

# Endowment Effect: Impact Factors and Influencing Mechanism

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**Abstract.** As a theoretical branch of behavioral economics, the endowment effect (EE) reflects the research method of behavioral economics, challenges the assumption that people are rational in traditional economics, and complements the deficiency of the Coase theorem by emphasizing that the phenomenon that people overvalue an item after owning, then it will affect the transaction of the item. In this paper, the author introduces the basic theories about the EE, analyzes the driving factors of the EE, and introduces the latest research findings on the basis of the loss aversion (LA) theory, providing readers with a new way to understand the EE. At the same time, as a link impressionable to the EE in the transaction, the author also analyzes and compares the research results of previous researchers on the influence of EE on the negotiation process, analyzes the reasons why the negotiation participants should avoid or reduce the influence of EE in the negotiation to achieve the goal of negotiation, and puts forward suggestions for the negotiators.

**Keywords:** Endowment effect, Driver factor, Negotiation.

## 1. Introduction

As a breakthrough to the traditional economic theory, the endowment effect (EE) theory has been paid more and more attention and studied with the development of economy and society. In the EE, the emphasis on the sense of ownership of goods also well explains the formation of the disparity between the willing to pay (WTP) and the willing to accept (WTA) in the actual process of commodity trading.

In the trading process, practitioners will want to sell goods at their desired price, and buyers will want to close the deal at a price that is consistent with their purchasing power. In this case, bargaining (a form of negotiation) is needed to reach a deal, and both the seller and the buyer hope to complete the deal at a price that is acceptable to both parties. Both parties will want to avoid losses in the negotiation, the seller will want to sell the good at the least loss (price difference), and the buyer will want to buy the good at the least price. This process is influenced by EE, so the author attempts to start with the driving factors of EE and explore the factors that affect EE.

As negotiation is an indispensable part of people's life and trading, the EE plays an important role in the negotiation process, which is what the author tries to explain in this paper. By analyzing the driving factors of the EE and the application of the effect in negotiation, the paper expounds on the influence and role of the EE in real life. Because in the process of trading, to achieve the trading goal, it is necessary to determine the final bid and sell price through negotiation, and participants need to have an increasingly clear understanding of the impact of EE if they want to achieve their goal. By analyzing and comparing the impact of the EE in different industries, the author tries to give some useful suggestions to the participants in the transaction.

## 2. Previous studies

In traditional economic theory, researchers assume that there is no difference between the prices individuals tend to pay for items and the compensation needed to lose the same item. In this theory, people's identity as buyers or sellers does not affect their assessment of the value of a good. But in the EE theory, ownership of an item increases its value [1]. In other words, people expect to sell their own goods for a higher price than the buyer expects. It was proposed by Nobel laureate economist Richard Thaler in 1980. As explained in the book "Thinking, Fast and Slow", this phenomenon can

be explained by LA theory in behavioral economics, that is, the loss of a given amount brings people more obvious feelings than the gain of the same amount [2]. Therefore, in the decision-making process, people weigh the interests unevenly, and the idea of "avoiding losses" is much stronger than the idea of "gaining benefits". [3]. Due to people's loss aversion, they will have a relatively high price when selling or exchanging what they own, which can make up for people's sense of loss for losing what they own [4]. Dr. Taylor used the famous mug experiment to illustrate and explain the phenomenon that people are more inclined to keep their belongings because of the influence of ownership [5]. But in a later experiment by Dr. John List, the researchers found that the EE disappears when people use their possessions for future transactions. At the same time, the researchers also found that the EE would disappear with the accumulation of experience of traders, and the influence of the EE was very obvious in the trading of new goods. Moreover, in "Thinking, Fast and Slow", the author also said that the poor are more affected by the EE, for the poor, the cost is the loss, and the EE is also affected by the cultural background, so there is still a lot to study about the EE [2].

### **3. Driver factors of the Endowment effect**

#### **3.1. Loss aversion**

The EE and LA are closely related concepts in decision-making and choice. The leading explanation, LA, suggests that individuals are averse to losing the object and, as a result, in comparison to what they are willing to buy for. Therefore, LA has been studied as a mainstream driver of the EE. LA implies a preference for the status-quo because the perceived downside of leaving it is perceived to be greater than the potential gains from change. The EE can be seen as a manifestation of LA, as individuals are more averse to giving up possessions, they already own due to the perceived loss associated with it [6].

LA can explain some examples of the EE. For example, when valuing a good, buyers and sellers may rely on different prices available for reference, resulting in differences in their transaction prices for the item. In addition, sellers may become psychologically attached to the goods they own and will overestimate the value of the goods compared to buyers [7]. LA predicts that persons are more sensitive to losses with respect to the current reference mark than to corresponding benefits. LA provides a relatively plausible explanation for the EE, since people may overestimate their possessions and be reluctant to give them up in favor of alternative goods. EE and LA are linked through the concept of sensitivity to losses. LA will affect people's judgment of property value and lead to an unwillingness to continue trading, which makes the EE more obvious [8].

LA may be related to the EE, where losses are given more weight than gains. However, there may be other factors at play. This suggests that the EE may be driven not just by LA but by other psychological factors [9].

#### **3.2. Ownership account**

So, some researchers have tried to find new theories to explain the EE. An alternative explanation known as the ownership account suggests that ownership itself affects the appeal of a good, leading to the EE. They propose that ownership creates a sense of possession and a strong connection between the goods and the owner. This connection increases the perceived value of the goods, making it more desirable to the owner. Contrary to the LA, the ownership account holds that the EE is not entirely caused by the loss avoidance psychology, but by the psychological attachment and association between the object and the self, which shows its influence in the transaction. The EE occurs because individuals perceive the owned item as "mine" and attribute a higher value to it due to the possession-self link [10].

#### **3.3. Buy-sell strategies**

In the Smitizsky, G., Liu, W., & Gneezy, U. (2021), Researchers have proposed an explanation based on buy-sell strategies, where individuals set their buy-sell prices strategically in trading [11].

To test these explanations, the researchers introduced a new condition called "pay to keep" (PTK), where individuals were required to answer the price they would like to pay to keep the object. By comparing the responses in the PTK, WTP, and WTA conditions, The researchers found no evidence to support LA. Instead, they found support for buy-sell strategies as the primary mechanism underlying the EE.

The experiments were conducted with participants in a university on the West Coast of the United States. Data was collected until reaching 320 observations, with 100 in each condition. Participants need to be seated at a table while a new pen was in front of them, and depending on the condition, were instructed to either not touch the pen, use it for a task and potentially lose it, or use it and decide whether to buy it or not. Participants were also asked to complete a 10-minute filler task where they could earn money.

The researchers analyzed the participants' responses and compared them across conditions. In the WTP condition, participants need to choose between buying the pen or not at different price points. In this condition, participants were free to choose to sell or keep the pen. In the PTK condition, participants were given the choice to pay to keep the pen or lose it.

The results of the experiments supported the explanation of buy-sell strategies for the EE. There was no evidence of LA in participants' WTP or WTA prices. Instead, the findings suggested that participants strategically set their prices based on factors such as the perceived value of the object and the context of the transaction.

### 3.4. Choice uncertainty

As another explanation, in McGranaham,C., & Otto,S.G.(2022), researcher investigates the role of choice uncertainty in the EE, which is the inclination for individuals to require a higher value on items they possess than those they don't possess. The authors conduct experimental tests in a controlled laboratory setting to examine the impact of choice uncertainty on trading and stated valuation asymmetries. They manipulate the degree of familiarity with chocolates as the experimental goods [12].

The study consists of two primary experiments conducted at different years and a follow-up experiment replicating previous control designs. In the exchange paradigm experiments, participants were given the option to taste different varieties of chocolates before making trade decisions. The control sessions provided participants with information about the chocolates without the tasting option. The results show that reducing choice uncertainty by having participants in the experiment try chocolate eliminates shortfalls in trading and reduces the average valuation difference between buyers and sellers. However, even after resolving relevant product uncertainty, the treatment does not significantly increase the number of trades that are accepted by both parties. This indicates that value uncertainty still plays an important role in generating valuation asymmetries. Individuals in the control sessions showed a higher WTA to WTP ratio compared to those who tasted the chocolates before stating their valuations.

The researcher argues that choice uncertainty, specifically uncertainty in one's own values for a product, EE are prevalent in empirical contexts relevant to the economists, for example in contingent valuation studies of environmental economics, they should receive closer attention as potential drivers of EE. The conclusion of this paper emphasizes that further research is needed on the role of various categories of uncertainty in valuations asymmetries. Overall, this research provides insights into the influence of choice uncertainty on the EE and emphasizes the importance of considering value uncertainty as a significant factor in generating valuation asymmetries.

With the continuous development of behavioral economics, the research on the explanation and driving factors of EE will be more abundant and in-depth. As the mainstream explanation of EE, LA is still the main focus of many researchers, but new views are also found with the in-depth study of researchers. The authors argue that ownership account, choice uncertainty, and buy-sell discrepancy can be used as complements to LA theory to better explain the EE.

#### 4. The impact of the Endowment effect in Negotiation

Negotiation is a common situation in people's life, and whether the EE will affect the achievement of negotiation results is also a very important research content. When people want to achieve their own goals but lack cooperation with others, they need to negotiate to achieve their goals. In order to achieve a satisfactory result for both parties in the negotiation, it is necessary to understand the role of EE. As a manifestation of LA, the EE often leads people to value the loss more than the objectively commensurate gain in the negotiation, this LA leads the owner to charge a higher price on that object [13]. Thus, in negotiations, even the same gains and losses have very different meanings for negotiators due to the EE, because usually losses are more prominent than gains. Therefore, the seller in the negotiation usually raises the price of the object used for exchange to compensate for his sense of loss, which leads to the failure of the negotiation. In the context of negotiation, the EE can have a significant impact on the outcome and dynamics of the negotiation process [14].

EE have been observed for tangible and some intangible resources. In the Galin(2013), the researchers compare the influence of EE on individuals and groups through negotiation experiments with leisure time(intangible resources) as the main exchange, and try to explain how EE influences individuals and groups to make decisions during the negotiation. Leisure time is a special form of personal endowment [13]. Negotiations in leisure time are common in the labor market, workers may negotiate with firms individually or form a group and negotiate with firms in groups. As an intangible asset, the owner of leisure time may trigger EE when he or she loses it. Therefore, negotiators may overestimate their leisure time, and this unreasonable valuation is because negotiators believe that free time is part of their intangible assets.

In the experiment, the researchers assumed that a student's curriculum must include a fixed number of electives and 2 seminars, which participants should complete if they want to earn a master's degree. Also, in this experiment seminars were considered more demanding than electives and required more free time to complete it. If school adds a seminar, students can negotiate with the school to reduce the number of electives to make up for the loss of the leisure time and vice versa.

The researchers divided the subjects into two groups, one hundred and five students were randomly divided into 35 groups, each group has 3 members, other thirty-three students were labeled as "individuals". In addition, all participating students were required to be involved in a simulated negotiation with the university authorities.

In the experiment, the researchers analyzed the collected data and found that in the final decisions of individuals and groups, there was a clear gap in the number of electives they chose as compensation for the addition of seminars and the elimination of seminars. Meanwhile, compared with the individual, the EE in the group decision is more significant and shows polarization. This means that both hypotheses are supported by the researchers' results. So, EE bias in group negotiation was stronger than in individual negotiation. It is easier to reach an agreement when negotiating with individuals, because, during the negotiation process, group opinions tend to be polarized, which makes the endowment effect more obvious, negotiators in a group may raise the "price" because they expect unreasonable returns, which makes it difficult to continue the negotiation, the negotiation between individuals may ease the difficulty of reaching an agreement, so it is preferable to group negotiation.

In a research of the literature, valuation asymmetry is found to be much higher for public goods or non-traded goods, than for general goods: people selling goods tend to ask buyers on average three times what they would like to fork over for general goods, and this ratio rises to more than ten for public or non-traded goods [15]. So, in the Brekset et al.,(2012), by studying negotiation over public goods, researchers have found that one way in which the EE could influence negotiation is by affecting what individuals perceive as a fair or acceptable outcome [16]. When individuals feel a sensation of ownership or attachment to a specific resource or position, they are more likely to overvalue it and be unwilling to make concessions during the negotiation process. This can lead to an impasse or a breakdown in negotiations if both parties are unwilling to let go of their respective endowments. Furthermore, the EE can also lead to a disparity in power dynamics and outcomes

during negotiation. Individuals who have a higher endowment or possess valuable resources may feel empowered and be less willing to make concessions, while those with a lower endowment may feel disadvantaged and be more willing to make compromises. This can create an imbalance of power and result in outcomes that favor the party with the higher endowment. In addition, the EE can influence the framing and perception of offers and proposals during negotiation. Individuals tend to attach more value to what they already possess, which can make them more resistant to offers that are perceived as less favorable or that involve giving up their endowment. This can hinder the progress of negotiations and make it difficult to reach mutually beneficial agreements. Moreover, the EE can also impact the decision-making process during negotiation. Individuals may have a bias towards maintaining their existing endowment and be more risk-averse when it comes to making concessions or taking on additional risks. This can result in a reluctance to explore alternative options or consider creative solutions that could lead to better outcomes for all parties involved.

Overall, the EE can have a significant impact on negotiation by influencing individuals' perceptions of fairness, power dynamics, framing of offers, and decision-making processes [16]. Understanding and managing the EE is crucial for negotiators to navigate these challenges and achieve successful outcomes. So in this paper, the author thinks that EE may involve strategies such as re-framing offers, promoting a sense of fairness and equality, encouraging exploration of alternative options, and fostering open communication and collaboration between parties.

In other goods transactions, the parties go through several rounds of negotiations in order to reach a final deal, for example, in the transaction of second-hand houses and second-hand vehicles, the seller will claim a higher price for the goods in the first round of negotiation because of the psychological influence of the ownership of the goods. So, EE may be the result of adaptation to conditions under which the possible outcome of continued possession is less risky than the possible outcome of attempted exchange [17]. In this process, the difference between the bargaining parties may be attributed to other mechanisms rather than the EE, but it is actually the initial transaction price set by the seller under the influence of the EE [18]. In fact, the EE may even distort the negotiation of contracts, as people may demand a waiver of the standard clause in their own standard contract than they would be willing to pay more to get what that clause offers if they had to renegotiate it [19].

In sum, the EE plays a crucial role in the negotiation process by shaping individual preferences, attitudes, and behaviors. Recognizing and addressing this impact is essential for negotiators to overcome potential obstacles and optimize outcomes in the negotiation process. Moreover, when negotiating, it is also necessary to consider the different degrees of influence of the EE on groups and individuals. In the negotiation, the team is more susceptible to the EE, which will hinder the realization of the transaction.

## 5. Conclusion

With the in-depth study of researchers, the author finds that the influencing factors of EE are not attributed to LA as explained in traditional studies, but can be explained by other theories, such as ownership account, buying and selling difference, and choice uncertainty. The EE also has a very important impact on people's life, especially in the negotiation stage of the transaction, people should consider reducing the impact of the EE and reach a transaction. Especially when the seller's goal is to make a deal to sell their own property, they should try to avoid being affected by the endowment effect and overestimate the value of the item in the negotiation.

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