

# *Three Applications of the Anchoring Effect*

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**Abstract:** To find out the relationship between psychology and economics, many people try to study the reasons that lead people to make choices. This paper aims to explain the influence of the “anchoring effect” in behavioural economics on consumption, investment, and food intake. Through reading the previous literature review and the experiments, and based on the definition of the anchoring effect in *Thinking Fast and Slow* by Daniel Kahneman, three real-life applications of the anchoring effect were identified. In the anchoring effect in consumption, investment, and food intake, the anchoring price is proportional to people’s price estimates. Anchors can be divided into high anchor conditions and low anchor conditions in those cases. However, possible biases in some of the experiments mentioned in some of the citations and related solutions are also mentioned. In a complete decision-making process, people’s choices will be influenced by multiple anchors, and those anchors are always related to each other.

**Keywords:** anchoring, consumption, investment, food intake

## 1. Introduction

In recent years, with the in-depth study of behavioural economics, more and more people have studied consumers’ choices. The study of the anchoring effect is mostly focused on psychology, economics, law, and medicine. Because anchor information exists, decision-makers are more susceptible to bias than in more standard marketing circumstances. Therefore, while creating sales tactics, entrepreneurs frequently take the impact of anchoring into account [1]. The anchoring effect allows people to walk into a store and measure whether the price of these items is fair. It allows people to decide how much to eat when they see a serving of food. It is also used as a sales strategy to buy stocks and health insurance. The influence of the anchoring effect in real life is ubiquitous. Through case studies, this paper explains the effects of anchoring effect on consumption, investment and food intake in order to demonstrate its wide application in daily life. As economist Daniel Kahneman defined in *Thinking Fast and Slow*, the anchoring effect occurs when people consider a particular value for an unknown quantity before estimating that quantity [2]. According to Tversky and Kahneman, *Science*, 1974, different starting points yield different estimates, which are biased toward the initial values.

## 2. Consumption

The anchoring effect affects consumers’ choices. In the decision-making process, people are easily influenced by previously provided information. In one experiment, students were shown an expensive chocolate and asked if they would pay an amount equal to the last two digits of their ID card. If they

were willing to pay, they were divided into two groups with the last two digits of their ID less than 50 and more than 50, and they were asked to decide the maximum they were willing to pay for the chocolate. The data showed that students with the last two ID numbers greater than 50 will pay an average of R\$25, and those with the last two ID numbers less than 50 will pay an average of R\$16 [3]. The experiment shows that the last two digits of their ID are the anchor price, and the anchor price is proportional to the amount of money people are willing to pay. This experiment has certain limitations. Non-price factors in the above experiments have an impact on people's decision-making. Also, since this experiment was conducted in a university and the participants were all management students of the university, self-selection bias, conviction bias, and observer bias are difficult to avoid. The next study is based on the whole country, to avoid the bias of the above experiment as much as possible, and also show that there is more than one factor (price) affecting the anchor in a transaction. For instance, consumers' first-hand information about the product itself will also affect their consumption decisions. The purchase of organic versus non-organic food has long been debated. According to data from the Certification and Accreditation Administration of China in 2014, organic food is still in its initial stage of development in China and is not well known to the public. At the same time, the price of machine food is usually 3-5 times that of ordinary food, and some even as high as 8-10 times. Therefore, because people do not have enough knowledge about organic food, they use the price of other commodities, such as non-organic food, as an anchor. When they find that the price of organic food is higher than their anchor point, they will consider organic food to be a bad deal, leading to less consumption [4]. Additionally, the anchoring effect is also often considered by retailers as a marketing strategy. For example, in discounts, retailers always write the original price on the label, because the original price will automatically become an anchor in the mind of consumers. When consumers see the current price will be compared with the original price, and then they think that they are the profit from the transaction. However, many retailers often raise the price of the product first to turn the anchor into a high anchor to attract more consumers to spend. In addition, purchase restriction is another principle that uses the anchoring effect to attract consumers. One supermarket conducted such a survey, and the retailer put a "limit of 12 cans per person" sign on the \$0.79 can of Campbell Soup. When the sign was not on display, the average purchase per customer was 3.3 cans per person, but when the limit sign was displayed. The average number purchased per person jumped to 7 cans per person. It can be seen that 12 cans are used as anchors to stimulate consumption [4]. The anchoring effect is also taken into account in sales promotion, especially for luxury goods. For example, some merchants will always use \$9.99 instead of \$10 for their sales. Because \$9 is the anchor, in people's minds, the price of the item is \$9 instead of \$10. According to one study, this technique increased sales by an average of 24% [5].

### 3. Investment

Both individual and institutional investors are disturbed by anchoring prices. Investors often use the historical performance of stocks to judge the future development of the stock market. Barberis, Shleifer, and Vishny used the classic BSV model to explain that the past price and stability of a stock will directly affect investors' judgment on the future value of a stock, that is, when the stock price is high and stable in the past, investors will use the past performance as an anchor and believe that the stock will perform well in the future. They then choose to continue buying, causing the stock price to continue to rise. When the stock price is low or unstable in the past, investors will also be pessimistic about the future performance of the stock, reluctant to purchase the stock, or even want to sell the stock, which will cause the stock price to fall further [6]. Therefore, the anchoring effect directly affects the investors and indirectly affects the development of the stock market. The anchoring effect not only affects the investment in the stock market but also affects the investment in medical insurance. Nowadays, many people guard against low-probability disasters. People's investment in health

insurance may be affected by related factors, such as risk perception, premium, and welfare. Therefore, sales are usually made by asking buyers about the amount of insurance they are willing to pay and offering a sum twice as high as the price given by the buyers as a claim fee [7]. In this case, people use the price they are willing to pay as an anchor, so when the insurance company offers a higher price as a claim fee, the buyers think that they will get more money when they encounter a serious illness or disaster, so the buyers will think that this is a good deal. As more and more people regard auctions as an investment, the role of anchoring effect in auctions cannot be ignored. “Anchors affect the judgments of both individuals and groups, with three-member negotiating teams displaying biased judgments similar to those of single negotiators” [8]. However, no matter how different conditions people put forward in the auction and negotiation, the final judgment is often assimilated to the previously considered anchor value. According to the research by Galinsky, Leonardelli, Okhuysen, and Mussweiler in 2005, the results are always determined by the first price, and the correlation coefficient is between 0.72 and 0.93 [9]. From this, it can be explained that in the negotiation, the starting price of one party will affect the negotiation process of both parties, so the final negotiation result will often fluctuate around 50% of the original anchor price. Therefore, the situation in the negotiation will also happen in the auction, and the starting price will greatly affect the final transaction price. Because the starting price is an anchor, consumers will make decisions based on this anchor, and the fluctuation of the upper and lower prices will not be too great.

#### 4. Food Intake

The amount of food served as an anchor can also influence people's eating decisions. In an experiment, in order to verify the influence of food quantity on people's intake, the experimenter divided the participants into three groups. The first group got a lot of food (high anchoring condition), and the second group got little food (low anchoring condition). The third group as the control group did not set the amount [8]. The results show that the anchoring effect has a great influence on people's food intake. Regardless of the types of food, the larger the amount given (high anchoring condition), the more the subjects ate, and the smaller the amount given (low anchoring condition), the less they ate, showing that the anchoring effect is proportional to people's food intake. Low estimates of unknowns are shown in another study. This tendency may explain why people eat more when there is more food available. In this study, participants with a 2- pound box will eat 30% more than participants with a 1- pound box. Meanwhile, 23% more oil will be used from a 32-ounce bottle than from a 16-ounce bottle [10]. These data also illustrate the direct effect of anchoring on decision-making, that is, positive correlation.

#### 5. Conclusion

The anchoring effect plays an indispensable role in the decision-making process. In terms of consumption, this paper verifies that the level of the anchor is proportional to the amount of money people are willing to pay. Also, the anchor is not only a consideration of the price of the commodity itself but is also affected by its substitutes. In addition, some retail businesses will use the anchoring effect to formulate some marketing policies, such as discounts, purchase restrictions, and sales promotions. In the case of investment, multiple factors can be called anchors and have an impact on people's decisions. In the final food intake survey, experimental data showed that the size of the anchor is directly proportional to people's penetration. However, there are some limitations in this paper. The experiments are common to find that the conclusion cannot be generalized due to the small amount of data. Therefore, simple random sampling and Systematic sampling can be used to expand the sample data to make the conclusion more universal. In addition, observer bias is inevitable. Therefore, people can make the experimental results more accurate by inviting multiple observers to

participate in the experiment and double-blind experiment. The first part of the consumption section of the chocolate experiment also has high results. Because the people excluded in the first part of the experiment were also affected by the anchoring effect, people overpriced the chocolate. Therefore, the first step can be deleted to increase the accuracy of the test results. In terms of content, the lack of relevant economic models and calculations in this paper leads to insufficient proof content. In addition, some literature data appeared earlier and may not be consistent with the current situation. The most widespread application of the anchoring effect is to influence pricing and decision-making. However, the influence of anchoring effect is ubiquitous, so it is possible to focus on the influence of anchoring effect on other fields, such as law and medicine, in the future.

## Acknowledgements

I sincerely thank my dissertation teacher; your selfless help and careful guidance played a vital role in the process of writing the paper. Thank you for your patience and support during the whole writing process. Your encouragement and trust make me firmly go on, full of enthusiasm and motivation for research. Thank you for your guidance on the structure and language of the paper. Your professional guidance has made my paper more accurate, clear and academically standardized, and I have learned a lot of writing skills and methods from it. Finally, I would like to sincerely thank my dissertation teacher for his selfless dedication and hard work. Your guidance and help have not only enabled me to make great progress in thesis writing but also enabled me to grow into a scholar of independent thinking and research.

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