The Endowment Effect on Consumer Economic Behavior

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Abstract. Since the 1990s, the endowment effect was studied in experimental settings. After the 21st century, studies on its application in different fields emerged. The endowment effect is one of the key topics in today's research, and based on the data models and conclusions of the related literature, the paper explores the impact of the endowment effect on consumer economic behavior in the labor market and used car market. It is found that the endowment effect affects consumers' economic behavior through two features: ownership effect and loss aversion. In the labor market, the endowment effect causes employees to overestimate wage expectations, resist lower wages, and refer to previous earnings. In the used car market, the endowment effect causes sellers to overestimate price expectations for used cars, reduce willingness to trade, and irrationally obtain and evaluate information. The endowment effect impacts both markets significantly and negatively. Understanding and utilizing it can improve the efficiency and profitability of market operations.

Keywords: Enter key words or phrases in alphabetical order, separated by commas.

1. Introduction

Trading is an integral part of economic behavior. The results of several studies showed that consumers' ownership effect and loss aversion to goods can have a significant impact on economic transactions due to the endowment effect. Endowment Effect (EE) is the tendency for consumers to value what they have more than what they do not have for the same thing.

This is a common phenomenon of cognitive bias for consumers. EE originated in 1979 and since the 1990s researchers studied it in experimental settings, but little is known about its role in real life. Until the 21st century, studies on its application in different fields emerged and the effect become one of the main phenomena of psychoeconomics.

EE affects economic behavior and is found in labor markets, commodity markets, financial markets, used car markets, etc. This means that the effect can have an impact in various aspects. In wage negotiation in the labor market, it causes employees to demand higher wages. In the used car market, it causes used car dealers to price their vehicles higher than the market price. These economic behaviors result in inefficient market operations and lower incomes, and reduce the effectiveness of the market in allocating resources.

By analyzing the literature on the labor market and used car market, the essay presents practical implications for both employees and consumers, thus providing a deeper illustration of how EE affects economic behavior under different environments.

2. Presentation of the subject of the study

2.1. Concept

The endowment effect is a cognitive bias where consumers tend to assign a higher value to the goods or resources while comparing them to objective market values. Richard Thaler first identified and studied this phenomenon in the field of behavioral economics. An explanation for this phenomenon can be found in the theory of "loss aversion" in behavioral finance, which states that for the utility derived from the same good, the losses overweigh the gains. Therefore, consumers' trade-off between benefits and harms in the decision-making process is unbalanced, and "loss aversion" is much greater than "profit-seeking". Out of the fear of loss, consumers tend to ask for too much when selling goods.

2.2. Characteristics

The main features of the endowment effect are as follows:

Ownership effect: When consumers gain ownership of objects or resources, they tend to develop an emotional attachment and a sense of belonging to them. Ownership of items changes the way consumers perceive the value of things and introduces new cognitive biases. Consumers attach a higher value to things they possess.

Loss aversion: Consumers are more sensitive to the loss of something than the gain of the same thing. This means that the pain consumers feel when they lose something is usually more intense than the pleasure they feel when they gain the same thing. As a result, consumers are unwilling to give up what they have, even if they already gained something of equal or even higher value.

2.3. Influence

The endowment effect has an important impact on economic markets. It affects the transaction rate in the economic market. Sellers may make irrational judgments about their goods and demand higher prices than the market price, thus exceeding the buyer's psychological price and leading to a lower market turnover rate.

Meanwhile, EE affects consumer choices and preferences. Consumers, on account of the aversion to loss, show higher satisfaction with products or services they already own, thus influencing their decisions. In addition, under the influence of EE, consumers possibly prefer to hold on to their possessions rather than sell them or use them for other purposes, which leads to resource idleness and waste of economic resources.

3. Relationship description 1-Wage negotiation in the labor market

The endowment effect has a significant impact on wage negotiation in the labor market. An in-depth understanding of its influencing factors and internal mechanisms can better achieve a state of equilibrium between labor market demand and supply.

EE affects the manner in which firms treat their employees strategically thus reflecting the impact on wage negotiation (WN). When firms face a decline in labor demand, they choose to lay off employees rather than cut wages based on the principle of minimizing the cost of labor inputs. The article focuses on WN in a labor market with a flexible wage system and builds a cost function and a benefit function to explain the level of the market equilibrium wage [1].

Loss aversion (LA) raises employees' wage expectations, while wage expectations are positively correlated with their labor force. Thus highly productive employees raise higher wage expectations in response to the high EE. Consequently, if firms choose to cut wages, they are not able to attract highly productive employees who meet their expectations. At the same time, it may lead to the resignation of existing high-productivity employees, which ultimately leads to an increase in labor costs.

As a result of ownership effect (OE), employees have an overestimation of the resources and rights they possess and insist on higher wage levels, resisting wage declines. Meanwhile they use past wages and entitlements as a reference standard, and laborers in the work queue do not accept lower wages in exchange for job offers. Even if the firm's offer is objectively reasonable owing to the fall in demand, they tend to choose to lose their jobs rather than continue to work.

Weiss has a simpler setup of cost and benefit functions, which has limitations in verifying and quantifying the impact of EE on firm negotiation [1].

EE also has a significant impact on WN in the job search of the unemployed. Babcock et al. focus on market policies in the labor market in the U.S.A. and discuss the policies of unemployment insurance, employment services, and vocational training in the context of behavioral economics, explaining one of the reasons for the psychological barriers faced by unemployed employees in the search for a job is EE [2].

Using a review and theoretical analysis, the article reviews the existing literature and analyzes it from a behavioral economics perspective, arguing that one set of barriers to finding a job stems from the fact that employees are wrong in the way they assess wages and employment prospects. This is consistent with the characteristics of EE. Out of LA, employees are uncertain about their market value proposition and thus overestimate their wage expectations or benefit packages. Simultaneously they may lose job opportunities because of the fear of wrong decisions. These effects may slow their return to work and the low allocation of resources in the labor market.

Implementing some form of wage loss insurance could ameliorate this problem [2]. Employees' frame of reference for job searching is susceptible to past earnings, a paradox in which they are unable to accurately assess their market value or are unwilling to accept objectively justified offers of value. Under the influence of OE, they develop a preference for jobs they took in the past, meaning that they forgo existing job offers and instead look for jobs that they are more familiar with. The combination leads to an increase in the psychological cost of accepting a job that is lower than what they used to earn. In contrast, unemployed employees return to work when they are offered a job offer that is higher than their retained wage.

It follows that EE does have an impact on WN. Unemployed employees may stubbornly wait for wages to approach or reach the level of their previous job, leading to a prolonged period of unemployment. This may result from the influence of factors such as their excessive wage expectations or reference dependence. Unfortunately, the article is mainly a theoretical analysis and lacks empirical research data as well as mathematical models to support it.

In addition, EE is affected by other factors or theories. Fehr & Goette examined the effect of higher wages on employee work hours and effort by conducting a randomized group comparison experiment in a bicycle courier service center and further argued for the effect of EE on WN by measuring LA of couriers in lottery choices [3].

Through regression analysis and comparison, it was found that when the number of working time (number of shifts) increased, the intensity of work per shift (earnings per shift) decreased [3]. EE is characterized by LA, a trait that gives employees a reference point for daily income levels. They feel a loss if their earnings fall below this target and can lead to negative work attitudes. In company negotiations, higher wages are more likely to result in more productive employees and therefore more overall income.

The gift exchange theory was analyzed through a field experiment to demonstrate that it has an impact on wage bargaining in the short run [4]. Higher wage levels result in positive payoffs and lower wage levels result in negative payoffs, which is consistent with the characteristics of EE. Employees who are dissatisfied with wage levels below their expectations are less satisfied with their jobs and choose to reduce their work effort to offset the dissatisfaction in their minds.

Falk & Ichino based on laboratory, set up experimental & control groups and analyzed through descriptive statistics and regression that high-capacity employees and as well as low-capacity employees were influenced. It was concluded that the peer effect mechanism has a positive impact and low-capacity employees are more susceptible to it [5].

Peer effects affect employees' work attitudes and output, which in turn change the performance of EE. Peer effects amplify employees' wage expectations and increase employees' willingness to accept low wages. Peer effects may alleviate the psychological discomfort caused by EE by increasing job satisfaction, and to some extent may weaken the impact of EE on WN.

In WN in the labor market, EE can negatively affect the efficient allocation of resources in the labor market by influencing employees' wage expectations, resistance to low wages, reference to previous earnings, psychological well-being, and job satisfaction through OE and LA.

4. Relationship description 2 -Used car market

The endowment effect affects both parties to a transaction in the used car market, including factors such as price expectations, willingness to trade, information acquisition and assessment, and

negotiation attitudes. In-depth understanding and utilization of its influencing factors can improve the success rate and satisfaction of transactions in the used car market.

EE can have an impact on the willingness to pay buyers and sellers of used car transactions. Purohit set up a used car trade-in experiment using situational descriptions and group comparisons with experimental students and analyzed it through methods such as median comparisons. Provided that the final net value of the transaction was the same for both parties, the experiment resulted in 52% thinking that it was better to pay more. The final conclusion was that as sellers, consumers who were overbid were more satisfied. As buyers, consumers who were overbid were willing to pay more than those who were underbid [6].

Although the final net value of the transaction is the same for both parties, changing the bid price of the used car can affect consumer satisfaction. The heart book value of a used car may be higher than the market value as a result of OE. When acting as a seller, the consumer assigns a higher value to the used car. Thus, being outbid increases transaction satisfaction.

When as a buyer, consumers who are overbid are willing to pay more ($3.5) and those who are underbid are willing to pay less ($2.5) [6]. Being overbid increases the consumer's motivation for the transaction, and conversely being underbid decreases the consumer's willingness to buy. This is consistent with EE, which reduces willingness to trade out of LA.

Purohit had limitations in that the experiment was conducted with some students who attended an MBA program rather than real used car buyers and did not address specific makes and models enough to generalize to the entire used car market [6].

Price expectations, affective attachment and information access for used cars can also influence EE. Torbarina et al. collect 100 advertisements from online used car trading platforms and analyze them with t-tests to obtain the result that the first owner sells at a higher price than the second owner. The first owner is more reluctant to sell the vehicle out of deeper emotional attachment caused by LA [7]. On the contrary, the second buyer asks for a lower price than the first buyer, and they tend to underestimate the actual value of the vehicle more.

However, after controlling for years of production and mileage, there is no significant difference between the first and second owner's offers. EE does not have a significant impact on the used car market [7]. The conclusion does not completely rule out the existence of EE due to the study's shortcomings of a limited sample size and the fact that it does not take into account information about accepted prices.

In addition, different vehicle models require different advertising strategies. For general-purpose models, buyers are more concerned with price advertising, and for luxury models, buyers are more concerned with performance advertising [7]. Information (advertisement) acquisition and evaluation affect price expectations, increasing the psychological price of buyers, closer to the seller's higher price expectations for the vehicle caused by OE. This reduces the difficulty and time of negotiating the transaction and satisfaction with the transaction.

EE affects the WTA and WTP of both parties to a transaction.EE creates inequality in the WTA (the lowest price that sellers are willing to sell a good for) and the WTP (the highest price that buyers are willing to buy a good for) and makes both parties to a transaction spontaneously acquire more information that is favorable to them. In the used car market, sellers focus more on the maximum suggested value of the vehicle, while buyers focus more on the minimum suggested value of the vehicle [8].

OE enables sellers to place such sentimental and historical value on a used car that their expected selling price is often higher than the actual value of the vehicle. The highest suggested value of a used car on the market meets their psychological expectations. Similarly, buyers are more interested in the lowest MSRP of a used car due to the ownership of money and LA.

EE creates cognitive biases that can reduce the efficiency and profitability of used car transactions. Arguing the existence of a self-centered empathy gap between owners (landlords) and non-owners (tenants) through scenario buying and selling. The cognitive bias that arises in used car transactions

may be the buyer's belief that used car prices are high because the seller is greedy or there is a misunderstanding of the true value of the old car [9].

EE causes owners to value the loss of a good more than non-owners, and when owners want to sell a vehicle, they usually demand a higher price than non-owners would be willing to pay for the same vehicle. Non-owners may underestimate EE and make too low an offer, missing a good opportunity to purchase the vehicle.

EE can distort prices in the used car market and make transaction negotiations more difficult and complex. But it also gives rise to a demand for things like intermediaries and buyer's agents for used cars. If intermediaries can accurately estimate the minimum price at which owners are willing to sell their vehicles, then they can earn the difference in price in the middle.

EE creates a sense of attachment to the used car by the owner. Carney et al. demonstrate that EE reduces the borrower's behavior of mortgaging existing assets as loans. Borrowers prefer to mortgage assets being purchased as loans because they (not yet) belong to the borrower. As a result, more people opt for new car mortgages as compared to used car mortgages [10].

According to EE theory, car owners' assessment of the value of the car they already own may rise, leading to a decrease in their willingness to mortgage or sell their used cars and a sense of attachment to them. Thus they are more likely to use to purchase a new car through an auto loan rather than mortgaging a used car.

EE can have negative effects on the used car market by inhibiting market diversity, oversupply of certain models, increasing the risk of stagnation of certain models, affecting the market price structure, and causing inefficient flow of information. Understanding and utilizing EE can reduce the asymmetry of used car information, reduce transaction risk, and improve transaction efficiency and transaction satisfaction.

5. Discussion and Suggestion

5.1. Overall conclusion

The endowment effect has important implications for wage negotiation in the labor market and in the used car market. In the labor market, employees tend to overvalue the capabilities they possess rather than accepting lower wages or terms of treatment than before. In the used car market, sellers tend to overvalue the vehicles they own, while buyers tend to undervalue them.

Thus, understanding the impact of EE on the labor market and the used car market can facilitate more effective WN and human resource management as well as address vehicle pricing inaccuracies and transaction inefficiencies.

5.2. Implications for the future

In the labor market, fostering employees' and enterprises' awareness of the "endowment effect", especially its role in the wage negotiation process, is expected to help both parties to conduct assessments and negotiations more rationally. At the same time, effective communication between employees and enterprises should be strengthened. Enterprises should clearly explain the resource allocation and compensation system so as to minimize employees' overestimation of their existing resources.

In the used car market, the formation mechanism and psychological process of EE can be further explored, and its impact on the decision-making process and outcome can be studied. EE can also be considered in other used goods markets to compare the differences and commonalities across different areas, which helps deepen the understanding of EE and reveal its universality.

5.3. Directions for future research

In the labor market, further empirical research is going to be conducted to understand more comprehensively the specific role and mechanism of EE in the labor market and to verify the stability and universality of its effect. Also, combined with the principles of behavioral economics, relevant

policies and interventions are supposed to be formulated to optimize wage negotiation and resource allocation in the labor market.

In the used car market, the interaction between EE and other factors in the used car market can be further explored to gain a more comprehensive understanding. Empirical studies could be conducted to test the hypothesized results and use larger samples and more market data to improve the reliability and external validity of the studies. In addition, potential interventions and policy recommendations could be explored to improve market efficiency and eliminate pricing biases in order to better cope with the problems posed by EE.

6. Conclusion

The endowment effect negatively affects wage negotiation in the labor market and the used car market.

In the labor market, EE creates higher wage expectations among employees, who tend to overestimate their current wages or compensation because of their emotional attachment to and sense of ownership of them. Employees may show resistance to wage declines even if economic conditions or the firm's environment require adjustments.

In addition, other factors and theories may influence the role of EE on WN. Employees feel a sense of belonging to higher wages or conditions of treatment, which motivates a more positive work attitude. In the peer effect, EE amplifies the employee's wage expectations and increases the employee's willingness to accept lower wages. Or lowering one's expectations of future work out of emotional attachment to working with the same coworkers can somewhat weaken the impact of EE on WN.

EE can hinder the efficient allocation of labor resources. It is difficult for employers to adjust wages or entitlements according to market conditions, which ultimately leads to extreme situations of labor shortage or surplus and affects the overall operation of the labor market.

In the used car market, EE distorts prices in the used car market and leads to irrational assessments by both parties to the transaction. Sellers develop a sense of attachment to the used cars they own and overvalue them. Sellers have a higher willingness to keep their used vehicles for sale, and they may perceive their vehicles as having a unique history and value, and therefore are unwilling to lower the price or negotiate with the buyer. In the case of auto loans, car owners are more likely to use to purchase a new car through an auto loan rather than mortgaging a used car to purchase a new one.

Other factors also affect the role of EE in the used car market. In terms of information acquisition and valuation, the rapid flow of information affects the price expectations of both parties to the transaction, which are closer to the market price or the psychological price of the other party, thus reducing the difficulty and time of negotiating the transaction as well as the satisfaction with the transaction. This is consistent with OE of EE and LA.

High pricing and low acceptance by the seller increase the difficulty of the transaction. Both parties to the transaction need to spend more time and effort to find an equilibrium that satisfies both parties, which leads to inefficiencies in trading in the used car market.

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