamics of various industry segments. However, the practice of theory itself is mostly set in a uniquely interventionist manner, and in the studies of Frykblom & Shogren [4] and Maniadis, Tufano & List [6] it is also pointed out that emerging theory by amplifying the empirical approach of previous studies is accompanied by serious paradigm effects. Therefore, although cross-validation still needs to be done by examining the anchoring effect brought about by subconscious anchoring at the micro level and thus affecting the macro economics, we argue that its subconscious anchoring allows to change the impact of people's cognitive judgment in macroeconomics.

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