



An Empirical Research of The Ultimatum Game in India

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ABSTRACT

Traditional economics assumes a rational behavior. Bounded rationality suggests that humans may not always behave rationally. Instead of attempting to maximize their behavior they may at best behave in a 'satisficing' manner. Humans may also behave with an innate sense of fairness instead of behaving rationally. Güth, Schmittberger, and Schwarze (1982) developed a famous experiment called 'The Ultimatum Game'. The results of this experiment indicated that human decisions are not always based on bounded rationality, but at times is affected more by a sense of fairness. The current research analyzed the results for the experiment of the ultimatum game conducted with 30 pairs involving 60 people. The results confirmed that the behavior was affected by fairness more than rationality. The research also attempted to capture the underlying reasons for mentioned behavior. This research can be further extended to capture more complicated reactions towards repeated rounds of ultimatum games with different sets of rules.

KEYWORDS : ultimatum game, empirical study, fairness, reasons, India

INTRODUCTION

The economics literature for most part is based on the assumption that human beings behave rationally. However as the boundary within the social sciences get blur and the social scientists more generously borrow concepts across the subjects, new insights into human behavior are now researched. Hence economists also borrow the concepts from psychology in understanding and challenging the established concepts of economics. The concept of optimal decision making thus contrasted with the term 'satisficing behavior' that was first coined by Simon (1956). 'Satisficing' was derived by amalgamating two words 'satisfy' and 'suffice'. Simon was famed with conceptualizing the theory of bounded rationality that suggests that human behavior is not always rational. Güth, Schmittberger, and Schwarze (1982) developed a famous experiment called 'The Ultimatum Game'. The results of this experiment indicated that human decisions are not always based on bounded rationality, but at times is affected more by sense of fairness. Since then many researchers have performed this experiment as noted by Spiegel et al (1994).

Ultimatum game is a stylized representation of negotiation between two people with predetermined set of rules. The rules are communicated to the participants and the observations of the behavior are noted by the researcher. In the current research the ultimatum game is tested for people in India.

METHODOLOGY

The ultimatum game is a well-established experiment to check whether a human behaves as a rational being or he cares for a reasonably fair behavior.

The ultimatum game experiment in its original form is carried out in the following format. Two volunteers are selected for each trial of experiment. The volunteers are unknown to each other prior to the experiment. A coin is tossed to identify a decision maker in the experiment. Say if X and Y are the volunteers for the experiment, and if Y won the toss, Y would be the decision maker. Y is given an amount of Rs, 100. Then Y decides the amount that he would keep out of Rs, 100 as his share and the amount that he would offer to X. But before tossing the coin a rule is clarified that whatever offer is made by Y, if X did not agree on the share both would lose the whole amount. Thus the share that Y offers to X is to be accepted by X for both of them to keep their respective share. Alternatively if X chooses to disagree with the share proposed by Y none of them get any amount.

For the current research the ultimatum game experiment was repeated for thirty pairs of volunteers. Hence the experiment involved sixty volunteers in total. They belonged to the age group of 18-25. They were not known to each other. The rules were communicated before the experiment was performed every time. Then the experiment was performed and the results were noted. After the experiment both the volunteers were asked the reasons for their respective reaction. Since it was an open ended question, the variety of answers varied across the results. The experiment was conducted in Gandhidham city of

Kachchh district in Gujarat, India.

FINDINGS

If humans were rational with a clear objective to maximize their wealth, all the deals should have been accepted at 99-1 offer since the one who lost the toss still had Re 1 as compared to having nothing before the experiment. Also he loses nothing but gains a Re 1 surplus by accepting the deal. Having known this the decision maker too should rationally keep Rs. 99 and give only Re. 1. But most of the time that the ultimatum game was performed by various researchers the player who loses the toss generally rejects the offer of Re. 1. Having estimated this result most of the time the toss winner offered a 50-50 deal or rather a 70-30 deal. The toss winner has most of the time tried to assure fairness in the deal instead of being rational.

The findings that resulted from performing the 'Ultimatum game' experiment 30 times with 60 volunteers have been displayed in the figure 1. Figure 1 shows the frequency of the number of pairs with the respective shares that the pair had agreed upon. The red color shows that the offer was rejected and the deal could not complete and the blue color shows that the deal was accepted. Thus the first bar shows that in one pair the toss-winner suggested to keep Rs. 90 and offered only Rs. 10 to the partner and the partner rejected the deal. Bar three shows that in 5 pairs the decision maker offered to keep with himself Rs. 70 and give away Rs. 30. Out of five pairs the deal got rejected for three pairs and was accepted by 2 pairs. As can be observed in the figure 1 a deal of 60-40 was opted by 9 out of 30 pairs and 8 pairs accepted the deal, Even a deal to keep and share 50-50 was offered and accepted by 7 pairs.

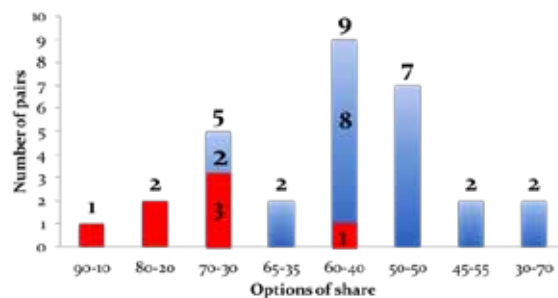


Figure 1: Number of pairs with the choice of respective shares agreed upon

Source: self-created by the author

ANALYSIS

The 90-10 deal: The deal was an offer made by the toss winner feeling that he deserved to keep more since he had won the toss. But the pairing partner rejected the offer as he found the offer to be too less for him to agree.

The 80-20 deal: The deal was offered by two pairs. One toss winner thought that since he had won the toss he had a right to keep far bigger share than the toss loser. The other toss winner wanted to take a risk of trying to offer a deal favoring him far more than the partner and so wanted to keep Rs. 80. In both the cases the partner rejected the deal since they both felt that the deal was not fair to them.

The 70-30 deal: The deal was offered by 5 pairs. The toss winners were largely fearful that the toss loser would reject anything less than 30 and they did not want to miss the opportunity to earn Rs. 70. So they decided to offer a deal that would not be rejected by the partner. Three of the partners rejected the deal since they thought that their share was too less. Two partners accepted the deal thinking that they had nothing to lose and instead they gained Rs.30. These two volunteers were not interested in comparing what they got with what the partner kept. Instead they saw their gain and thought it was not coming at any cost and so they should accept the deal.

The 65-35 deal: The deal was offered and accepted by 2 pairs. The toss winner did not want to lose the opportunity to earn anything without bothering much and so offered a fairer offer of Rs. 35 and kept with themselves Rs. 65. The toss loser too thought that the deal was reasonably fair and so accepted the deal.

The 60-40 deal: This deal had the highest frequency of 9 out of 30 pairs. 8 deals were accepted while one was rejected. Acceptance reasons remained the same that they just behaved in a fairer manner to assure that they did not lose the opportunity to get the money and the partner too accepted on the same grounds. The one who rejected suggested that he would rather wait to be offered the opportunity to decide the share rather than be a toss loser and on the receiving end of whatever was offered and so quit just as the deal was offered.

The 50-50 deal: This deal had a frequency of 7 out of 30 pairs and all were accepted by both the partners. The toss winner as well as the partner accepted this deal very promptly. They suggested that since this was an unexpected income, whatever was gained was a surplus to their expectations. So they should be fair by sharing the amount equally. The acceptance to this deal suggested a satisfaction for both the partners.

The 45-55 deal: In two pairs the toss winners offered to keep Rs. 45 himself and sacrifice Rs. 55 for her partner. These volunteers were fearful that they would lose the opportunity of getting the money. They wanted to offer a deal that the partner would not reject. The partner happily agreed to the deal since they got a larger share.

The 30-70 deal: There were two pairs in which the toss winners offered this deal. These toss winners doubted whether the partner would accept an unfair deal since they were unknown. They wanted to play it safe and so prompted the partner with a deal that he would readily accept. The partners were overwhelmed and immediately accepted the offer. The partners were prompt in accepting the deal since they feared that the toss winner might change his opinion.

Thus the experiment again substantiated the results observed by the previous researchers (Spiegel et al, 1994). Human behavior is guided more by an innate sense of fairness, the bounded rationality than a rational behavior.

CONCLUSION

Like most of the previous researches this experiment again proved that humans are *homo sapiens* much *ashomo economicus*. They tend to behave with fairness rather than rationally. This experiment undertaken in India again substantiated the results of the ultimatum game experiment undertaken by the previous researchers. An analysis of such behavior and the underlying reasons of the behavior help the policy makers and business strategists in taking more informed decisions.

It is further a matter of inquiry that if the toss winner was allowed to keep the share that he proposed would he be rational? If the experiment was undertaken in two stages whereby the toss winner would first offer a deal and in the second stage if the partner is asked to offer would the toss winner still behave the same? Such inquiries may help behavioral economists understand the human behavior and thereby suggest policies and decide business strategies.

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