

Communicating Frames in Negotiations

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The conundrum of communication in bargaining has been resolved only in part. While theorists and empiricists have come to agree that communication can enhance bargaining efficiency through honest revelation and coordination, the spirit of Farrell's conclusion from over two decades ago still holds: "The role of talk in games is still little understood (1988: 213). Given the opportunity, bargainers tend to over-communicate—to share more information, more honestly, than predicted in equilibrium. Speakers are more revealing than dictated by their economic interests and receivers place more weight on unverifiable information than theory suggests is rational (Blume & Ortmann, 2007; Cai & Wang, 2006). As a result, communication prior to or during bargaining tends to increase, though it cannot guarantee, outcome efficiency in games with private information (Crawford, 1990; Farrell & Gibbons, 1989; Rabin, 1990). When all information is public, communication enhances coordination if such a strategy is possible (Cooper, DeJong, Forsythe, & Ross, 1992; Demichelis & Weibull, 2008; Ellingsen & Östling, 2010; Farrell, 1987). Perhaps most notably, communication leads to "fair" outcomes at a rate higher than predicted in equilibrium across multiple types of bargaining, including dilemma games, fairness and trust games, and games with private information (Brosig, Weimann, & Yang, 2004; Crawford, 1998; Frey & Bohnet, 1996; Sally, 1995; Valley, Thompson, Gibbons, & Bazerman, 2002). But not all communication in bargaining is mutually beneficial. Experimental evidence suggests that communication results in positive payoffs for dishonesty (Croson, Boles, & Murnighan, 2003; Demichelis & Weibull, 2008) and that the expectation of dishonesty, especially in non-face-to-face forms of communication, increases impasse rates (Valley, Moag, & Bazerman, 1998). Furthermore, free-form communication in some instances reduces cooperation relative to no communication (Blume & Ortmann, 2007; Bohnet & Frey, 1999; Croson, 1999) and may heighten competitiveness in bidding (Bolton, Chatterjee, & McGinn, 2003).

Because communication conveys information about what is appropriate in the interaction (March & Olsen, 2006; Messick, 1999) as well as objective information

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(Crawford, 1998; Farrell, 1993; Farrell & Rabin, 1996; Sally, 2005), further understanding of why and how talk sometimes makes bargaining more cooperative and other times makes bargaining more competitive may rest on studying what is being communicated about the underlying purpose of the interaction. Notions about the nature of the interaction form the basis for bargaining behavior and the final terms of agreement (or disagreement). This view of communication is consistent with Charness and Dufwenberg's musings as to why people communicate so much during bargaining: "Perhaps they are bargaining on what they should all agree is the right thing to do" (2006: 1595)

In this chapter, we argue that the content of communication frames the bargaining situation and thus can help predict bargaining behavior and final agreements. We go beyond the truthfulness of content (Croson et al., 2003) or a player's signaling of type that other players may use in determining their own moves (Crawford, 2003) to argue that communication primes behavior by signaling the fundamental nature of the interaction, i.e., "the right thing to do." An example from takeover negotiations helps illustrate our ideas. Scholars studying mergers and acquisitions predict the likelihood of agreement and terms of final deals using factors like competing offers (number, size, financing details like all shares or all cash) and firms' financial numbers. But if you ask investment bankers of the acquiring company what factors are most important in explaining the details of a deal, they will start talking about one of the first meetings with the investment bankers of the target firm, when no clients are present. In this meeting, the bankers attempt to agree on a common language defining the interaction. An acquisition mutually conceived of and explained as a "merger of equals," for example, results in a different subsequent negotiation process and outcome than a deal labeled an "unfriendly takeover." In other words, the bargaining frame is determined through early and endogenous communication, that is communication evolving in the interaction among players during bargaining. This frame shapes negotiators' behaviors and the terms of the final agreement.

We focus on how communication frames understandings about the fundamental nature of and purpose for the bargaining, taking the role of communication as a vehicle for potentially honest revelation and an opportunity for coordination as given. Communication shapes the shared understanding of the negotiation and this, in turn, shapes the admissible arguments and strategies. In the section that follows this introduction, we review the existing

literature on communication and fairness in bargaining to establish the current scientific knowledge on how talk enhances cooperation in some instances and increases competitiveness in others.³ We discuss framing in the third section, applying logics from fields outside economics to the study of bargaining. In the next section, we draw from experimental studies that permit some form of communication in bargaining to establish how talk before or within bargaining induces bargaining frames that drive beliefs, behaviors and outcomes. We close with a discussion of how experimental studies can distinguish bargaining frames from other effects of communication in bargaining.

Fairness and Communication in Bargaining

In spite of (or perhaps because of) the complex and opaque effects of communication in bargaining, economists studying bargaining behavior and outcomes often disregard communication completely, restrict interaction to offers and counteroffers, or study the mere presence of communication while ignoring or constraining its content. Standard equilibrium predictions about bargaining assume competitive behavior will drive outcomes, resulting in payoffs reflecting parties' resources outside of negotiations (Nash, 1951; Von Neumann & Morgenstern, 1953). Research on fairness and communication suggests an alternative point of view. This research suggests that bargaining outcomes are likely to reflect fairness concerns, just as other interpersonal behavior reflects fairness concerns (Kahneman, Knetsch, & Thaler, 1986). Experimental studies of bilateral bargaining and public goods games find that agreements negotiated with full or partial communication often conform to fairness norms as much as or more than they conform to competitive, game-theoretic predictions (Frey & Meier, 2004; Hoffman, McCabe, & Smith, 1996b).

The possible role for communication in triggering fair outcomes varies with the presence or absence of private information. Communication allows private information to be shared, increasing the chance for coordination on a mutually agreeable outcome (Rabin, 1990; Valley et al., 2002). In spite of theoretical arguments that each party in a negotiation would prefer to coordinate on a point that will provide him or her with the largest possible portion of the available resources (Farrell & Gibbons, 1989), empirical evidence suggests that when two parties communicate, they tend to truthfully reveal sufficient information to allow not only

³ We set aside several factors known to interact with communication, but studied elsewhere. Specifically, we do not discuss the medium of communication (McGinn & Croson 2004) or anonymity (Bohnet & Frey 1999).

coordination, but coordination on a point that results in a relatively equal split of available resources (Bolton et al., 2003; Bolton & Brosig, 2007; Valley et al., 1998). In most economic theory, games in which all relevant information is known by both parties prior to play eliminate the formal informational advantages of communication. Empirical evidence suggests that communication continues to play a powerful role nonetheless. In a meta-analysis of dilemma games, Sally (1995) found that pre-play communication allowed the solicitation and conveyance of promises to act non-selfishly. These promises were relied on and kept in the decision phase. Pre-play discussions increased the likelihood of cooperative behavior even after controlling for promises, resulting in 40 percent more cooperation than play not preceded by talk (Sally, 1995). As in games with private information, communicating prior to or in the process of bargaining with full information appears to stimulate coordination beyond that owing to the exchange of objective information.

Concerns for fairness rest on some interdependence in preferences or in actions taken by at least a subset of players (Rabin, 1993). Interdependence in preferences is usually modeled by assuming that people care about relative payoffs as well as absolute payoffs (Bolton & Ockenfels, 2000; Fehr & Schmidt, 1999). Interdependence in actions is modeled through reciprocity, whereby people are generous to others who are generous and stingy or even spiteful to those who are stingy (Rabin, 1993). Fehr and Schmidt (1999) and Bolton and Ockenfels (2000) show how individual preferences for equity, reciprocity and cooperation can lead to fairness equilibria. Fehr and Schmidt (1999) argue that markets are comprised of players with different preferences, some “fair types” and some “selfish types,” and use this observation to explain the divergence in bargaining outcomes. They show that a small fraction of players who care about fairness can move outcomes toward equal payoffs and away from competitive equilibrium. All three of the models discussed here assume fixed types within a heterogeneous population and so exclude the potential for one party to influence another’s underlying preferences. Nevertheless, it is not a big leap to suggest a potential for parties to influence preferences by framing in terms of competition or fairness.

While interdependence models do not suggest types are unstable, neither do they provide evidence that types are stable. Accumulating evidence suggests that preferences for fairness are labile and may be affected by numerous features of the bargaining context. In survey data and in an n-person public good game, for example, Frey & Meier (2004) found

that a player's pro-social behavior is dependent on others' behavior—people increased their willingness to contribute in response to others' willingness to contribute. Bardsley and Sausgruber (2005) ran a series of public goods games designed to isolate conformity effects from reciprocity effects and concluded that conformity, using others' behavior as a guide to one's own behavior independent of the material consequences, explains over 30 percent of contributions. The generalized notion emerging from theory and empirical studies is that people moderate their bargaining behavior to be consistent with the motives and behavior they ascribe to other parties, even when that behavior is independent of or counter to one's own economic self-interest.

Communication between parties acts as a vehicle for conveying and thereby affecting others' motives underlying behavior. Past research suggests two possible mechanisms through which communication conveys and shapes negotiators' motives. First, the mere presence of conversation may establish social closeness, heightening preferences for fair treatment and increasing utility for other players' positive outcomes (Kachelmeier & Towry, 2002; McGinn & Croson, 2004; Sally, 1995). Personal communication irrelevant to economic payoffs can increase other-regarding preferences (Buchan, Johnson, & Croson, 2006). In this mechanism, it is the presence of communication, rather than the content, that moves payoffs toward what is seen as fair in a given situation. Alternatively, communication may allow for the emergence of a dominant, shared frame for an interaction (de Dreu, Carnevale, Emans, & van de Vliert, 1994). Talking before extending offers allows parties to mutually define the objective function for an interaction. This mechanism suggests that “mere” talk will not reliably increase the likelihood of fair outcomes. Rather, the content of the communication should influence outcomes by affecting shared notions of appropriate behavior (Messick, 1999). Talk specifically eliciting fairness concerns should move outcomes toward an equal distribution of available resources. Conversely, competitive payoffs should become compelling when talk highlights bargaining power or resource asymmetries.

Frames in Bargaining Games

The social world is . . . a kaleidoscope of potential realities, any of which can be readily evoked by altering the ways in which observations are framed and categorized.
(Edelman, 1993: 232)

Tversky and Kahneman (1984; 1974) introduced framing into the decision literature in terms of gains and losses. In their terms, a decision frame is the decision maker's "conception of the acts, outcomes, and contingencies associated with a particular choice" (Tversky & Kahneman, 1981: 453). Frames were viewed as partly controlled by the presentation of choices and partly by "norms, habits and personal characteristics" (Tversky & Kahneman, 1981: 453). Bazerman and Neale (1985; Neale & Bazerman, 1992) transferred the concept of gain-loss frame to the study of two-party bargaining, where frames are manipulated through reference to an alternative or anchor. Targets or goals can act as anchors in the absence or stead of actual alternatives (Blount, Valley, Neale, & Bazerman, 1994). Negotiating parties are more willing to grant concessions when an outcome is framed as a gain than when the economically identical outcome is framed as a loss. Gain frames are associated with a higher likelihood of settlement and greater mutual gain (i.e., higher total payoffs across parties) (Bazerman, Magliozzi, & Neale, 1985), while loss frames are associated with conflict escalation (Bazerman, 1984) and impasse (Bazerman & Neale, 1985).

In the negotiation research following Tversky and Kahneman's introduction of decision frames, gain or loss frames are typically treated as individual cognitions triggered through game instructions or bargaining alternatives, but a few studies offer some insight into the possible role of communication. In an experimental study of a two-party bargaining game with three issues and private information, parties offered larger concessions and more conciliatory counteroffers when the other party's communication stimulated a gain frame (e.g., "I really have to make a profit.") than when it stimulated a loss frame (e.g., "I really have to cut expenses.") (de Dreu et al., 1994). Responses outside of formal concessions and counteroffers also reflected the other party's frame. Communication following gain-framed messages was more likely to be phrased in terms of gains than that following loss-framed messages (de Dreu et al., 1994). Though gain-loss frames are cognitive representations of the bargaining situation, they appear to be malleable through communication.

A broader conceptualization of bargaining frames borrows from the communications literature. Research in this realm views frames as the lens through which bargainers understand the situation, interpret others' behavior, and make choices regarding their own behavior (Pinkley, 1990; Pinkley & Northcraft, 1994; Putnam & Holmer, 1992; Schweitzer & deChurch, 2001). In this conceptualization, to frame a negotiation is "to select some aspects of

a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (Entman, 1993: 52). This view of framing is consistent with the strong effects attributed to exogenous frames on behavior in bargaining games (Blount & Larrick, 2000; Dufwenberg, Gächter, & Hennig-Schmidt, 2006; Hoffman, McCabe, & Smith, 1996a). Dufwenberg and colleagues (Dufwenberg et al., 2006) show the power of “give” or “take” labels in a public contributions game and conclude that a label drives contributions through first- and second-order beliefs about expected and appropriate behavior. Similarly, Robert and Carnevale (1997) found that the frame attached to a bargaining game—“fairness” or “rational” as manipulated through written instructions—affects the generosity of ultimatum offers. In perhaps the best known example of labels framing a bargaining game (Lieberman, Samuels, & Ross, 2004), “The Community Game” frames a prisoner’s dilemma game as a cooperative endeavor, in which interaction can lead to mutual gain and competition would be morally reprehensible; in contrast, “The Wall Street Game” frames the interaction as a competitive enterprise, in which interaction leads to only the best coming out on top and letting the other win would be weak and foolish. The label given to the interaction forms the “communicating text” that promotes a particular view of the bargaining game.

Blount and Larrick (2000) present bargaining frame as a choice made in the process of negotiating. As such, frames are open to social influence within the bargaining interaction. Across four studies using alternative frames of ultimatum bargaining games, they show that both senders’ and recipients’ behaviors reflect their selected frame, but—critically—frames are chosen not only to maximize individual payoffs, but also to reflect perceptions of fairness and respect. Also studying ultimatum games, Schotter and Sopher (2007) find that intergenerational advice, suggestions transmitted from an experienced, “retired” player to a new, active player, affects the new player’s contributions. Van Huyck, Gillette and Battalio (1992) present similar findings in the context of a coordination game in which subjects were given a public, nonbinding suggestion about which equilibrium to play. Suggestions to select the symmetric and efficient equilibrium were followed by both players, while suggestions of inefficient or “unfair” equilibria were rejected as inconsistent with the presentation of the game, in spite of being more beneficial to one of the players.

In none of the studies mentioned above do frame selections result from communication among bargaining parties, but if the label or a set of instructions associated with a bargaining game can prime behavior in economically meaningful ways, certainly the content of communication prior to or during bargaining can have meaningful framing effects on bargaining behaviors and outcomes. Studies have shown that social norms proposed in pre-game communication elicit behavior that appears to conform to those norms (Bicchieri, 2002), even when there is no possibility of detection or punishment of non-normative behavior (Charness & Dufwenberg, 2006; Charness & Dufwenberg, 2011). Bohnet and Frey (1999) provide a glimpse into the role communication plays in the creation of bargaining frames in dilemma and dictator games. The authors found a broad range of what they call “meaning exchange” when open-form communication was allowed, even in dictator games in which there is no mechanism for the recipient of an offer to enforce social norms. As a result, communication sometimes led to increases and sometimes led to decreases in dictators’ allocations (Bohnet & Frey, 1999). Though the authors do not report coding the content of the communication, we propose that a simple dichotomous split of the content of pre-game communication as invoking a cooperative or competitive frame would reliably predict the direction of allocations.

Allowing bargaining frame shaped by communication to set parameters for subsequent bargaining behavior is consistent with Farrell and Rabin’s proposition that people respond in predictable ways to “ordinary, informal talk” (1996: 104), but that free-form communication will not ensure equilibrium outcomes, or even fair play. Closer examination of the content of talk, however, both in experimental research and in bargaining theory, may reveal simple rules of frame disclosure and reliance that enhance our ability to predict bargaining behavior and outcomes.

Communication as Behavioral Framing Mechanism

Studying the role of communication in bargaining requires some way to measure or assess the content of talk. Experimental studies of bargaining games have borrowed from content coding methods used in social psychology when coding free-form communication, whether pre-play messages or exchanges embedded in play. Past empirical research in the social psychology bargaining literature captures and codes communication to measure effects of certain types of communication on payoffs. Examples include the nature of first offers,

competitive versus interest-based statements, and strategy sequences (Olekalns, Smith, & Walsh, 1996; Weingart, Hyder, & Prietula, 1996; Weingart, Thompson, Bazerman, & Carroll, 1990). Typically, authors develop a coding scheme based on a subset of the communication data and then train research assistants who are blind to the hypotheses to code the full data set. Houser & Xiao (2011) introduce an incentivized variant on the standard coding procedure borrowed from social psychology. They suggest treating coding as a coordination game in which coders are rewarded if their independent classifications of a statement match those of other coders.

The simplest level at which to examine the potential for communication to frame bargaining processes and outcomes is a single message. In practice, much of the research on communication in bargaining allows only single pre-play messages. But, all messages may not be created equal. Charness and Dufwenberg (2006) offer evidence for the power of content coding and predicting subsequent bargaining behavior from single, pre-play messages. They study a trust game with a chance move that obscures player B's choice. Player B can send a single unstructured message to player A before player A decides on the first move. Each pre-play exchange was coded as a "promise," "empty talk," or no message. Charness and Dufwenberg then compare this content with player B's beliefs and subsequent decisions. Promises appear to affect player B's beliefs about what player A believes—those who make promises believe the other player expects them to fulfill their promises. Players move in accordance with their beliefs about the other's beliefs, resulting in significantly more trusting and trustworthy behavior with communication than without it. Charness and Dufwenberg explain the behavior as "guilt aversion," a willingness to forgo monetary payoffs to avoid breaking a perceived promise. Framing offers a less moralistic explanation: people behave heuristically in ways consistent with the situational norms established through communication.

The demonstrated power of labels and pre-play messages on bargaining behavior and outcomes suggests early communication may be more influential than later messages. Testing this proposition explicitly, Cason and Mui (2007) found that coordination was greatest when a binary message was allowed prior to any play, relative to when no message was allowed or the message followed an initial move. Whether talk is allowed before formal offers are submitted, accompanying formal offers, or to explain them afterwards may have meaningful

effects on the opportunity to frame the interaction and shape the final agreement. Brandts and Cooper's (2007) principle-agent game ran for 20 rounds (after 10 rounds of practice play), but the one-way communication permitted in their game had reached its maximum benefit in the first five rounds and effort remained at this high level for the next fifteen rounds. McGinn and Keros (2002), studying a bilateral auction with private information and free-form communication, found that that outcome types (e.g., impasse, equal split) could be reliably predicted from early exchanges between bargaining parties. Once a bargaining frame has been established through early communication, it appears to be persistent and difficult (but not impossible) to change.

In addition to the timing of communication, the symmetry of communication may affect framing. One-way communication may be sufficient to frame an interaction, but the understanding of the game could be reinforced or undermined as additional messages by additional players bolster or contradict the initial frame. Brandts and Cooper (2007) offer a compelling illustration investigating the mechanism through which talk drives beliefs and behavior. They study a principle-agent, weak-link game with one supervisor and four employees with three treatments: incentives only, one-way communication (supervisor to employees), or two-way communication. In the communication treatments, written, public messages are allowed prior to play in each round. Only total effort across the group is observed. Relative to incentives only (which result in negative marginal profit), effort is three times higher with one-way communication and five times higher with two-way communication. Content coding allowed the authors to isolate and measure the effects of various types of messages. The most effective messages requested high effort, emphasized the benefit of such effort, and remarked positively on the level of pay (regardless of the actual level). Employees put in more effort, even in the absence of higher pay, when the supervisor framed the interaction as a cooperative and mutually beneficial endeavor and the employees were given the opportunity to communicate in response to their supervisor's message.

An experimental design with structured, pre-game communication emphasizing fairness or emphasizing competition could directly test the power of communication-induced frames in bargaining. McGinn, Milkman and Nöth (2011) offer an example of such a design. In a three-party bargaining game with complete information and unequal stand-alone payoffs, pre-play communication was limited to a public menu manipulated to include mostly

“fairness” talk or mostly “competitive” talk. Each of the three parties was required to send the other two players messages from the treatment menu in a short period preceding play. Subsequent agreements in the fairness treatment were closer to equal division than those in the competitive treatment. Communication was critical—no differences in outcomes were found across separate treatments in which either a “fair” or a “competitive” menu was presented but no messages were required. In a second study, McGinn and her colleagues coded previously unexamined endogenous communication data from Croson et al.’s (2004) study of alternative equilibria in three-party takeover markets with externalities. They developed a coding scheme that classified messages across 17 possible categories according to frame (i.e., about fairness, about competition, or about social interaction), deal specifics (e.g., discussion of possible offers), process issues (e.g., promises, requests) and emotion (e.g., positive emotion, negative emotion). Only frame reliably predicted agreement rates and payoff distributions in the final agreements. Messages communicating a competitive frame reduced the likelihood that all three parties would be included in the final deal, while a communication-induced fairness frame increased the likelihood of exactly equal splits. Consistent with the proposition that early talk effectively frames subsequent interaction in bargaining, restricting talk to initial exchanges continued to reliably predict equal splits. McGinn et al.’s findings suggest that detailed content coding of all communication may be unnecessary; coding for competitive or cooperative frame in pre-game talk or early exchanges within a game may be sufficient to predict subsequent bargaining behavior and outcomes.

Distinguishing Framing from Other Effects of Communication

Future experimental studies are needed to isolate framing from other communication effects. As Wu and Larrick (this volume) argue, multiple factors affect beliefs. We have suggested here that communication induces bargaining frames that drive beliefs about how to behave and what to expect of others. This suggestion relies on prior findings from studies of communication in bargaining, specifically that communication is more truthful and relied on more frequently than expected in equilibrium, but not all talk is equal—some talk stimulates cooperation and other talk stimulates competition.

Framing can be separated empirically from other mechanisms through which communication influences bargaining outcomes, including reputation effects, reciprocity, social identification across parties, and guilt aversion. Further studies are needed, but past

research offers some evidence distinguishing framing from these other mechanisms. Framing is differentiated from reputation effects in findings from Brandts and Cooper's (2007) five-person principal agent, weakest link game. They found that agents responded in keeping with the principal's requests for high effort in spite of the fact that no individual agent's effort level could be observed. Reciprocity is taken out of play in numerous studies involving single play bargaining games following non-binding pre-play communication. Since no party has taken an action and play is simultaneous, differences across treatment can be attributed to the different frames induced by talk, but not to reciprocity across actions. Mohlin and Johannesson (2008) minimize the possibility that social identification with the other party could underlie communication effects in their ultimatum bargaining game by offering one-way messages from third parties not involved in the game. Although the communication is not across involved parties, contributions after third party communication are 40 percent higher than those made in the no-communication treatment. Guilt aversion (Charness & Dufwenberg, 2006) would be an unlikely explanation for McGinn et al's (2011) finding that both exogenous and endogenous competitive talk can lead to more competitive outcomes than otherwise predicted or than observed with other frames or no communication. But each of these examples was chosen post hoc because it appears to rule out a reasonable alternative explanation, so any conclusions may be suspect. Future models and empirical studies can be explicitly designed to pit these alternative explanations against framing.

The idea that non-binding communication can influence whether a bargaining game comes to be viewed as a cooperative or competitive interaction, and that appropriately cooperative or competitive behavior will follow, may seem to go outside the realm of economics. But assuming the possibility that talk can shape bargaining frames is no further outside the realm of economics than the now well-established assumption that bargainers often honestly reveal private information and that their counterparts often rely on this information when making and deciding whether to accept offers. Because communication allows "a kaleidoscope of potential realities" (Edelman, 1993), attention to bargaining frames may bring us closer to resolving the conundrum of communication in bargaining.

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