

Georgia State University

ScholarWorks @ Georgia State University

ExCEN Working Papers

Experimental Economics Center

6-1-2006

When the Shoe is on the Other Foot: Experimental Evidence on Valuation Disparities

Lucy Ackert

Kennesaw State University

Bryan Church

Georgia Tech

Gerald Dwyer

Federal Reserve Bank of Atlanta

Follow this and additional works at: https://scholarworks.gsu.edu/excen_workingpapers

Recommended Citation

Akert, Lucy; Church, Bryan; and Dwyer, Gerald, "When the Shoe is on the Other Foot: Experimental Evidence on Valuation Disparities" (2006). *ExCEN Working Papers*. 151.

https://scholarworks.gsu.edu/excen_workingpapers/151

This Article is brought to you for free and open access by the Experimental Economics Center at ScholarWorks @ Georgia State University. It has been accepted for inclusion in ExCEN Working Papers by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

**When the Shoe is on the Other Foot:
Experimental Evidence on Valuation Disparities**

Lucy F. Ackert

Kennesaw State University
Federal Reserve Bank of Atlanta

Bryan K. Church

College of Management
Georgia Institute of Technology

Gerald P. Dwyer

Federal Reserve Bank of Atlanta

June 2006

When the Shoe is on the Other Foot: Experimental Evidence on Valuation Disparities

Abstract

The method of elicitation has an important effect on valuations. We investigate the effect of perspective on decision makers' elicited values. We conduct experimental sessions in which participants act as sellers or buyers and replicate the disparity between willingness to accept and willingness to pay: sellers want to collect more and buyers want to pay less. We conduct additional sessions in which endowed decision makers provide values that are used to determine a price at which anonymous others transact. In these sessions, decision makers' experimental earnings are not affected by valuations, but rather determined by their endowment. Decision makers appear to consider their standing relative to anonymous others in providing valuations, i.e., decision makers' endowments affect their valuations. The results indicate that the disparity between willingness to accept and willingness to pay disappears when decision makers' endowment ensures that they are at least as well off as anonymous others.

Keywords: willingness to accept, willingness to pay, valuation disparity, perspective taking, mediation

JEL: C91, C92

When the Shoe is on the Other Foot: Experimental Evidence on Valuation Disparities

1. INTRODUCTION

Mediation is often used to settle disagreements, including environmental conflicts, civil unrest, labor-management disputes, and divorce cases. The practice is commonly embraced as a low cost means to resolve disputes. But for mediation to be successful, the parties need to recognize one another's perspective (e.g., Korobkin 2006). Understanding the valuation of adversaries can be critical to avoid impasse and achieve settlement. Prior findings indicate that an individual's ability to take the perspective of another, and thereby consider another's valuation more objectively, can have a marked effect on conflict resolution (e.g., Neale and Bazerman 1983; Thompson and Hastie 1990; Galinsky and Mussweiler 2001). Successful mediators may be particularly adept at taking the perspective of others.

Previous studies suggest that an individual's perspective or role underlies valuation disparities (e.g., Marshall, Knetsch, and Sinden 1986; Van Boven, Dunning, and Loewenstein 2000; Van Boven, Loewenstein, and Dunning, 2003). Individuals provide far different valuations when put in the role of a seller versus a buyer. In an extensive review of the literature, Horowitz and McConnell (2002) estimate that the minimum compensation necessary to relinquish a good (i.e., willingness to accept or WTA) is approximately seven times higher than the maximum amount paid to acquire the good (i.e., willingness to pay or WTP).¹ The assigned role effectively creates a perspective from which valuations are based: sellers want to collect more and buyers want to pay less.

Individuals have difficulty setting aside their perspective and fully comprehending another's point of view. As the old adage goes, it is difficult to walk in someone else's shoes. Van Boven, Dunning, and Loewenstein (2000) conduct experiments in which mug owners estimate buyers' average purchase price and mug buyers estimate owners' average selling price. They find that owners overestimate buyers' average purchase price and buyers underestimate owners' selling price.

Marshall, Knetsch, and Sinden (1986) examine the assessments of individuals acting on behalf of others. In their experiments, an *advisor* evaluates whether another should pay a fixed amount for a lottery ticket (WTP) or accept a fixed sum (WTA). The results indicate that advisors' decisions differ significantly from those of participants who answer on their own behalf. When advisors make decisions, there is no evidence of a gap between WTP and WTA. However, the study does not elicit values, but rather focuses on decisions about buying or selling entitlements. Our experiment differs from Marshall, Knetsch, and Sinden's in that we use an incentive compatible elicitation mechanism and vary the endowment of the decision maker. Marshall, Knetsch, and Sinden's advisors were not compensated.

In another study, Van Boven, Loewenstein, and Dunning (2003) have participants act as buyers' agents, with earnings contingent on their ability to estimate owner's selling prices. The study's findings indicate that agents' offers are too low: buyers' agents underestimate the owner's selling price. Once again, it is difficult to fully comprehend another's perspective.

We experimentally investigate the effect of perspective on individuals' valuations and whether participants provide objective valuations for others. Initially we conduct

sessions in which participants (decision makers) give valuations on their own behalf. We replicate earlier findings and document a sizable disparity between WTA and WTP: participants require more to relinquish a good than they offer to acquire it. In subsequent sessions, decision makers provide valuations on behalf of others (adherents). Our results suggest that decision makers' wealth relative to that of adherents affects the elicited values. When decision makers are at least as well off as adherents – in terms of experimental earnings – they are able to provide *objective* valuations. Under such conditions, we do not find a significant difference between valuations under WTA and WTP.

The remainder of the paper is organized as follows. The experimental design, discussed subsequently, is summarized in Table 1. Sections 2, 3, and 4 detail the experimental method and results for each treatment. Section 5 contains a discussion of the findings, along with concluding remarks and implications for dispute resolution.

2. The Base Treatment

We conduct six sessions in the base treatment and each session includes eight participants, giving a total of 48 participants. Each session consists of a series of ten trials and requires approximately 30 minutes. Participants' are students at a medium-sized university located in the Southeastern U.S. and all are inexperienced in that no one took part in more than one session.² At the beginning of each session, participants receive a set of instructions and follow along as an experimenter reads aloud.³

2.1 Experimental Procedures

In the first treatment we attempt to replicate the reported disparity between WTP and WTA to provide a basis of comparison. We measure first willingness to accept in sessions 1-3, referred to as the Base/WTA sessions. Student participants are given \$10 in cash and a coffee mug bearing the university's emblem that sells at the bookstore for \$7.00.⁴ The written instructions are as follows:

Each participant in the experiment just received \$10 in cash and a mug. These are yours to keep. During the experiment you will submit offers indicating the amount of money you will accept in exchange for the mug. We will refer to this amount of money as your "offer."

You will record your offer on the card provided with these instructions. After recording your offer, please turn your card face down (with your offer facing down and your participant number on top). An experimenter will circulate around the room to collect the cards. Once you record your offer, you cannot revise it and you may be required to exchange your mug for cash.

The instructions then describe the Vickrey (1961) auction used to elicit WTA with repeated participation as follows:⁵

After all participants have recorded their offers on the recording cards, the experimenters will collect the cards. We will rank all participants' offers from highest to lowest. Those with the four lowest offers may be required to exchange their mug with the experimenters at the fifth lowest offer. If you are required to exchange your mug for money, you will always receive at least your offer. Any ties in offers will be resolved randomly.

We will repeat these steps 10 times. At the end of each trial, the offer price at which transactions may occur is announced (i.e., the fifth lowest offer). However, only one of the ten trials will be binding. A number from one to ten will be randomly selected to determine the binding trial.

Are there any questions?

You now own the mug and \$10 in your possession. Please indicate the amount that you are willing to accept in exchange for the mug.

As the instructions indicate, participants are told at the outset that they will be paid based on the results of only one of the trials, and this trial is chosen by a card draw. Because *ex*

ante the students have no way of knowing which trial is the payout trial it is in their interest to treat all trials equally seriously.

Sessions 4-6 are conducted similarly except that participants are endowed with \$20 and asked to indicate the amount they are willing to pay to acquire a mug (Base/WTP). The instructions are as follows:

Each participant in the experiment just received \$20 in cash. This cash is yours to keep. The experimenter has in her/his possession 4 mugs. You are free to examine the mugs. During the experiment you will submit offers indicating the amount of money you would pay in exchange for a mug. We will refer to this amount of money as your “offer.”

The instructions continue and describe the Vickrey auction as follows:

After all participants have recorded their offers on the recording cards, the experimenters will collect the cards. We will rank all participants’ offers from highest to lowest. Those with the four highest offers may be required to exchange cash for a mug with the experimenters at the fifth highest offer. Thus, if you are required to exchange money for a mug, you will never pay more than your offer. Any ties in offers will be resolved randomly.

Again the procedures are repeated over ten trials and one randomly selected trial determines the binding outcome.

2.2 The Results

Table 2 reports measures of WTA and WTP using the Vickrey auction. Panel A reports the average price and median offer across trials and sessions for the Base treatment. The price in the WTA (WTP) sessions is the fifth (highest) lowest offer. The table reports the average WTA and WTP for all 10 trials, as well as trials 1-5 and 6-10 for each treatment. Below the value measurements are z-statistics and corresponding p-values, the result of Mann-Whitney tests of the null hypothesis that WTA and WTP do not differ.⁶

For the Base treatment, WTA exceeds WTP for prices and offers, at high significance levels ($p < 0.0001$). Inferences are unchanged if the tests use data for all trials, trials 1-5, or trials 6-10. We also estimate a repeated-measures ANOVA to compare prices across sessions and find that method of elicitation (WTP versus WTA) is statistically significant ($F_{1,4} = 7.71, p = 0.05$).⁷ Inferences are unaffected when the repeated-measures ANOVA uses participants' offers as the dependent measure ($F_{1,46} = 20.61, p < 0.001$).

To provide additional insight, we include a histogram of participants' offers. For each participant, we compute the median offer over trials 1-10. Figure 1 depicts the frequency of offers for WTA and WTP sessions, partitioned into five groups. The data provide further evidence of valuation disparities, arising in participants' offers. That is, participants in the WTA sessions provide markedly higher offers than those in the WTP sessions.⁸

3. THE DECISION MAKER TREATMENT: MUG ENDOWMENT

The results of our Base treatment are consistent with the widely reported disparity between WTP and WTA. As argued by others (e.g., Marshall, Knetsch, and Sinden 1986; Van Boven, Dunning, and Loewenstein 2000, 2003), perspective or role is important to the elicited valuation. In the second treatment, we ask decision makers (DMs) to provide valuations for others. Unlike Van Boven, Loewenstein, and Dunning (2003), the DMs' elicited values do *not* affect their final wealth: they are endowed at the beginning of a session and the endowment is theirs to keep, representing experimental

earnings. The DMs are endowed with a mug and \$10, which they take from the experiment as their compensation. We refer to this as the DM/Mug treatment.

3.1 Experimental Procedures

In sessions 7-12 we again elicit measures of WTA and WTP. The process differs, however, in that participants (the DMs) are asked to indicate valuations for other students (the adherents). Twelve inexperienced students are recruited for each session and randomly divided into groups of eight and four. With six sessions, a total of 72 students participate in this treatment. The two groups meet in separate rooms and do not see each other until the conclusion of the experimental session.

In sessions 7-9, all twelve participants are given \$10 in cash and a coffee mug bearing the university's emblem that sells at the bookstore for \$7.00 (DM/Mug/WTA). The endowment is common knowledge to all twelve participants. In these sessions, the DMs provide values that determine a price at which the adherents will sell their mug.

The group of eight DMs is directed as follows:

Each participant in this room just received \$10 in cash and a mug. In addition, four participants in another room also have received \$10 in cash and a mug.

During the experiment you will submit offers indicating the amount of money that participants in the *other* room will accept in exchange for their mug. We will refer to this amount of money as your "offer."

You will record your offer on the card provided with these instructions. After recording your offer, please turn your card face down (with your offer facing down and your participant number on top). An experimenter will circulate around the room to collect the cards. Once you record your offer, you cannot revise it, and it may represent the amount that participants in the other room are required to exchange their mugs for cash.

As in the Base/WTA treatment (sessions 1-3), the instructions then describe the Vickrey auction: the fifth lowest offer determines the market valuation. But in this case, the market valuation is the amount that others may be required to accept in exchange for their mugs. Again, one of the 10 trials is randomly selected as the binding trial and the fifth lowest offer determines the market valuation. The instructions continue as follows:

At the conclusion of the experiment, participants in the *other* room will be brought into this room and the binding trial will be determined. Participants from the other room will then exchange their mugs for cash.

Sessions 10-12 are similar in that the eight DMs are endowed with a mug and \$10. Unlike sessions 7-9, the four adherents are endowed with \$20. The eight randomly selected DMs indicate the amount that participants in the other room should pay to acquire a mug (DM/Mug/WTP). The eight DMs are instructed as follows:

Each participant in this room just received \$10 in cash and a mug. These are yours to keep. In addition, four participants in another room have received \$20 in cash. Participants in the *other* room will exchange cash for a mug with the experimenters at an amount determined by you. The mug they will receive is identical to the mug you received.

During the experiment you will submit offers indicating the amount of money that participants in the *other* room will pay to acquire a mug. We will refer to this amount of money as your “offer.”

You will record your offer on the card provided with these instructions. After recording your offer, please turn your card face down (with your offer facing down and your participant number on top). An experimenter will circulate around the room to collect the cards. Once you record your offer, you cannot revise it, and it may represent the amount of cash that participants in the other room are required to exchange for a mug.

The instructions then describe the Vickrey auction with repeated participation.

The procedures are repeated ten times. The instructions end with the following:

At the conclusion of the experiment, participants in the *other* room will be brought into this room and the binding trial will be determined. Participants from the other room will then exchange cash for a mug.

The four adherents in the other room are informed that they are bound by the DMs' offers.

3.2 The Results

Panel B of Table 2 reports measures of WTA and WTP using the Vickrey auction for the DM/Mug treatment. The table reports the average WTA and WTP for all 10 trials, as well as trials 1-5 and 6-10 for each treatment. Below the value measurements are z-statistics and corresponding p-values, the result of Mann-Whitney tests of the null hypothesis that WTA and WTP do not differ.

Unlike the Base treatment, for the DM/Mug treatment, the relationship between WTP and WTA is reversed and WTP exceeds WTA, again at high levels of significance ($p < 0.0001$). Inferences are unchanged if the tests use data for all trials, trials 1-5, or trials 6-10. A repeated-measures ANOVA comparing prices across WTA and WTP sessions indicates that the method of elicitation is statistically significant ($F_{1,4} = 23.02$, $p = 0.009$). In contrast to the often-reported finding that WTA exceeds WTP, valuations of the DMs in our second treatment lead to a significantly higher purchase price than selling price for adherents.

As before, we present a histogram of participants' offers. Figure 2 depicts the frequency of offers under WTA and WTP partitioned into five groups. The effect of elicitation method appears to be very pronounced. The median offer of every WTA participant is less than \$6. By comparison, the median offer of the vast majority of WTP participants (22 of 24) exceeds \$6. We also perform a repeated-measures ANOVA using participants' offers per trial as the dependent measure and find that method of elicitation

is statistically significant at $p < 0.001$ ($F_{1,46} = 82.53$). Thus, the results are even stronger using participants' offers as the dependent measure.

4. THE DECISION MAKER TREATMENT: CASH ENDOWMENT

When decision makers are endowed with a mug and \$10 in cash, the results are puzzling. With WTP higher than WTA, the DMs' valuations are quite different than those of individuals providing valuations for themselves. After reflecting, we wondered if the DMs' endowment affected their valuations.⁹ Because cash is fungible and a natural referent, we conducted six additional sessions in which the DMs were endowed with \$20. When DMs are only endowed with cash, they are at least as well off as the adherents – in terms of what is taken away from the experiment. Under such conditions, they may be able to provide *objective* valuations. We refer to this as the DM/Cash treatment.

4.1 Experimental Procedures

We conduct six sessions in the DM/Cash treatment (sessions 13-18) in which we elicit measures of WTA and WTP using valuations for other students. As in the DM/Mug treatment, a total of 72 students participated. The procedures differ from the second treatment in that the DMs are all endowed with \$20. For WTA (sessions 13-15), the four adherents are each given \$10 in cash and a coffee mug. The DMs indicate the amount that participants in the other room should accept in exchange for their mugs (DM/Cash/WTA). The instructions are as follows:

Each participant in this room just received \$20 in cash. This cash is yours to keep. In addition, four participants in another room have received \$10 in cash and a mug. The experimenter has an identical mug in her/his possession. You are

free to examine the mug. Participants in the *other* room will exchange their mugs with the experimenters at an amount determined by you.

The instructions continue as before (i.e., as in the DM/Mug/WTA sessions).

For WTP (sessions 16-18), the procedures are similar except that the four adherents are endowed with \$20 (as are the eight DMs). The DMs indicate the amount that participants in the other room should pay to acquire a mug (DM/Cash/WTP). The instructions begin as follows:

Each participant in this room just received \$20 in cash. This cash is yours to keep. In addition, four participants in another room also have received \$20 in cash. The experimenter has in her/his possession 4 mugs. You are free to examine the mugs. Participants in the *other* room will exchange cash for a mug with the experimenters at an amount determined by you.

Again, the instructions continue as before (i.e., as in the DM/Mug/WTP sessions).

4.2 The Results

Panel C of Table 2 reports measures of WTA and WTP for the final treatment (DM/Cash), in which DMs are endowed only with cash. Unlike the first two treatments, the valuation gap disappears. Inferences are unchanged if tests use prices or offers for all trials, trials 1-5, or trials 6-10. Also unlike the first two treatments, a repeated-measures ANOVA comparing prices across WTA and WTP sessions indicates that the method of elicitation is not statistically significant ($F_{1,4} = 0.01$, $p = 0.935$). Inferences are similar using participants' offers as the dependent measure ($F_{1,46} = 0.86$, $p = 0.359$).

Figure 3 presents a histogram of participants' offers. An inspection indicates that the distribution of participants' median offers is very similar under WTA and WTP. Therefore, the data indicate that the valuation disparity between WTA and WTP is eliminated in the DM/Cash sessions.

5. DISCUSSION AND CONCLUDING REMARKS

The literature has documented the impact of elicitation method on individuals' valuations. This paper demonstrates the importance of perspective. Commonly, WTA is elicited by putting the experimental participant in the role of the seller and WTP by putting the participant in the role of buyer. In our experiment, we first replicate the often-reported result that sellers demand more to surrender a good than buyers are willing to pay to acquire the same good (Base treatment). Next we ask participants to act as decision makers (DMs) who provide valuations for others, referred to as the adherents (DM/Mug treatment). We endow the DMs with a mug and \$10 in cash. We now observe that the relationship between WTA and WTP is reversed. The DMs' valuations are significantly higher when the adherent purchases the mug than when the adherent sells the mug. The striking change in the gap between WTA and WTP in the DM/Mug treatment calls for further investigation.

Models of economic behavior recognize that some people care about fairness (Kahneman, Knetsch and Thaler 1986; Fehr and Schmidt 1999; Bolton and Ockenfels 2000) and equity is an important factor in bargaining games (Davis and Holt 1993). Fairness can be modeled as an aversion to inequity, measured in relative terms. Individuals are self-centered and care about relative standing. While the identification of the reference group may not be simple, in an experiment the reference group is the set of participants (Bolton and Ockenfels 2000).

In our experiment, it appears that a DM who cares about relative standing does not want to be worse off than the adherent. The effect of the DM's perspective contrasts

sharply with a seller who wants to collect more or a buyer who wants to pay less. The behavior of the DMs in the DM/Mug treatment is consistent with recent economic models of behavior, which predict that relative standing matters. Recall that in the DM/Cash treatment, DMs are endowed with cash and they are at least as well off as the adherents. In contrast, in the DM/Mug treatment, WTP may exceed WTA because the DMs are comparing their standing relative to the adherents. Fehr and Schmidt (1999) provide a model of inequity aversion in which people care about their material payoff relative to the payoffs of others. In addition, relative standing motivates people's behavior in Bolton and Ockenfels' (2000) model.

In our experimental setting, the WTP valuation may be high because the DMs perceive their relative standing to be below that of the mug buyers if the mug buyers pay a low price for the mug. In the WTP treatment, if the adherents pay, on average, \$8.55 for a mug (refer to Panel B of Table 2), they leave the experiment with a mug and, on average, \$11.45. On the other hand, if the adherents acquire a mug for a low price, they leave the experiment with relatively more than the DMs who have a mug and \$10.

In the DM/Cash treatment, DMs may be more objective because they end up in a better position than the adherents, assuming cash is preferred. Interestingly, WTA and WTP are quite close to the actual purchase price of the mugs (\$7), an amount that was never disclosed to the participants. Because cash is fungible and its value is clear, it is a natural referent. With an endowment of \$20, relative standing is of less concern to the DMs and they can focus on the decision to be made.

Our results are consistent with DMs being inequity-averse when their relative standing is *inferior* to that of others. By comparison, DMs do not appear to be concerned

about their standing when they are better off relative to others. In other words, our data are consistent with preferences being one sided. Individuals do not like differences in outcomes, at least when they are not doing as well as others. The implication for conflict resolution is that relative standing can influence perspective-taking ability. Mediators need to realize that relative standing is an important factor that can influence dispute resolution.

This paper documents the important effect of perspective and relative standing on the elicitation of value. Although the disparity between WTA and WTP disappears when DMs are endowed with cash and asked to provide valuations for others, we cannot conclude that third party decisions, including those of mediators, are superior. Because DMs evaluate the effects of a change in position so differently depending on their own position, they do not necessarily make welfare enhancing decisions for others. Future research may provide insight into how mediators can better take the perspective of others.

ENDNOTES

* The views expressed here are those of the authors and not necessarily those of the Federal Reserve Bank of Atlanta or the Federal Reserve System. The authors gratefully acknowledge the financial support of the Federal Reserve Bank of Atlanta and the helpful comments of Paul Ferraro, Ann Gillette, and Mark Rider.

¹ In a recent study, Plott and Zeiller (2005) find that when an incentive compatible elicitation mechanism is used and participants receive training and are paid for practice with anonymity, WTA is not significantly higher than WTP. But, the procedural choices used in Plott and Zeiller effectively strip away strategic considerations, thereby suppressing the effect of perspective or role.

² This holds for all sessions (i.e., across all experimental treatments).

³ The complete instructions are available upon request.

⁴ The fact that the mug can be purchased at the bookstore for \$7.00 is not disclosed to participants at any time.

⁵ Plott and Zeiller (2005) argue that the elicitation mechanism proposed by Becker, DeGroot, and Marschak (1964) is the most incentive compatible, with the Vickrey auction as the next best, in theory. Our design also differs along other dimensions from Plott and Zieler (2005). For example, in each session they include two unpaid training rounds, 14 rounds in which a lottery is valued, and one round in which a mug is valued.

⁶ Inferences are unchanged with Kolmogorov-Smirnov tests for all Mann-Whitney tests reported here and subsequently in this paper.

⁷ Period and the interaction of period and method of elicitation are not significant in any of the repeated measures ANOVAs ($p > 0.10$) reported in the paper. In determining statistical significance, the degrees of freedom for within-subject effects are adjusted using the Greenhouse-Geisser procedure. The adjustment is necessary because, in each case, Mauchly's test of sphericity is rejected at $p < 0.01$.

⁸ Price censoring does not explain the results we report in this paper. In an experiment that elicits value, problems can arise if participants rationally believe the good can be purchased at lower prices outside of the laboratory (Harrison, Harstad, and Rutstrom 2004). In our post-experiment questionnaire we asked participants how much they thought the experimenters paid for the mug. Although price censoring is potentially a significant methodological problem, we have no evidence to suggest that it affected our results. There is no consistent pattern in reported costs to the experimenters across treatments.

⁹ Future research might examine the impact of perspective and earned income on valuations. Research shows that notions of fairness change when subjects earn their position in the payoff distribution, rather than being endowed by the experimenter. For example, in a dictator game Cherry, Frykblom, and Shogren (2002) find that dictators are more self-interested when they bargain over income that is earned.

REFERENCES

- Becker, Gordon M., Morris H., DeGroot, and John Marschak. 1964. Measuring utility by a single-response sequential method. *Behavioral Science* 9(3): 226-232.
- Bolton, Gary E., and Axel Ockenfels. 2000. ERC: A theory of equity, reciprocity, and competition. *The American Economic Review* 90(1): 166-193.
- Cherry, Todd L., Peter Frykblom, and Jason F. Shogren. 2002. Hardnose the dictator. *The American Economic Review* 92(4): 1218-1221.
- Davis, Douglas D., and Charles A. Holt. 1993. *Experimental Economics*. Princeton, New Jersey: Princeton University Press.
- Fehr, Ernst, and Klaus M. Schmidt. 1999. A theory of fairness, competition, and cooperation. *Quarterly Journal of Economics* 114(3): 817-868.
- Galinsky, Adam D., and Thomas Mussweiler. 2001. First offers as anchors: The role of perspective-taking and negotiator focus. *Journal of Personality and Social Psychology* 81(4): 657-669.
- Harrison, Glenn W., Ronald M. Harstad, and E. Elisabet Rutstrom. 2004. Experimental methods and elicitation of values. *Experimental Economics* 7: 123-140.
- Horowitz, John K., and Kenneth E. McConnell. 2002. A review of WTA/WTP studies. *Journal of Environmental Economics and Management* 44: 426-447.
- Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler. 1986. Fairness and the assumptions of economics. *Journal of Business* 59(4): S285-S300.
- Korobkin, Russell B. 2006. Psychological impediments to mediation success: Theory and practice. *Ohio State Journal of Conflict Resolution* 21(2): 281-328.

- Marshall, James D., Jack L. Knetsch, and J.A. Sinden. 1986. Agents' evaluations and the disparity in measures of economic loss. *Journal of Economic Behavior and Organization* 7: 115-127,
- Neale, Margaret A., and Max.H. Bazerman. 1983. The role of perspective-taking ability in negotiating under different of forms arbitration. *Industrial and Labor Relations Review* 36(3):378-388.
- Plott, Charles, R., and Kathryn Zeiler. 2005. The willingness to pay/willingness to accept gap, the 'endowment effect,' subject misconceptions and experimental procedures for eliciting evaluations. *The American Economic Review* 95(3): 530-545.
- Thompson, Leigh, and Reid Hastie. 1990. Social perception in negotiation. *Organizational Behavior and Human Decision Processes* 47(1): 98-123.
- Van Boven, Leaf, David Dunning, and George Loewenstein. 2000. Egocentric empathy gaps between owners and buyers: Misperceptions of the endowment effect. *Journal of Personality and Social Psychology* 79(1): 66-76.
- Van Boven, Leaf, George Loewenstein, and David Dunning. 2003. Mispredicting the endowment effect: Underestimation of owners' selling prices by buyers' agents. *Journal of Economic Behavior and Organization* 51(3): 351-365.
- Vickrey, William. 1961. Conterspecualtion, auctions, and competitive sealed tenders. *Journal of Finance* 16: 8-37.

Table 1
Experimental Design

This table summarizes the experimental design. All sessions include 10 trials.

Treatment	Measure of Value	Sessions	Total Number of Participants Per Session	Endowment (8 participants)	
Base	WTA	1-3	8	Mug + \$10	
	WTP	4-6	8	\$20	
Treatment	Measure of Value	Sessions	Total Number of Participants Per Session	DM's Endowment (8 participants)	Adherent's Endowment (4 participants)
DM/Mug	WTA	7-9	12	Mug + \$10	Mug + \$10
	WTP	10-12	12	Mug + \$10	\$20
DM/Cash	WTA	13-15	12	\$20	Mug + \$10
	WTP	16-18	12	\$20	\$20

Table 2
Prices and Offers

The table reports the average price and median offer across trials and sessions in each treatment. In the WTA sessions participants are asked to submit offers indicating the amount of money that should be accepted in exchange for a mug and in the WTP sessions participants are asked to indicate the amount that should be paid to acquire a mug. The price in the WTA (WTP) sessions is the fifth (highest) lowest offer. Each session includes 10 trials. The table also reports the average WTA and WTP in trials 1-5 and 6-10 for each treatment. Below the value measurements are z-statistics and corresponding p-values, the result of Mann-Whitney tests of the hypothesis that WTA and WTP are equal. Panels A, B, and C, report prices and offers for the Base, DM/Mug, and DM/Cash treatments, respectively.

Panel A: Base Treatment

Measure	All Trials		Trials 1-5		Trials 6-10	
	WTA	WTP	WTA	WTP	WTA	WTP
Prices	8.83	1.34	9.04	1.51	8.61	1.18
	-6.67 (0.000)		-4.69 (0.000)		-4.69 (0.000)	
Offers	10.09	1.64	10.74	1.89	9.03	1.53
	-5.31 (0.000)		-5.25 (0.000)		-4.83 (0.000)	

Panel B: DM/Mug Treatment

Measure	All Trials		Trials 1-5		Trials 6-10	
	WTA	WTP	WTA	WTP	WTA	WTP
Prices	3.79	8.55	4.00	8.00	3.57	9.10
	-6.70 (0.000)		-4.67 (0.000)		-4.72 (0.000)	
Offers	3.71	8.91	3.94	8.31	3.63	9.24
	-5.88 (0.000)		-5.50 (0.000)		-5.29 (0.000)	

Panel C: DM/Cash Treatment

Measure	All Trials		Trials 1-5		Trials 6-10	
	WTA	WTP	WTA	WTP	WTA	WTP
Prices	6.99	6.92	7.06	6.45	6.92	7.38
	-0.55 (0.582)		-1.54 (0.126)		-0.80 (0.424)	
Offers	7.53	6.72	6.73	6.74	8.26	6.89
	-0.86 (0.391)		0.00 (1.000)		-1.31 (0.189)	

Figure 1: Frequency of Decision Makers' Median Offer in the Base Treatment

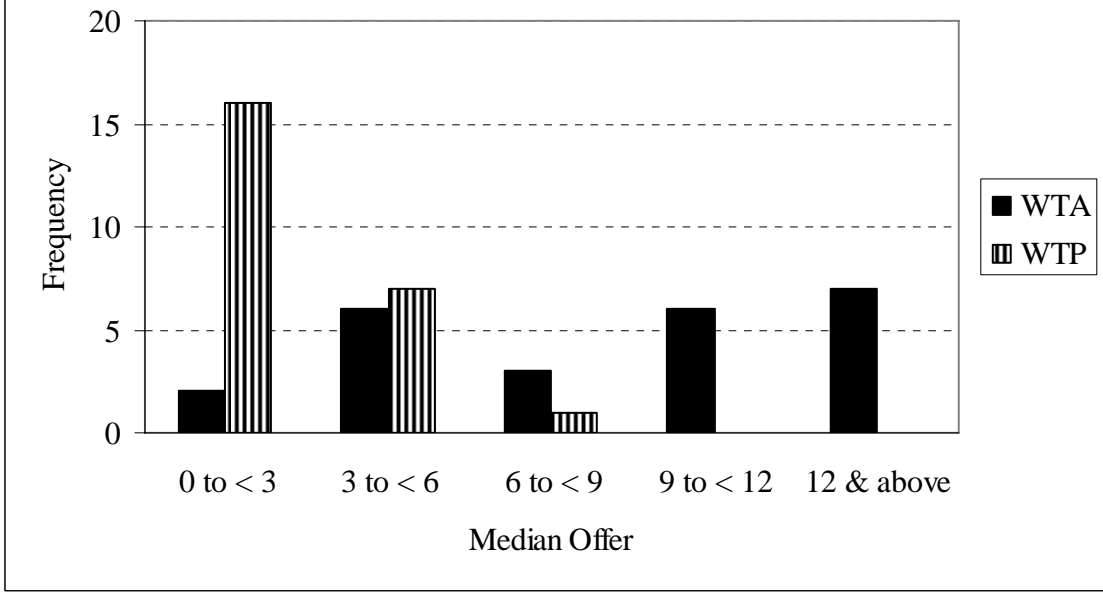


Figure 2: Frequency of Decision Makers' Median Offer in the DM/Mug Treatment

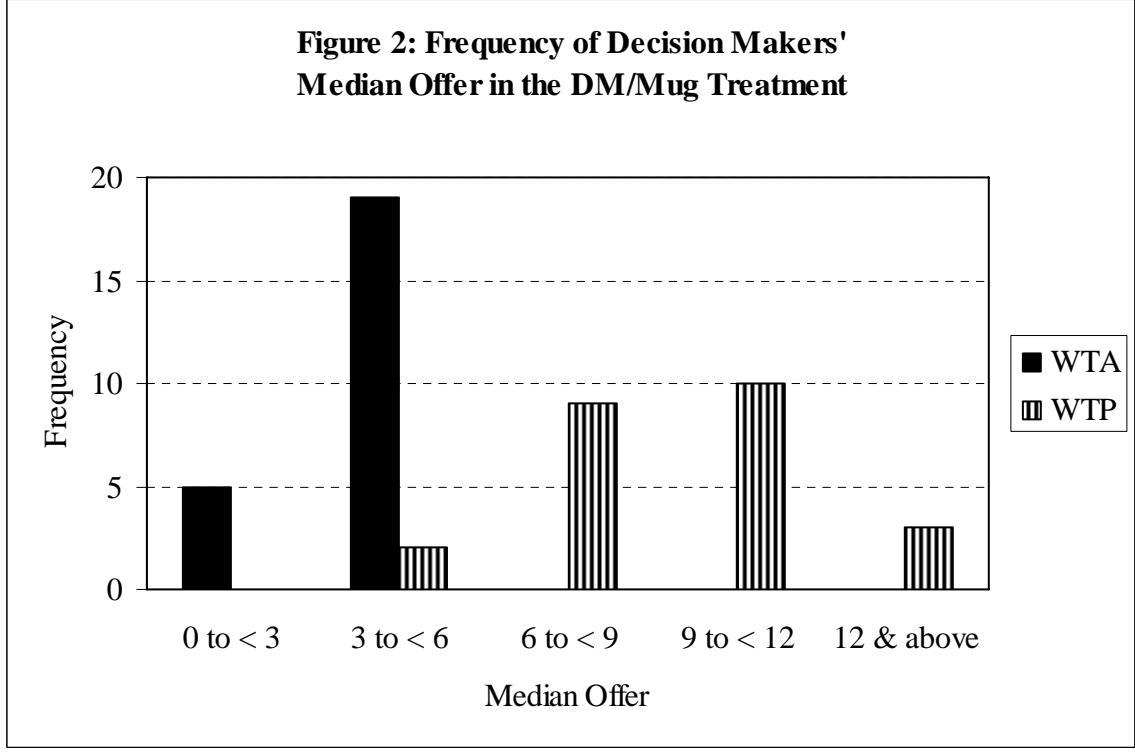


Figure 3: Frequency of Decision Makers' Median Offer in the DM/Cash Treatment

