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# When Do Fair Beliefs Influence Bargaining Behavior? Experimental Bargaining in Japan and the United States

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In this research, we examine the influence of beliefs about fairness on bargaining behavior. Using a repeated ultimatum game, we examine bargaining contexts in Japan and the United States in which buyers' or sellers' fair beliefs are either in alignment with or in conflict with their own self-interest. We suggest that understanding the relationship between fair beliefs and self-interest is central to understanding when fair beliefs will influence bargaining behavior. Our results demonstrate that fair beliefs predict bargaining behavior when they are aligned with one's own self-interest.

Negotiating a fair deal is an important element in many transactions: in family decision making (e.g., where will we go on our next vacation?), in the less formal economy of consumer transactions (such as ticket scalpers or flea markets), and, of course, in developing economies, where negotiated prices are the dominant form of price setting for consumer purchases. Yet, even in the United States, although many purchases are consumer packaged goods for which we pay posted prices, the largest of consumer purchases are routinely negotiated, such as the purchase of a house or a car. Many fixed-price transactions are also open to negotiation. As the *New York Times* recently reported, bargaining has become more widespread as the economy has slowed: "With the economy sour and customers holding on to their wallets, many sellers and buyers say that shoppers are haggling more—even at sleek SoHo furniture shops and chain electronics retailers—and getting bigger discounts" (Pristin and Rohrlich 2002, p. B1).

In all these interactions, perceptions of fairness are thought to play a critical role. Within the family, fairness arguments

are common in negotiating—couples often take turns on choosing the vacation location. Buyers of cars and houses often feel regretful when they discover that they paid more than they had to for the item—perhaps reflecting the preference of some automobile shoppers for Saturn's no-haggle policy. Conflicts between firms and dissatisfied consumers often revolve around the perceived fairness of a transaction. Our research examines two aspects of fairness and bargaining behavior. First, we examine factors that influence beliefs about what is fair in a negotiation (such as a shift in market conditions) and how those beliefs differ internationally. Second, and more important, we examine when these fair beliefs influence bargaining outcomes. Both of these ideas can be captured in the following scenario:

You move to a new city and from a long list of lawn and garden services, you hire Robert, a well-reputed gardener, to tend to your yard each week. You negotiate with Robert a fee for his services that includes his cost of supplies, transportation, and labor. On the first of each year, you and Robert renegotiate his fee. In the fall of your third year, the city experiences a severe economic downturn. Although your own job is quite secure, you learn that, because of reduced demand, two lawn and garden services have gone out of business, and thus the market is now flooded with gardeners looking for work. On the first of the next year, when it comes time to renegotiate Robert's fee, you are contemplating what you will offer Robert and come up with the following options: (a) renegotiate an increase in Robert's fee, due to market conditions; (b) renegotiate, keeping the same fee; or (c) renegotiate a decrease in Robert's fee, due to market conditions.

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What do you believe is fair? What will you offer Robert on January 1? What do you believe will be the minimum offer Robert would be willing to accept?

The question of what is fair in negotiation has been the subject of much research, largely spurred on by Kahneman, Knetsch, and Thaler's (1986) seminal article demonstrating that the decision context and frame significantly influence what people believe to be fair and suggesting that concerns over fairness may influence the behavior of buyers and sellers. Since then, we have gained a deep understanding of a variety of influences on people's perceptions of fairness, including the roles they have in the negotiation (Babcock and Loewenstein 1997), the balance of power between the negotiating parties (Pinkley, Neale, and Bennett 1994), the cultural orientation of each party (Gelfand et al. 2002), and their degrees of egocentrism—or self-servingness (Thompson and Loewenstein 1992). A result of these many divergent influences is that parties sitting at the same negotiation table may have very different ideas about what is the fair outcome.

In the scenario involving Robert, experimental research suggests that people from the United States might believe that reducing Robert's salary is fair. The negotiation is transactional and, since the balance of market power has shifted in your favor, his compensation should reflect that adjustment (Dwyer and Walker 1981; Pinkley et al. 1994). Yet, we note that this outcome is in your (the buyer's) self-interest (in contrast, increasing Robert's [the seller's] fee would be in his). Thus, in the United States, there is alignment between what the buyer believes to be fair (decreased salary) and self-interest, but for the American seller there is not.

On the other hand, research suggests that people from Japan are likely to view the negotiation as relational and to believe that increasing the wage is the fair outcome, since the more advantaged party in a relationship has the responsibility to take care of the less advantaged party (Doi 1971; Hampden-Turner and Trompenaars 1993). Note that this outcome is in Robert's (the seller's) self-interest (in contrast, reducing the fee is in yours [the buyer's]). Thus, in Japan, for the seller, there is alignment between what is believed to be fair (increased salary) and self-interest, but for the buyer there is not.

We have drawn on previous literature discussing fair beliefs to address the question of what might be considered fair by you and Robert in the negotiation over his fee, yet we have not provided our expectations for what either of you will actually do in the negotiation. The reason for this is that there is surprisingly little evidence of the influence of fairness on behavior in these settings and that which does exist is contradictory.

Three previous papers look at the influence of perceptions of fairness on consumer purchasing behavior. Urbany, Madden, and Dickson (1989) assessed the relationship between consumer's beliefs about fairness and their behavioral intentions. In support of Kahneman et al.'s predictions, they found that unjustified automated teller machine (ATM) fee

increases were perceived as unfair, while those justified by cost increases were acceptable in consumers' eyes. Yet, in contrast to what intuition would suggest, consumers' fairness beliefs were not significantly related to their reported purchase intentions. Many who perceived the fee increases as unfair did not intend to change banks, citing high switching costs, and others who felt the increases to be fair intended to switch anyway, citing the now higher cumulative cost.

In contrast to these results, Campbell (1999) demonstrated that perceived unfairness does lead to lower shopping intentions. Specifically, her research suggests that a retailer's reputation and expected increases in profit influence inferences regarding the motive for a price increase. This motive, in turn, influences perceived price fairness and intentions to patronize the retailer.

Finally, the research of Feinberg, Krishna, and Zhang (2003) demonstrates that consumers' preference for firms is affected not just by the prices they themselves are offered but also by the prices available to others. Thus, their model suggests, the cost to the firm of running targeted promotions increases as the proportion of consumers increases who are aware of and care about the fairness of the price discrepancies.

The goal of this research is to examine the influence of beliefs about fairness on bargaining behavior. Specifically, using a repeated ultimatum game, we examine bargaining contexts in Japan and the United States in which buyers' or sellers' fair beliefs are either in alignment with or in conflict with their own self-interest. We suggest that understanding when fair beliefs and self-interest are aligned is central to understanding when fair beliefs will influence bargaining behavior.

## FAIRNESS IN BARGAINING

The *Journal of Consumer Research* has published only three articles in the past 25 yr. on negotiation. Dwyer (1984) demonstrated that players in a powerful negotiating position earned more than players in a weak position and that the size of one's own bargaining group tends to amplify the effects of power. Schurr and Ozanne (1985) showed that sellers' expected trustworthiness plus their toughness in bargaining led to higher levels of buyer/seller cooperation and of buyer concessions. Finally, Corfman and Lehmann (1993) demonstrated in computer-simulated negotiations that participants were primarily concerned about their own payoffs when evaluating satisfaction with the negotiation outcomes and preferred payoffs that were higher than the opponent's payoffs.

Our research seeks to add to this literature for two reasons. First, negotiation is an important element in our daily lives, as pointed out in the introduction, and we as marketers have only a relatively weak understanding of it. Second, the growing importance of international negotiations creates a need to better understand the relationship between cultural differences in negotiation behavior (Adair, Okamura, and Brett 2001; Graham et al. 1988), distribution rules (Wade-Benzoni et al. 2002), biases (Gelfand and Christakopoulou 1999), and fairness judgments (Gelfand et al. 2002).

A common mechanism used to study bargaining and ne-

gotiation behavior is the ultimatum game (Thaler 1988). In an ultimatum game, the buyer is given an amount, say, \$10, and is told to divide it in any way he chooses with the seller. In making the offer, the buyer is stating his reservation price for consummating the exchange. At the same time, the seller is told to list the minimum amount (equivalent to the minimum selling price) that he would accept from the buyer to consummate the exchange. If the buyer's offer is less than the seller's minimum demand, the offer is rejected, the exchange is not consummated, and neither player receives anything. Standard economic game theory argues that, since any amount of money is better than no money, the economically rational seller should demand (and the buyer should offer) the smallest amount over zero (Rubinstein 1982). This smallest positive amount,  $\epsilon$ , is the subgame-perfect equilibrium of the ultimatum game.

Contrary to the equilibrium prediction, buyers tend to make generous offers—averaging around 40% of the surplus, and sellers in these bargaining games often reject positive offers—the mean rejected offer is about 20% of the total surplus to be split (Camerer and Thaler 1995). These deviations from equilibrium have been attributed to concerns about fairness (Thaler 1988).

But why do people act in this fair manner? Evidence suggests that there may be at least three explanations: people might be altruistic and derive utility from higher payoffs of others; they may believe in reciprocation, thinking that if they treat others fairly, they will be treated fairly themselves; or, finally, they may want to avoid the punishment and costs that might accompany being unfair (Fehr and Gächter 2000; Pillutla and Murnighan 1995).

The idea that fairness is influenced by altruistic concerns, or by a determination to treat others fairly, has been suggested in a number of bargaining studies, under differing contexts and even different cultures. For example, the four-country study conducted by Roth et al. (1991) shows that offers in Jerusalem, Ljubljana (in Slovenia), Pittsburgh, and Tokyo all lay within the range of 40% to 50%. In addition to the fact that the offers were above the equilibrium (which suggests a motivation for behavior other than pure self-interest), the finding that the offers differed across countries suggested that different culturally influenced beliefs about fairness may have had an influence on bargaining behavior. Henrich et al.'s (2001) research comparing ultimatum game play among participants from 15 small-scale societies yielded similar and even more extreme conclusions; for example, offers among the Machiguenga tribe in Peru were 26%, while those among the Lamelara in Indonesia were greater than 50%.

The idea that players are fair for strategic reasons or to gain reciprocity has also garnered support. Several researchers have shown that large offers are often motivated by self-interested concerns that small offers will be rejected and that it is actually more costly to make a small offer because the probability of rejection is high and the payoff from rejection is zero (e.g., Prasnikar and Roth 1992). Similarly, Zwick and Chen (1999) find that the willingness of players to demand

or offer fairly (often defined as a 50/50 split of the surplus) is a function of how much it will cost them to do so. Finally, the work of Komorita and colleagues suggests that, in two-person and group multistage social dilemmas, the strategy perceived to be fair in early rounds (in which the powerful partner demands an equitable distribution of resources) may need to yield to a distribution of rewards that better reflects equality in order to gain greater cooperation from a partner and increased coalition building (Komorita and Nagao 1983; Komorita, Sheposh, and Braver 1968).

The goal of this research is to examine bargaining behavior in contexts in which buyers' or sellers' fair beliefs are either in alignment or in conflict with their own self-interest. We predict that beliefs about fairness will significantly influence bargaining behavior when those beliefs are aligned with one's own self-interest. Conversely, we predict that beliefs about fairness will have a much smaller influence on behavior when they are contrary to self-interest.

To assess the link between fair beliefs and behavior, we observe behavior in a repeated ultimatum game, and we measure buyers' and sellers' beliefs about what is a fair offer or demand. We do this in two bargaining contexts, one in which the balance of power is relatively equal across parties, and one in which the buyer has more power than the seller. Within these contexts, what is believed to be fair has differing implications for the self-interest of buyers and sellers. Furthermore, we conduct the bargaining sessions in two countries, Japan and the United States, where the manipulation of power is expected to differentially influence fair beliefs across countries. These differing fair beliefs have differing implications for the alignment of self-interest with the fair beliefs of each player and for our predictions of bargaining behavior.

The remainder of this article is organized as follows. In the next section we discuss the influence of power and culture on beliefs about fairness and propose hypotheses that predict the influence of such beliefs on subsequent behavior in the bargaining sessions. The experimental methodology and the results are then presented, and we conclude with a discussion of our research contribution and of the avenues for future research.

## HYPOTHESES

The goal of our experiment is to better understand the relationship between beliefs about fairness and bargaining behavior. In order to induce and examine variance in fair beliefs, we vary bargaining power and we examine national culture. In this section, we first describe these factors and their hypothesized effects on beliefs about fairness and then present our main hypotheses concerning the relationship of these beliefs to bargaining behavior.

The use and influence of power in interpersonal and interorganizational relationships has been widely studied by researchers in a variety of fields (e.g., Fisher and Ury 1981; McAlister, Bazerman, and Fader 1986; Thibaut and Kelly 1959). To examine dynamics within the negotiation relationship, many have utilized Emerson's (1964) concept of

power-dependence; the more dependent A is on B for his or her outcomes and the more A values those outcomes, the more power B has over A.

The dependence relationship is typically operationalized by the existence of an alternative to the current negotiation for one of the negotiating parties, or in other words, through the manipulation of the BATNA, the Best Alternative to Negotiated Agreement (Fisher and Ury 1981). The possession of a BATNA by one of the negotiating parties leads to greater power. Pinkley et al. (1994) devised a bargaining setting in which both players had alternatives to negotiation, which were manipulated at high, medium, and low levels. The authors find that participants who had higher BATNAs attained a significantly higher bargaining outcome than those who had no or poor alternatives. Dwyer and Walker (1981) found that, when power was asymmetrically distributed in an experimental setting, the powerful bargainers were able to achieve agreements that gave them disproportionately large shares of their groups' total profits, although they show that the more powerful bargainers are often reluctant to take full economic advantage of their power.

This research suggests that an alternative to negotiation translates into greater power for those who possess it. In the \$10 ultimatum game, we will compare bargaining contexts in which the buyer possesses an alternative to negotiation equaling 20% of the bargaining surplus (buyer power condition) with contexts in which neither negotiator possesses an alternative (control condition). This means that, in the buyer power condition, if the seller rejects the buyer's offer, the buyer still leaves with \$2.00 (his alternative to negotiation) and the seller will leave with nothing. However, in the control condition, if the seller rejects the buyer's offer, both the buyer and the seller leave with nothing. We hypothesize the following:

**H1:** American buyers and sellers will believe it fair to offer and demand less under the buyer power condition than under the control condition.

In Western countries, power is viewed as being either coercive or noncoercive (Johnson et al. 1993). The Japanese perspective of power, however, is much more relational. The Japanese relate to social power in a paternalistic context, as a sign of authority or a nurturing influence (Frazier and Rody 1991). Hence, whereas Western views focus on the action and outcomes related to the power source, Japanese views concentrate more on the type of negotiation relationship. In essence, from the perspective of Japanese culture, power is captured in the relationship between the negotiators. For Western cultures, power relates to the outcomes and ends of the negotiation.

Psychologist Takeo Doi (1971) suggests that, in Japan, the societal norm of *amae* dictates that the more powerful party is responsible, in part, for the well being of the less powerful. Hampden-Turner and Trompenaars (1993) have documented the pervasiveness of *amae* (what they describe as benevolent leadership) in personal as well as business relationships. This suggests that, in the buyer power con-

dition of our experiment, there will exist the expectation by the less powerful party (the seller) and the acceptance of responsibility by the more powerful party (the buyer) that the seller is to be taken care of by the buyer. Therefore, in Japan, we hypothesize the following influence of power on fair beliefs:

**H2:** Japanese buyers and sellers will believe it fair to offer and demand more in the condition in which the buyer has greater power than in the control condition.

Having made our predictions about the influence of power on the fair beliefs of Japanese and American buyers and sellers, we turn to discussing the likely impact of these beliefs on behavior. To do so, we examine whether the fair beliefs of buyers and sellers are aligned with or conflict with their self-interest.

The main premise of this research is that, when fair beliefs are aligned with self-interest, we will see a significant influence of fair beliefs on bargaining behavior. Conversely, when fair beliefs conflict with self-interest, we predict that fair beliefs will not have a significant influence on behavior.

In the United States, in the buyer power condition, hypothesis 1 suggests that buyers will believe it fair to make low offers. Making low offers is in the buyers' self-interest. Given this alignment of fair beliefs and self-interest, we hypothesize:

**H3a:** Fair beliefs will significantly influence American buyers' offers.

In the United States, in the buyer power condition, hypothesis 1 suggests that sellers will believe it is fair to make low demands. However, demanding a lower amount of money conflicts with the seller's self-interest. Given this conflict between fair beliefs and self-interest, we hypothesize:

**H3b:** Fair beliefs will not significantly influence American sellers' demands.

In Japan, in the buyer power condition, hypothesis 2 suggests that buyers will believe it fair to make high offers. However, making high offers conflicts with the buyers' self-interest. Given this conflict between fair beliefs and self-interest, we hypothesize:

**H4a:** Fair beliefs will not significantly influence Japanese buyers' offers.

In Japan, in the buyer power condition, hypothesis 2 suggests that sellers will believe it fair to make high demands. Making high demands is in the sellers' self-interest. Given this alignment of fair beliefs and self-interest, we hypothesize:

**H4b:** Fair beliefs will significantly influence Japanese sellers' demands.

To summarize these propositions, for American buyers, fairness beliefs and self-interest suggest that offers will be lower under the buyer power condition. For American sell-

ers, fairness beliefs imply that demands also would be lower in the buyer power condition, but this goes against the seller's self-interest in making higher demands. For Japanese buyers, fairness beliefs suggest that buyers make higher offers when they have more power, but this contrasts with the self-interested desire of buyers to make more money and thus make lower offers. For Japanese sellers, fairness beliefs and self-interest suggest that demands will be higher in the buyer power condition.

The alignment of fairness beliefs and self-interest for American buyers and Japanese sellers suggests a high correlation between fair beliefs and bargaining behavior, and a low proportion of participants behaving unfairly. For American sellers and Japanese buyers, the behavior implied by fairness beliefs under the condition of buyer power is not aligned with self-interest. This nonalignment suggests a low correlation between fair beliefs and bargaining behavior and a high proportion of participants behaving unfairly.

## EXPERIMENTAL METHODOLOGY

The international character of this research warranted that we control for culture or country-specific variables that could influence our results. Specifically, we addressed the following issues, as suggested by Roth et al. (1991): subject pool equivalency, currency effects, language effects, experimenter effects, and comprehension of the experimental task. These issues are addressed in the appendix.

A total of 168 undergraduate students from Tokyo University and the University of Pennsylvania participated in this experiment as part of an introductory marketing course requirement and for any actual earnings from the negotiation.

The experiment is a mixed design with Country (United States vs. Japan) and Power (control vs. buyer power) as between-subjects factors and the 10 rounds of play as a within-subjects factor. We rescaled offers and demands across countries to a common 0–1,000 scale, where one unit equals 1 cent or 2 yen. On this scale, the buyer's alternative to negotiation was worth 200 units (\$2.00 or 400 yen).

The experimental procedure was as follows: participants were designated roles of buyer or seller and negotiated for 10 rounds with different anonymous partners each round. In each round, buyers recorded their maximum offer, while sellers simultaneously recorded the minimum demand they were willing to accept. If the offer equaled or exceeded the seller's minimum demand, the seller would accept the offer and the transaction was completed; if the buyer's offer was less than the seller's demand, the seller rejected the offer and no deal was made, leaving both the buyer and the seller with nothing.

Next, participants completed questions regarding their fair beliefs (i.e., What do you believe was the fair [offer] demand?) and power (i.e., To what extent do you feel that you had more power than the buyer [seller]? [1 = I had less to 7 = I had more power]). At the conclusion of the experiment, one of the 10 rounds was chosen at random, and participants were paid their earnings for that round.

We test the efficacy of the power manipulation within

each country using a 2(Role) × 2(Power) analysis of variance design. We expect buyers to rate themselves as having more power in the buyer power condition than in the control condition and sellers to rate themselves as having more power in the control condition than in the buyer power condition. The power manipulation was effective in each country, as demonstrated by a significant role by power interaction (in the United States,  $F(1,81) = 16.45$ ,  $p < .01$ , in Japan,  $F(1,81) = 4.25$ ,  $p < .05$ ); these results support the underlying explanations for hypotheses 1 and 2.

## EXPERIMENT 1: ANALYSIS AND RESULTS

Given that our manipulation of power was effective in both countries, we now test for the influence of that manipulation on what participants believed to be the fair offer or the fair demand. As expected, what Americans believe are fair offers and fair demands are lower in the buyer power condition than in the control condition. Thus hypothesis 1 is supported ( $F_{\text{buyers}}(1,41) = 3.85$ ,  $p < .05$ ;  $F_{\text{sellers}}(1,39) = 3.81$ ,  $p < .05$ ). Furthermore, as expected, what Japanese participants believe to be fair offers and demands are higher in the buyer power condition than in the control condition, supporting hypothesis 2 ( $F_{\text{buyers}}(1,42) = 8.06$ ,  $p < .01$ ;  $F_{\text{sellers}}(1,39) = 5.51$ ,  $p < .01$ ). The results of these analyses are shown in table 1. These results suggest that there is divergence across countries as to what is believed to be fair in these negotiations.

Given that our manipulation of power was effective and our hypotheses concerning the influence of power on fair beliefs are supported, we take the next step of assessing the link between buyer power and bargaining behavior. We conduct this analysis in two phases. First, we examine the influence of power on Japanese and American offers and demands. We then conduct mediation analyses to determine if the influence of power on behavior is mediated by beliefs about fairness. Our proposition concerning the relationship between beliefs and behavior will be supported if we find that fair beliefs mediate the influence of power on American offers and Japanese demands but not on American demands and Japanese offers.

We analyze the behavioral data from the 10 bargaining sessions employing four analyses of variance where buyer power is the independent variable. Our dependent variables are average offers and demands in each country; similar results are produced when using offers or demands from round 1, or round 10, or when employing repeated measures ANOVAs. From table 2, it is apparent that the introduction of buyer power significantly influenced offers and demands in each country. American offers were significantly lower in the buyer power condition ( $F(1,41) = 3.83$ ,  $p < .05$ ), while American demands were also lower but the influence was weakly significant ( $F(1,39) = 2.12$ ,  $p < .10$ ). Japanese offers were significantly lower in the buyer power condition, ( $F(1,42) = 8.78$ ,  $p < .01$ ), but Japanese demands were significantly higher ( $F(1,39) = 3.92$ ,  $p < .05$ ).

In a mediation analysis using the method suggested by

TABLE 1  
ANALYSIS OF THE INFLUENCE OF BUYER POWER ON FAIR BELIEFS

|  | Control condition | Buyer power condition | F-statistic |
|--|-------------------|-----------------------|-------------|
| American buyers' average fair offers   | 448.75            | 382.86                | 3.85*       |
| SD                                     | 48.98             | 142.53                |             |
| <i>n</i>                               | 20                | 21                    |             |
| American sellers' average fair demands | 467.50            | 417.10                | 3.81*       |
| SD                                     | 73.02             | 92.06                 |             |
| <i>n</i>                               | 20                | 19                    |             |
| Japanese buyers' average fair offers   | 476.25            | 518.25                | 8.06*       |
| SD                                     | 33.43             | 59.92                 |             |
| <i>n</i>                               | 22                | 20                    |             |
| Japanese sellers' average fair demands | 449.74            | 497.25                | 5.51*       |
| SD                                     | 62.37             | 63.96                 |             |
| <i>n</i>                               | 19                | 20                    |             |

NOTE.—Fair offers and demands are measured on a scale of 0–1,000 units. For example, for American participants, an offer of \$2.00 = 200 units, an offer of \$5.00 = 500 units. For Japanese participants, an offer of 400 yen = 200 units, an offer of 1,000 yen = 500 units. *n* = number of participants.

\* $p < .05$ .

Baron and Kenny (1986), we expect that the influence of power on American offers and Japanese demands will be mediated by fairness beliefs, because such beliefs are aligned with self-interest. Conversely, we expect to find no mediation of power by fair beliefs in the cases of American sellers and Japanese buyers, where fair beliefs are in contrast with self-interest.

We now analyze the correlations between fair beliefs and bargaining behavior. The correlations between the fair beliefs and actual offers of American buyers ( $r = .47$ ) and the fair beliefs and actual demands of Japanese sellers ( $r = .45$ ) are both significant at the  $p < .01$  level. The correlations between the fair beliefs and actual offers of Japanese buyers ( $r = -.19$ ) and the fair beliefs and actual demands of American sellers ( $r = .26$ ) are not significant. Given this lack of correlation, we know that beliefs about fairness will not mediate the influence of power on Japanese buyer offers and American sellers' demands.

However, given the significant levels of correlation found for American buyers and Japanese sellers, we proceed with the mediation analyses by adding fair beliefs as a covariate in the original ANOVA models. For American buyers and Japanese sellers, the influence of power on offers is fully mediated by fair beliefs. Once fair beliefs are entered first as covariates in the model, the influence of power becomes insignificant ( $F(1,41) = 2.04$ , NS), and the influence of fair beliefs emerges as strongly significant ( $F(1,41) = 8.60$ ,  $p < .01$ ). For Japanese sellers, also, the influence of power ( $F(1,39) = .51$ , NS) is fully mediated by fair beliefs ( $F(1,39) = 24.61$ ,  $p < .01$ ).

Taken together, these mediation results fully support the proposition laid out in this research. When fair beliefs are aligned with self-interest (as in the case of American buyers [hypothesis 3a] and Japanese sellers [hypothesis 4b]), there exists a strong and significant influence of fairness on behavior. When fair beliefs are in contrast to self-interest (as in the case of Japanese buyers [hypothesis 4a] and American

sellers [hypothesis 3b]), fair beliefs do not exert a significant influence on bargaining behavior.

Table 3 summarizes our results. In this table, the phrase in each cell provides our prediction regarding the belief of fairness or power and behavior, and the footnote attached indicates the degree to which our prediction was confirmed (absence of a footnote symbol indicates that the outcome was not statistically significant). Our results demonstrate that fairness norms concerning power operate differently in Japan and the United States; Americans believe it fair that the more powerful party take the lion's share of the wealth, while Japanese believe it fair that the more powerful party share the wealth with the less powerful. The relationship of these fair beliefs to self-interest is positive in the case of American buyers and Japanese sellers. Among these two groups, we indeed find bargaining behavior that is consistent with these fair beliefs, and we find that fair beliefs mediate behavior. Among the other groups, where fair beliefs are in conflict with self-interest, fair beliefs have no correlation with bargaining behavior. The proportion of participants behaving unfairly (e.g., the proportion of American sellers whose actual demand was higher than the demand they believed to be fair) is highest in those instances where fair beliefs conflict with self-interest.

## DISCUSSION

We believe that the primary contribution of our research is that we extend the literature on negotiations by not only examining what influences fair beliefs but also by examining when those fair beliefs influence bargaining behavior. Specifically, we examine fairness beliefs in the United States and Japan under varying conditions of buyer power, and we find a significant power by country interaction, consistent with our hypotheses. In the United States, participants believe that it is fair that the party with greater power takes a larger share of the surplus. In Japan, participants believe

TABLE 2  
ANALYSIS OF THE INFLUENCE OF BUYER POWER ON BARGAINING BEHAVIOR

|                                   | Control condition | Buyer power condition | F-statistic |
|-----------------------------------|-------------------|-----------------------|-------------|
| American buyers' average offer    | 448.25            | 399.74                | 3.83*       |
| SD                                | 52.40             | 107.33                |             |
| n                                 | 20                | 21                    |             |
| American sellers' average demand  | 384.61            | 332.71                | 2.12        |
| SD                                | 126.27            | 109.22                |             |
| n                                 | 20                | 19                    |             |
| Japanese buyers' average offer    | 508.02            | 457.56                | 8.78*       |
| SD                                | 48.11             | 61.89                 |             |
| n                                 | 22                | 20                    |             |
| Japanese sellers's average demand | 390.35            | 435.95                | 3.92*       |
| SD                                | 75.67             | 60.47                 |             |
| n                                 | 19                | 20                    |             |

NOTE.—Fair offers and demands are measured on a scale of 0–1,000 units. For example, for American participants, an offer of \$2.00 = 200 units, and offer of \$5.00 = 500 units. For Japanese participants, an offer of 400 yen = 200 unit, and offer of 1,000 yen = 500 units.

\* $p < .05$ .

that it is fair that the party with greater power earns a smaller portion of the surplus, sharing more of it with the weaker partner.

This finding of divergent beliefs about fairness leads to our most important result. In the ultimatum bargaining scenarios presented here, the tension between fairness and self-interest is transparent, and it allowed us to clearly discern the influence of fairness beliefs versus self-interest on negotiation behavior. We demonstrate that, when participants' beliefs about fairness are aligned with self-interest, what is believed to be fair has a significant influence on bargaining behavior, fully mediating the influence of power in the negotiation. In contrast, when participants' beliefs about fairness conflict with self-interest, fairness beliefs do not have a significant influence on bargaining behavior.

Although research across a number of fields has provided us with a deep understanding of the many factors that influence the formation of fairness beliefs, our results demonstrate that the influence of such beliefs on actual bargaining behavior is not always certain. In fact, this research suggests that self-interest is an extremely powerful motivator in negotiation; only when fairness beliefs are aligned with self-interest does behavior mirror those beliefs.

Our results indicate the importance of understanding the relationship between the implications of one's fairness beliefs and self-interest, and in doing so, they support the lack of correspondence in fair beliefs and intentions found by Urbany et al. (1989) and the demonstration of cost concerns as a powerful influence on bargaining behavior forwarded by Zwick and Chen (1999). For example, even when the consumer in the Urbany et al. experiment believed his bank's fee increases were fair, the higher cumulative costs from patronizing that bank conflicted with his self-interest and the customer often left.

Our results also demonstrate that national culture interacts with power to yield differing beliefs about what is fair among buyers and sellers in Japan versus those in the United States. Note that both players (buyers and sellers) in each

country shared the same beliefs about fairness. Empirical research in negotiation demonstrates that the presence of a joint notion of outcome fairness among the negotiating parties weakens zero-sum perceptions (Thompson 1998), speeds up concession making, and increases the likelihood that the agreement will be accepted and enforced (Albin 1993; Mannix, Neale, and Northcraft 1995). Our results suggest an even more fundamental issue. Even if both parties share the same beliefs about fairness (e.g., both Japanese buyers and sellers believed it fair for the buyer to make high offers in the buyer power condition in our experiment), this does not mean that both players will behave in accordance with that belief. These results suggest that further study is needed to understand when jointly shared beliefs about fairness will positively influence the behavior of both parties and the relationship and when the pull of self-interest is likely to serve as an impediment to the benefits of that shared norm.

We acknowledge that there are limitations to the work done here. For example, it is possible that other relationships exist among the concepts studied here (power, fairness, and behavior), not necessarily in the order or contingencies proposed. In addition, there may be concerns about when the measures are taken in the experiment; measuring fairness after the behavior makes it possible that fairness is a function of offers and demands rather than the other way around. It is true that the fairness measures were collected after the bargaining session; however, we considered this a stronger test of our hypotheses than measures collected before bargaining (which could severely taint the behavior observed as people try to be fair). If indeed bargaining outcomes caused fairness perceptions, then we should see positive relationships between fair beliefs and offers/demands in both countries across both roles. Instead, we saw positive relationships only where hypothesized.

There are ample avenues for future research in this area. For example, we might extend the self-serving biases literature (Babcock and Loewenstein 1997) by examining



TABLE 3

SUMMARY OF RESEARCH RESULTS: PREDICTIONS AND FINDINGS

|   | American participants     |                 | Japanese participants |                           |
|---|---------------------------|-----------------|-----------------------|---------------------------|
|   | Buyers                    | Sellers         | Buyers                | Sellers                   |
| Generally, self-interest is enhanced with . . .                           | Lower offers              | Higher demands  | Lower offers          | Higher demands            |
| When buyers have more power, fairness norms imply . . .                   | Lower offers*             | Lower demands*  | Higher offers*        | Higher demands*           |
| Correlation between actual and perceived "fair" offers/demands            | Positive and significant* | Not significant | Not significant       | Positive and significant* |
| Actual offers/demands when buyers have more power . . .                   | Lower offers*             | Higher demands* | Lower offers*         | Higher demands*           |
| Proportion of participants behaving unfairly in the buyer power condition | Low (.23)                 | High (.65)      | High (.55)            | Low (.26)                 |

\*Confirmed,  $p < .10$ .\*Confirmed,  $p < .05$ .

whether fairness beliefs taken before participants are assigned a role differ from those taken when participants know that they will be playing the role of buyer or seller, and then looking at the relationship of both of these measurements to actual behavior. We also might examine more deeply the issue of the cost of being fair and look at which types of costs mitigate the role of fairness in bargaining and by how much. The experimental situations in this research presented very conservative tests of fairness; it would be informative to study conditions (such as ones that provide the opportunity for reputation building) where self-interest may be more costly and fairness would be more likely to flourish.

Lest our focus on the self-interested behavior of individuals has left readers feeling that we are headed for some nasty, brutish, and short Hobbesian existence, it is important to note that, even though players did not always behave in accordance with their fairness beliefs, neither did they act in accordance with equilibrium play. In the buyer power condition, for example, average buyer offers hovered around 450 units and average seller demands were approximately 375 units. Although we have shown that concerns for fairness do not always serve as a constraint on profit seeking, bargainers in our experiment demonstrated that the purely rational behavior predicted by standard economic theory also has its limits.

We hope that future research will continue to investigate the issue of fairness and, more specifically, will focus on the relationships between fair beliefs, self-interest, and bargaining behavior. Regardless, we expect that, as once described to the first author, economists will keep trying to figure out why people are not more selfish and psychologists will keep trying to figure out why people are as selfish as they are.

## APPENDIX

### CROSS-COUNTRY EXPERIMENTAL CONTROLS

*Controlling for Subject Pool Equivalency.* We controlled for equivalency in educational background and knowledge of economics among the participant populations in three ways: First, the universities chosen for the experiment were both top tier universities in their countries. Second, participants were all sophomore or junior economics or business undergraduate students and were paid for their earnings in the experiment. Third, participants were questioned as to their level of exposure to economic theory and to game theory in particular. Although, answers to these questions were entered as covariates in the final analysis of results, they were not significant.

*Controlling for Currency Effects.* To control for differences in the numerical scale on which payments were made (i.e., single dollars vs. thousands of yen), proposed offers and demands in each country were made first in terms of dollars or yen, and also in terms of 1,000 tokens, in increments of five tokens. As in previous multicountry experiments, we controlled for purchasing power parity by choosing denominations such that monetary incentives relative to participant income and living standards would be approximately equal across countries.

*Controlling for Language Effects.* To control for any nuances in language that may affect results across countries, instructions for the experiments in Japan were translated into Japanese and back-translated into English using separate external translators.

*Controlling for Experimenter Effects.* Similar to the measures taken by Roth et al. (1991) to control for individual

differences in the manner in which the experiment was conducted across countries, the same bilingual experimenter conducted all conditions of the experiment in both countries.

*Controlling for Comprehension of Experimental Task.* To be certain that participants in each country understand the experimental task, after reading through the instructions but prior to engaging in the actual task, participants completed a series of comprehension checks. Experiment monitors checked the answers of each student before the experiment was allowed to proceed.

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