

Anchoring and Adjustment Heuristic in behavioral finance

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Abstract. As a result of changing and evolving times, there is a growing realization that dogmatic economic theories cannot meet the practical needs of market analysis. Under such circumstances, behavioral economics came into being. This paper briefly introduces the origins of behavioral finance, highlighting the role of anchoring and adjustment effects, two psychological heuristic bias in the financial market, and analyzing the pros and cons and countermeasures. From the Nobel Prize of Richard Thaler in 2017, people began to realize the importance of behavioral finance and separating it with normal economic. To understand the way to introduce social psychology phenomenon to economic, we start from explaining anchoring bias on customers and then point out how people use adjustment behavior to correct it and the importance of this behavior. The explain of concept is followed with four familiar and detailed examples of the anchoring and adjustment heuristic in behavioral finance. The examples are all about how to use anchoring and adjustment strategy. First, we will talk about product display and marketing using this strategy. The brands set up an expensive and luxury product to give customers a high prediction of the price of the product they will actually buy. When they see the actual price of the product they are going to buy, it would be much lower than they expect. As a result, they would regard themselves as picking up a bargain and purchase it without hesitation. Similarly, in a court of law, judges are influenced by juries, proving that the anchoring effect does not change depending on the amount of knowledge base (non-experts can influence experts). Also, the anchoring effect can be applied to games. People can judge the psychological price floor of their opponents by first offer thus gaining higher returns. The emergence and popularity of the interdisciplinary discipline of behavioral economics also reflects the need for interdisciplinary connections and innovation.

Keywords: behavioral finance, anchoring, heuristic bias.

1. Introduction

When talking about anchoring, most of the time, people would link this with psychology or sociology. As defined by John Stuart Mill in the 19th century, in traditional economics, people are “Homo Economicus”, which means that they “avoids unnecessary work by using rational judgement”(Wilson, 2022). However, as the old Chinese proverb goes: “An ant hole causing the collapse of a great dike”, the regardless of single human beings in talking about economic is impractical. As the development and refine of psychology and sociology, some social psychology or social cognition phenomena could be used in compensating for the rigidity in practice associated with the use of the concept of homo economicus as a theoretical basis for traditional economics. In 2017, Richard Thaler was awarded the Nobel Prize for his outstanding contributions to behavioral economics. His main claim is to analyze economic decisions through a psychological perspective(Barberis, 2018). His research on the tendency to behave in an imperfectly rational manner has overturned the traditional definition of "Homo Economicus" in economics. In this article, we will make a brief review of the original social psychology used concept anchoring and adjustment strategy and make four detailed and vivid examples in daily life to help readers understand this. The purpose of this article is to help the public gain an initial exposure to and understanding of the foundations of behavioral economics through simple narratives and examples.

2. Literature review

2.1 Anchoring

According to Tversky and Kahneman (1974), "In many situations, people make estimates by starting from an initial value that is adjusted to yield the final answer. The initial value, or starting point, may be suggested by the formulation of the problem, or it may be the result of a partial computation. In either case, adjustments are typically insufficient. That is, different starting points yield different estimates, which are biased toward the initial values. We call this phenomenon anchoring".

This is anchoring heuristic bias, what the Chinese call "preconceptions". When people make a decision, the brain gives special importance to the first information it receives. First impressions or data are like anchors that hold our minds in a certain place. "The anchor is so firm and imperceptible that it is much more difficult to pull it up than you might think.

2.2 Arbitrary anchor

In social psychology, when taking about judgement, the model people use including anchoring and adjustment heuristics: Starting with an initial value(anchor) and adjust to reach the final conclusion. This leading to two kinds of questions: Arbitrary anchors and adjusting insufficiently.

Arbitrary anchors, also being known as irrelevant anchors, happens when people uses irrelevant information as the anchor to make judgments.

Tversky and Kahneman (1974) developed an experiment to show about arbitrary or, in another word, irrelevant anchors. The participants use a spins wheel, which was written number 0~100 on it, to get a random number for fortune. Then, they are asked to estimate if the percentage of African countries in United Nations is higher or lower than the number they get. After that, they were asked the second question: "What is the exact percentage of African countries in United Nations?" And they are surprised to see that those who get the number 10 predict that 25% of countries in UN, while those who start with the number 65 estimate 45% on African countries in UN.

This is a very common interfering factor. Usually, people tend to be unable to concentrate because of external interference or temptation, and in the arbitrary anchor, irrelevant information from the outside world is judged as relevant by the brain and thus affects people's judgment. In economic activities, businessmen often create an anchor in the mind of customers by creating external distractions to achieve the purpose of promotion.

2.3 Adjustment heuristic

As in psychology, anchoring is a serial process that is often defined as effortless (Furnham&Boo, 2011). On the opposite, Adjustment is an effortful serial process (Epley& Gilovich, 2001, 2004, 2006). People start from an anchor point in their thinking and gradually move away from it and favor the target value by continuously consuming time and cognition. As more time is consumed and cognition deepens, people move further away from the anchor point and closer to the target value. But once the limit of time consumption and cognition is exceeded, people's thinking will reverse and move closer to the anchor point (Epley et al., 2004)

3. Examples

3.1 Product Display and Marketing

"Victoria's Secret" is the most famous lingerie brand in the United States. Having a "Victoria's Secret", is the desire of many women. Since 1996, the company has been endorsed by a supermodel every year before Christmas, with a high-profile release of a multi-million dollar diamond bra. This not only attracts media attention and advertising, but also boosts sales of related products.

When the bra appears in the company's catalog, it quietly gives the customer a price reference point.

It is not difficult to imagine how a man feels when he is ready to buy a piece of lingerie for his wife and he first sees a bra priced at more than \$100,000, and then sees a product of the same brand priced at only \$298, with good style and texture. Consumers will adjust up or down based on the anchor value given by the outside world when choosing items to purchase, but the high or low anchor will directly lead to the high or low estimated price (Zong & Guo, 2022).

Other companies use the same strategy. For example, in a branded product line, a merchant will create a "best of breed" product with an impressive price. It doesn't matter if this "best of the best" sells, but rather that it "anchors" the price at a high level, quietly changing the reference value of the product. This including:

ASANTI has a car wheel with 12,000 diamonds and 800 sapphires, sold at \$2 million.

Corum in Switzerland has a "classic billion tourbillon" which is set with diamonds, the world's limited to 10 pieces, price 325,000 ~ 998,000 U.S. dollars.

Germany's Stieff has gold plush teddy bear, limited to 125 pieces worldwide, with each priced at about \$86,000.

Luvaglio, a British company has a diamond laptop which priced at \$1 million.

For companies, even if the diamond underwear can not be sold, the diamonds on top can be removed and continue to use next year, there is little loss.

3.2 The Court

Experts could also be affected by anchoring effect (Wilson et al., 1996). On the court, Legal experts' sentencing decision are affected by irrelevant anchors, like sentence suggested by prosecutor. Research have use control experiments to show that irrelevant anchors are just as strong as relevant anchors. Moreover, Experts' decisions are just as affected as non-experts' decisions (Englich et al., 2006)

3.3 Negotiation

Negotiation is the moment when the anchoring and adjustment effects are most pronounced in the game. Usually, we tend to wait for the other party to make the first offer, thus anticipating the other party's psychological expectations and achieving a satisfactory outcome. In fact, the first offer does influence the entire negotiation. Studies have shown that in ambiguous and uncertain situations, the first offer has a strong anchoring effect, setting the stage for reasonable negotiations. A higher first offer will usually result in a higher final price than a lower first offer. If A buys something from B and A's psychological price is \$2,000, B offers \$3,000, causing A to agree that the item is worth \$3,000. At the same time, B gives A a discounted price so that A can buy the item for \$2,500. At this point, even though it is higher than the initial psychological price, because of the change in anchor point, A will agree to the deal as long as the price is below \$3,000.

4. Conclusion

Although the anchoring effect is often used by businessmen in marketing, people can actually make more rational adjustment in making decisions by learning more about it and improving their perceptions. experiments on the spotlight effect and illusion of transparency have demonstrated that Experiments on the spotlight effect and illusion of transparency have demonstrated that people can respond to and correct initial self-knowledge anchors by introducing adjustment when making inferences (Gilovich et al., 2000; Gilovich et al., 1998).

In fact, psychologists are trying their best to use their knowledge to make current economic structures more flexible. Aside of anchoring and adjustment heuristic mentioned in this article, there are also other heuristics and biases that could be used in economic and finance. In a nutshell, there is

still a long way to go on using psychological knowledge to better understand human beings' behavior in financial markets.

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