

The Effect of Experienced Regret Based on Gender Differences in Auction

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Abstract: This study aims to show how experienced regret influences the decisions made by bidders of different genders in an auction. - In this paper, the data is collected through a real-time recorded tv show about English auctions. In previous studies, female participants tend to be more risk-sensitive and rational than male bidders. Based on this trend, we hypothesized that female bidders would make quick decisions compared to male bidders after the bidder experience regret.

Keywords: experienced regret, gender differences, auction, bidder behavior, decision making

1. Introduction

For a long time, it has been known and widely accepted that experiences of regret can affect how people behave in an auction. Under the influence of numerous aspects, including gender differences, beliefs, private signals, etc., the theoretical model has difficulty forecasting investors' decisions and opinions. This study aimed to examine how different genders' experiences with regret affected their financial and economic judgments. This essay also explores the idea of the winner and loser regret, which has been sensed, and how it could affect the auctioning outcomes with different genders.

2. Literature Review

There are various types of auctions. Examples include English auctions, Dutch auctions, first-sealed price auctions, and second-sealed price auctions. In addition to those different auction techniques, William Vickery investigated how the value of these auction products affected their usefulness in 1961 [1]. Specifically, based on how differently each bidder values the items up for auction, there are private value auctions and common value auctions. In the first scenario, bidders assess the value of auction goods using information they independently acquired [1]. In the latter, bidders adjust how they respond to other bidders' actions while weighing the worth of the items up for auction. Milgrom and Weber created an associated value model in 1982, adjusting an item's price based on the value of other bids [2]. In this specific model, it is assumed that each bidder receives a private signal, and the bidders' signals are related. One bidder has an assumption that other bidders also receive the same call if they notice a beneficial sign regarding an auction item. As a result, the signal variables for each bidder's value judgment function for the auction item are included.

Furthermore, limitations imposed by several factors in the real world make things much more complicated than theoretical models. Due to its interactions with several elements, including the objective cognition and subjective emotions of auction participants, the theoretical model may not be as accurate in forecasting the consumer behavior of a bid. According to research, a wide range of factors influences buying behavior. Experienced regret is one of the critical determinants of the bidder's behavior. Meanwhile, Women and men will consider risk and evaluate an auction item from different perspectives due to these gender differences. [3]. Women are more sensitive to danger than males are, according to Powell et al. [3].

Auctioneers of different genders reflect gender differences in the factor of experienced regret. 'Regret is a painful cognitive and emotional state of feeling sorry for misfortunes, limitations, losses, transgressions, shortcomings, or mistakes [4], which would happen to many people. Yet when researchers focus on the auctioneer's perspective in the first sealed bid auction, the experienced regret would perform in various ways, such as a sudden decision alternation, the differences between the bidder's valuation and the bidder's bid value, etc. [5]. The analysis in this paper is way more efficient since Bell pointed out that 'the value difference between the assets received and the highest level of assets produced by other alternatives is the primary factor that affects the degree of regret' in 1982. [6]. Therefore, based on the first sealed bid auction, to ensure that the non-representative emotion of seller regret is a calculated factor, it concluded that whether the seller regrets it or not, the optimal bidding strategy of IPV bidders remains the same [7]. This study will target seller regret as a factor in the selection of the sellers' auction methods.

3. Prediction

3.1. Whether Gender Differences Still Exhibit Initial Patterns of Price Differences Based on Experienced Regret Factors

Hypothesis 1

Female sellers are more likely to regret a certain amount of difference in value and change their choices for the choices they make. The specific performance is those female sellers will change their options based on a smaller value difference ratio.

Hypothesis 2

Male sellers often keep their original selection if they can switch bidding methods. The details are reflected in the data aggregation, which shows that despite the existence of a certain degree of regret experience, that is, when the price difference reaches a particular value, they still offer the behavior of not changing the bidding method in the next auction.

3.2. Bidders of Different Genders will have Winner's Regret and Loser's Regret, Respectively

Hypothesis 3

Female bidders are more likely to experience winner regret since they tend to risk aversion, which means they would not quickly lose. Thus, in a First sealed bid auction, female bidders would make their decision more carefully after they knew others' bids; their decision may have a loser regret effect on the female bidder if they overbid. Contrary, male bidders are more likely to experience winner regret since they may show a tendency to bid.

4. Research Setting/Data Collection

4.1. Experienced Regret

Data for this research project was gathered via a recorded television program that acted as an auction. Figure 1 depicts the auction procedure. Along with the inquiry price, the gender of the auctioneer, and the last trade choice, the auctioneer's offer will also record the first and second prices. A total of 156 valid data were obtained from 2012 to 2014, after which the data were organized and evaluated. There are approximately equal numbers of male and female auctioneers.

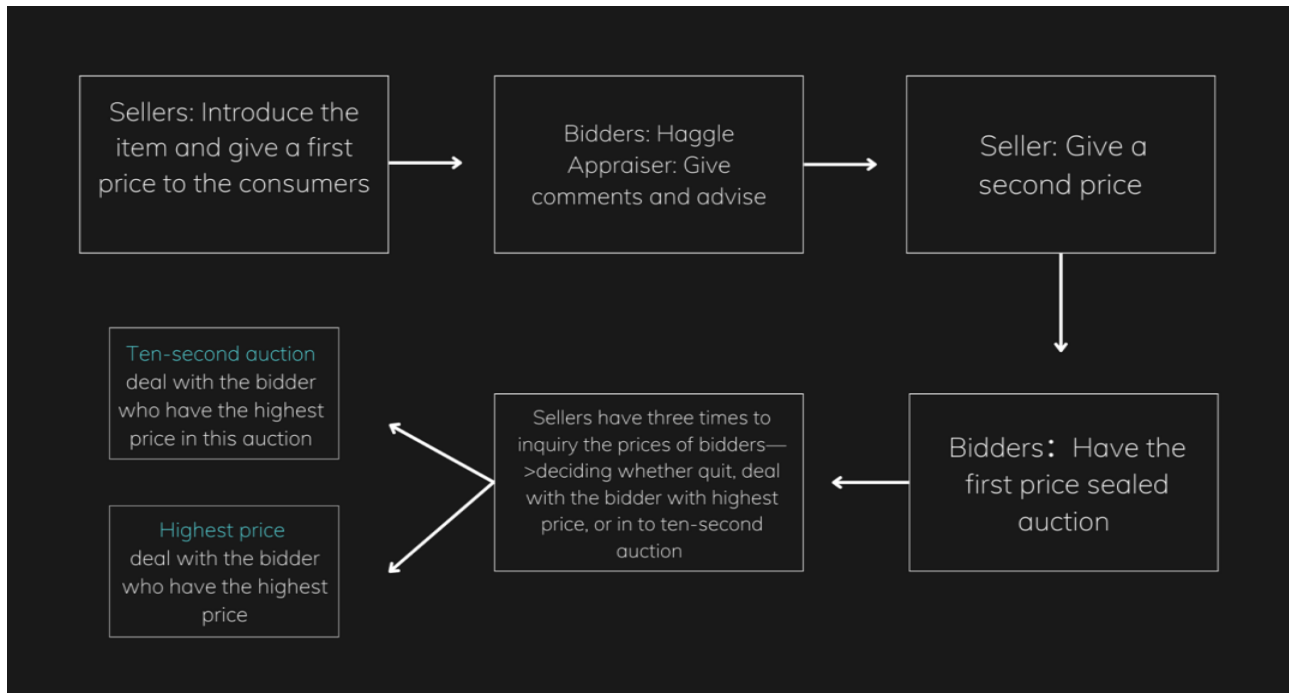


Figure 1: The General auction procedure.

It is feasible to track how gender could influence reactions in terms of felt regret by monitoring the price difference between each round of the final auction and their trade choice. Meanwhile, by observing the difference between the bidder's winning bid and the second-highest bid, the winner's regret's scale could also be known [8].

4.2. Data Analysis

Gender	V	Bid value	Highest bid	2nd highest bid	Trade Option
F	300,000	400,000	400,000	315,000	1
F	1,500,000	2,200,002	2,200,002	1,972,000	1
F	100,000		0	180,000	0
F	80,000	90,000	90,000	70,000	1
F	120,000	140,000	140,000	130,000	1
F	100,000	120,000	120,000	100,000	1
F	1,800,000	1,610,000	1,500,000	1,200,000	1
F	30,000	80,000	80,000	60,000	1
F	120,000	180,000	180,000	160,000	1
F	50,000	100,001	100,001	880,00	1
F	300,000	455,555	455,555	400,000	1
F	80,000	88,000	88,000	30,000	1
F	300,000	320,000	320,000	288,888	1
F	500,000	990,000	990,000	916,666	1
F	120,000		60,000	58,000	0
F	150,000	190,000	190,000	150,000	1
F	900,000	280,000	280,000	250,000	1
F	600,000	500,000	500,000	250,000	1
F	150,000	260,000	260,000	150,000	1
F	8,600	38,800	38,800	25,000	1
F	250,000	498,000	498,000	210,000	1
F	220,000	220,000	220,000	160,000	1
F	300,000	420,000	420,000	250,000	1
F	130,000	150,000	150,000	100,000	1
F	1,200,000	220,000	220,000	1,800,000	1
F	1,000,000	1,200,000	1,200,000	900,000	1
M	100,000	10,000	10,000	91,500	1
M	1,500,000	2,156,000	2,156,000	1,800,000	1
M	11,999,999		0	999,000	0

Figure 1: Part of the raw statistics collected from 2012-2014.

4.3. Bidder Behavior in Different Genders

In the auction of the program, the bidder will check the top three bidding prices after confirming the bid amount. Then the auctioneer would learn the above information; the auctioneer can choose to opt-out, process the highest bid, or make a 10-second flash bid. According to Table 1, approximately 18.10% of male sellers and 7.69% of female auctioneers opted out in all observed cases. Female auctioneers are likelier to close rather than leave when sunk costs exist.

Table 1: Analyzation of auctioneer's behavior based on collected data.

Gender	Quit rate
Male	$6 \div 78 \times 100\% = 7.69\%$
Female	$13 \div 72 \times 100\% = 18.10\%$

4.4. Gender Differences in Winner Regret

A utility model examines the relationship between gender differences and other anticipated winner regret and how they may affect consumer behaviors.

Table 2: Basic explanation of terms in the model.

Variable	Meaning	Definitions
Dependent variables	Bidder's utility	U_i
	F-Female	Gender
	M-Male	
Independent variables	Bidder's valuation	$V (v_i)$
	The final bid value of a single auction	Bid value (b_i = highest bid when trade option is 1)
	The highest bid value of a single auction that each bidder could observe	Highest bid
	The second highest bid value of a single auction that each bidder could observe	2nd highest bid (b^2)
	1-the auctioneer uses highest bid deal with the winner	Trade option
	0-the auctioneer chooses to cancel the auction	

Bidder's utility model (Filiz-Ozbay, Emel, and Erkut Y. Ozbay. [8]):

Bidder's utility = $U_i(v_i, b_i | b^2) = v_i - b_i - \int [a_0 + a_1(b_i - b^2)] dF(b^2)$

Table 3: Utility value analysis in percentile perspective.

Gender	Percentile of who has a Positive utility	Percentile of who have a Negative utility
Female	$15 \div 78 \times 100\% = 19,23\%$	$63 \div 78 \times 100\% = 80,77\%$
Male	$42 \div 72 \times 100\% = 58,33\%$	$30 \div 72 \times 100\% = 44.44\%$

Women have the highest negative utility among all bidders regarding the final Utility percentage value, which supports prediction 2.

The reasons women are more likely to have negative utility were investigated in addition to the relationship between the final option and other factors. After listening to experts, 63 women in a sample of 189 gave a price far below their original valuation value and the second highest value. In comparison, 30 men offered roughly the same amount as the valuation value. As shown in Table 3, it is possible to deduce that since female sellers have a higher risk aversion for their items, they will be more careful, afraid, and seriously concerned when making decisions, culminating in female sellers bidding value being higher than their original valuation. As a result, there will be a winner's regret.

5. General Discussion and Conclusion

Based on behavioral economics, this paper investigates the differences in auction behavior of auction participants of different genders and the degree of regret experienced during the auction process. In conclusion, gender differences influence bidders' purchase decisions and subsequent auction behavior. Gender differences in risk characteristics, sentiment, and price assessment have been observed among auction participants.

First, female auctioneers would typically withdraw from auctions because they are more cautious about their behavior. They may launch if the maximum price does not match the self-evaluation value. Second, men keep a relatively stable value evaluation and judgment on their auction items, or they continue to ensure the presentation of the final result despite being influenced by external comments and information.

On the other hand, female bidders experience more winner regret than male bids. A bidder will experience more guilt, decreasing the loser's utility. And when they make certain judgments, they do it with more excellent care, which leads to them paying higher rates and conducting quick evaluations to ensure the conclusion is delivered.

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