

## TRUST AND COLLABORATION IN THE AFTERMATH OF CONFLICT: THE EFFECTS OF CONTRACT STRUCTURE

DEEPAK MALHOTRA  
Harvard University

FABRICE LUMINEAU  
University of Technology Sydney

**Leveraging a longitudinal data set concerning 102 interfirm disputes, we evaluate the effects of contract structure on trust and on the likelihood of continued collaboration. We theoretically refine and empirically extend prior research by (1) distinguishing between the control and coordination functions of contracts, (2) separating goodwill-based and competence-based trust, and (3) evaluating the effects of contract structure on relational outcomes in the context of disputes. We find that control provisions increase competence-based trust but reduce goodwill-based trust, resulting in a net decrease in the likelihood of continued collaboration. Coordination provisions increase competence-based trust, leading to an increased likelihood of continued collaboration.**

Interfirm relationships allow firms to create value and build competitive advantage (Agarwal, Croson, & Mahoney, 2010), but cooperation in such relationships is neither automatic nor easily fostered. Two key impediments to cooperation are the threat of exploitation by an opportunistic exchange partner (Williamson, 1985) and the possibility of coordination failures that can derail the efforts of even well-intentioned parties (Gulati, Lawrence, & Puranam, 2005; Knez & Camerer, 2000). Recognizing that mixed motives underlie most exchange relationships (e.g., Kogut, 1988) and that coordinating partners' expectations and actions is inherently difficult (Camerer, 2003), firms rely on contracts to mitigate risks, facilitate coordination, and promote cooperation (Ring & Van de Ven, 1992).

Despite the use of contracts to facilitate coordination and control, however, interfirm disputes can emerge. This raises questions regarding the kind of relationship that will emerge and the viability of continued collaboration after parties have been unsuccessful in preventing conflict. In this study, we

examine these dynamics by evaluating how contract structure affects trust, and subsequently, contracting parties' intent to continue collaboration, in the context of interfirm disputes. We extend prior research on the effects of contracts on trust by (1) distinguishing between the control and coordination functions of contracts, (2) distinguishing between the goodwill and competence dimensions of trust judgments, and (3) evaluating these relationships in the context of interfirm conflict.

We argue that a more nuanced approach that encompasses the different functions of contracts (coordination versus control) and the different dimensions of trust judgments (goodwill versus competence) may provide a more complete assessment of the effects of contracts on trust and collaboration. Prior research has often focused narrowly on a subset of these distinctions and in some cases overlooked these distinctions altogether (Puranam & Vanneste, 2009). Furthermore, our analysis of firms' willingness to continue relationships after suffering costly disputes allows us to evaluate the mechanisms underlying an important but rarely studied aspect of interfirm exchange: relationship repair (Zaheer, Lofstrom, & George, 2002).

To test our hypotheses, we use a rich data set comprising more than 150,000 pages of details regarding 102 business disputes arising in vertical exchange relationships in the years 1991–2005. The data include a wide range of contractual and exchange characteristics for each relationship, along with thousands of pages of communication between the disputants. The contracts enabled us to codify the degree to which control and coordi-

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nation provisions were incorporated into agreements, and the communications allowed us to code for statements that reveal goodwill-based and competence-based trust in the relationships. This is notable because, to our knowledge, the current data set is the first to provide this level of detail on interfirm conflict, and the first to allow such a fine-grained analysis of trust in interorganizational relationships.

## THEORETICAL BACKGROUND AND HYPOTHESES

### Contracts as Instruments of Control and Coordination

Seminal works in organization studies (Barnard, 1938; Burns & Stalker, 1961), as well as work by legal scholars (e.g., Baird, Gertner, & Picker, 1994; McAdams, 2009), decision theorists (e.g., Luce & Raiffa, 1957; Schelling, 1963), and economists (e.g., Camerer, 2003; Knez & Camerer, 2000), have previously addressed the distinction between control problems (those stemming from *misaligned incentives*) and coordination problems (those stemming from *misaligned expectations and behavior*) in exchange relationships (Gulati et al., 2005). Although control and coordination have often been tackled separately in the literature (Kretschmer & Puranam, 2008), some recent studies have suggested that organizational structures—and, in particular, interfirm contracts—serve both functions (e.g., Argyres, Bercovitz, & Mayer, 2007; Mellewigt, Madhok, & Weibel, 2007; Reuer & Ariño, 2007; Salbu, 1997).

Organizational scholars have long considered contracts as instruments of control (Macneil, 1978; Williamson, 1985, 1991). Interfirm collaborations have the potential to create value, but parties to such relationships must contend with the risk of exploitation by their partners (Walker & Weber, 1984; Williamson, 1985). The legal underpinnings of contracts give firms the option of sanctioning an exchange partner who is unable or unwilling to abide by agreed-upon terms (Joskow, 1987). The coordination function of contracts has received less attention (Argyres et al., 2007; Mayer & Argyres, 2004). A contract—and the contracting process—help parties make explicit their assumptions and expectations regarding their transaction and each side's role (Beatty & Samuelson, 2001; Smitka, 1994). Coordination-oriented provisions in a contract are aimed at mitigating the risk that misunderstandings will disrupt collaboration among (presumably) well-intentioned parties (Macaulay, 1963).

In this article, we build on the work of those who have called for a broader perspective on contractual

complexity and a more nuanced approach to studying the effects of contracts on relational attitudes and exchange outcomes (Puranam & Vanneste, 2009). We evaluate contracts at the level of individual provisions, distinguishing between provisions aimed primarily at exerting control and those aimed primarily at facilitating coordination.

### Two Dimensions of Trust Judgments: Goodwill and Competence

Following Rousseau, Sitkin, Burt, and Camerer (1998), and in keeping with other influential conceptualizations of trust (Lewicki, McAllister, & Bies, 1998; Mayer, Davis, & Schoorman, 1995), we define trust as the willingness of a party to be vulnerable to the actions of another party based on positive expectations regarding the other party's motivation and/or behavior. Trust, so defined, can be distinguished from the underlying dimensions of trust judgments, which entail attributions of another party's trustworthiness along relevant characteristics (e.g., integrity). Following prior work on the attributional basis of trust (Ferrin & Dirks, 2003; Mayer et al., 1995; Weber, Malhotra, & Murnighan, 2005), we posit that attributions along relevant dimensions are what create in a truster a willingness to accept vulnerability.

We follow the lead of Nooteboom (1996) and Das and Teng (2001), who focused on two dimensions of trust judgments: goodwill and competence. Perceptions of goodwill entail attributions regarding the *intention* of another party to behave in a trustworthy manner; perceptions of competence entail attributions regarding the other party's *ability* to behave or perform as expected (Nooteboom, 1996).<sup>1</sup>

### The Effect of Contracts on Trust

Contracts and trust represent alternative means by which parties can manage risk in exchange relationships, but in interfirm relationships, firms typically use contracts while simultaneously attempting to build trust (Poppo & Zenger, 2002; Wicks, Berman, & Jones, 1999). The seemingly modal preference regarding interfirm gover-

<sup>1</sup> This distinction captures all three dimensions in Mayer and colleagues' (1995) trust framework: ability, benevolence, and integrity. Competence captures attributions of ability; goodwill captures benevolence and integrity. Combining benevolence and integrity as "goodwill" is useful because many of the statements in our data are hard to categorize as *either* benevolence or integrity attributions; many are ambiguous or suggestive of a dual attribution.

nance—to use contracts *and* build trust—has sparked a debate regarding the viability of this strategy. Some have argued that contracts and trust are often incompatible (Malhotra & Murnighan, 2002; Molm, Takahashi, & Peterson, 2000; Sitkin & Roth, 1993). Others have suggested that contracts and trust are not only compatible, but mutually reinforcing (Gulati & Nickerson, 2008; Poppo & Zenger, 2002). This divergence makes it difficult to predict whether an emphasis on contracts in a relationship between firms will enhance or inhibit the prospects for the firms' continued collaboration after a dispute. Our goal is not to reconcile the vast amount of prior research on this topic, nor do we align ourselves completely with either side. Rather, we borrow from the literatures forwarding each of these viewpoints on the (in)compatibility of contracts and trust to expound a more comprehensive (and nuanced) perspective on the effect of contracts on trust and collaboration in the aftermath of conflict. Our review of prior research suggests that both positive and negative effects of contracts could be better understood when we separately consider the effects of control versus coordination provisions on goodwill-versus competence-based trust.

**The effect of control provisions on trust.** Those who have posited a negative relationship between contracts and trust have largely focused on the control function of contracts and on the goodwill dimension of trust (Malhotra & Murnighan, 2002; Sitkin & Roth, 1993; Tenbrunsel & Messick, 1999). Macaulay (1963) and Ghoshal and Moran (1996) suggested that the mere suggestion or introduction of contracts may signal distrust of another party's intentions, thereby disrupting the process of trust development (Pillutla, Malhotra, & Murnighan, 2003). Tenbrunsel and Messick (1999) argued that an overreliance on control mechanisms changes the "decision frames" of exchange partners; including too many control provisions may, ironically, promote opportunistic behavior by inducing a "business" rather than "ethical" framing of the interaction. Finally, Malhotra and Murnighan (2002) argued that overly controlling contracts, which leave little room for discretion, crowd out trust development because they lead to situational rather than personal attributions for the cooperativeness of partners. This crowding out may be especially likely during conflict, because parties are less likely to make generous attributions of each other's behavior when their relationship has turned antagonistic (Ross & Stillinger, 1991). These mechanisms suggest:

*Hypothesis 1. The higher the number of control provisions in an interfirm contract, the lower*

*the subsequent level of goodwill-based trust between them.*

Prior research has not directly examined the effect of control provisions on competence-based trust. However, there are two reasons to expect that control provisions will enhance perceptions of competence in the context of disputes. First, by eliminating incentives for cheating and renegeing, control provisions may force parties to focus more time and effort on their roles and responsibilities. This "substitution effect," by limiting nefarious conduct, may promote exactly the types of behavior (e.g., attention to detail, timeliness, etc.) that enhance competence attributions. Another possibility is that the time spent on drafting contractual language, even for control provisions, leads to a clarification of expectations and assumptions, which in turn facilitates competence attributions (Argyres et al., 2007; Mayer & Argyres, 2004). We therefore hypothesize the following:

*Hypothesis 2. The higher the number of control provisions in an interfirm contract, the higher the subsequent level of competence-based trust between them.*

**The effect of coordination provisions on trust.**

In addition to serving a control function, contracts provide a means by which parties can coordinate their expectations and efforts (Gulati et al., 2005; Mayer & Argyres, 2004; Reuer & Ariño, 2007). As a result, common knowledge structures such as shared language and routinized interactions emerge that make it easier for the parties to communicate their ability to meet each other's needs (Morgan & Hunt, 1994; Puranam, Singh, & Zollo, 2006). The process of coordination can thus facilitate competence-based trust development. In their analysis of 11 contracts signed between two firms, Mayer and Argyres provided a relevant example: "HW Inc. had expressed frustration in the first two projects over the length of time it took Softstar to complete what HW, Inc. perceived to be minor changes. . . . Softstar added a system architecture section to the third [contract]. This section allowed both firms to better understand how the entire product fit together and the impact to Softstar if HW, Inc. made a late hardware change" (2004: 400). In this incident, the revised contract was aimed at aligning expectations regarding the link between change requests and delays, lest HW Inc. attribute delays to Softstar's incompetence. Coordination structures may be especially important for competence perceptions after a conflict has arisen, because disputing parties are otherwise unlikely to engage in the kinds of spontaneous communication

that mitigate conflict and promote positive attributions (Hinds & Mortensen, 2005). This suggests:

*Hypothesis 3. The higher the number of coordination provisions in an interfirm contract, the higher the subsequent level of competence-based trust between them.*

Coordination provisions are also expected to increase goodwill-based trust in the context of disputes. By creating channels through which differences in perspective will be resolved, coordination provisions help mitigate misunderstandings of the kind that raise questions about the intent of another party; this promotes—or at least minimizes damage to—attributions of goodwill during a conflict (Vlaar, Van den Bosch, & Volberda, 2007). Moreover, parties that establish norms and procedures allowing them to coordinate on when and how to expend effort in their relationship are less likely to face situations in which one party feels overworked or exploited, or is concerned that the other side is not meeting its reciprocal obligations (Malhotra, 2004). Laboratory evidence has supported this argument. Ahn, Ostrom, Schmidt, Shupp, and Walker (2001) found that prior experience in a pure coordination game (with no incentives for noncooperation) helps parties to move toward a mutually cooperative outcome, even in subsequent interactions that provide incentives for noncooperation. This suggests:

*Hypothesis 4. The higher the number of coordination provisions in an interfirm contract, the higher the subsequent level of goodwill-based trust between them.*

**Trust and consequences.** The considerable research attention devoted to the effect of contracts on trust reveals the extent to which trust is seen as crucial for interfirm collaboration and value creation (Arrow, 1974; Uzzi, 1997) and as a source of competitive advantage for organizations (Barney & Hansen, 1994; Nahapiet & Ghoshal, 1998). Here, we consider a consequence of trust that has received little direct attention but that is critical to the value-creating potential of interfirm relationships: firms' willingness to continue such relationships after disputes have arisen. We expect that contractual provisions aimed at coordination and control will influence competence- and goodwill-based trust, which will in turn influence parties' decisions either to stay together or to end a relationship that has experienced conflict. Thus, our data allow us to begin the process of linking contract choices with relational outcomes, with trust serving as a mediator.

Zand (1972) suggested that goodwill-based trust increases the likelihood of continued collaboration because it leads parties to share accurate and timely information and to be more willing to accept dependence on each other even when formal control mechanisms cannot be applied. Zand (1972) also found that a high degree of goodwill-based trust increases motivation to implement agreements and makes parties less likely to switch partners. Research on the role of "psychological contracts" has also shown the positive effect of goodwill-based trust on relationship continuance (Morrison & Robinson, 1997; Robinson, 1996). Uzzi (1997) argued that, in interfirm contexts, (goodwill-based) trust is a crucial predictor of future exchange. This suggests:

*Hypothesis 5. The higher the level of goodwill-based trust in an interfirm relationship, the higher their willingness to continue the relationship after a dispute has arisen.*

Competence-based trust should also increase the likelihood of relationship continuance. It is perhaps axiomatic that parties prefer to do business with those they consider to be competent. In the aftermath of conflict, the importance of competence-based trust should be even greater. Das and Teng argued that "the lower the level of acceptable performance risk level, the higher the needed competence trust level" (2001: 266). Parties exiting a dispute will be especially sensitive to the degree of performance risk involved in continuing their relationship. This suggests:

*Hypothesis 6. The higher the level of competence-based trust in an interfirm relationship, the higher their willingness to continue the relationship after a dispute has arisen.*

### **Contracts and the Continuation of Relationships after a Dispute**

We expect that control provisions, by reducing goodwill-based trust, should lessen the likelihood that disputing parties will agree to continue working together. If a dispute arises despite reliance on provisions designed to protect against opportunism, the parties are likely to seriously question the viability of future exchange. The prospects for continued collaboration are even dimmer if control provisions do not simply substitute for goodwill-based trust, but actually undermine it (Malhotra & Murnighan, 2002). By contrast, control provisions may increase the desire for continued exchange because of an increase in competence-based trust. If control provisions crowd out self-serving behavior

in favor of task-oriented activity, competence perceptions should increase and make future collaboration more attractive.

The net effect of enhanced control on future collaboration depends on whether the effect of goodwill-based trust or competence-based trust dominates. We expect that the negative effect will dominate. Prior research has suggested that strained relationships are more difficult to repair when there has been a breach of goodwill-based trust rather than of competence-based trust (Kim, Dirks, Cooper, & Ferrin, 2006). Moreover, after a dispute, goodwill-based trust is likely to be more important than competence-based trust for resurrecting the scarred relationship: even if concerns remain about a partner's ability to meet all of its obligations, the scope of the relationship can be redefined to focus on areas where competence is not in question; in contrast, concerns about the other's goodwill are unlikely to be limited to a single domain, making it difficult to rekindle the relationship (Kim, Ferrin, Cooper, & Dirks, 2004). We therefore suggest:

*Hypothesis 7a. The higher the number of control provisions in an interfirm contract, the lower the firms' willingness to continue their relationship after a dispute has arisen.*

*Hypothesis 7b. The effect of control provisions on relationship continuance is mediated by the level of goodwill-based trust.*

*Hypothesis 7c. The effect of control provisions on relationship continuance is mediated by the level of competence-based trust.*

Meanwhile, coordination provisions, by increasing goodwill-based trust, will facilitate continued exchange. Recent case studies have pointed to a mutually reinforcing relationship between coordination, goodwill-based trust, and relationship development (Faems, Janssens, Madhok, & Van Looy, 2008; Mayer & Argyres, 2004; Ness, 2009): relationship development facilitates more efficient contracting aimed at better coordination; better coordination facilitates cooperation; and increased cooperation facilitates goodwill-based trust and relationship development. Coordination provisions should be especially important in the context of disputes: parties may question the usefulness of coordination provisions that failed to prevent a dispute, but if coordination provisions have facilitated goodwill-based trust in the interim, a basis on which to rebuild the relationship exists. Coordination provisions should also facilitate relationship continuance via an increase in competence-based trust. As the relationship continues, the parties

learn more about the types of contingencies that can arise, which leads to the development of additional coordination provisions aimed at improving the working arrangement (cf. Zaheer & Venkatraman, 1994). Thus, as time goes on, coordination provisions not only allow parties to make fewer mistakes and appear more competent (as in Hypothesis 3), but also allow them to increase the domain of tasks in which they can demonstrate competency (Argyres et al., 2007). Both of these effects should facilitate continued collaboration. This suggests:

*Hypothesis 8a. The higher the number of coordination provisions in an interfirm contract, the greater the firms' willingness to continue their relationship after a dispute has arisen.*

*Hypothesis 8b. The effect of coordination provisions on relationship continuance is mediated by the level of goodwill-based trust.*

*Hypothesis 8c. The effect of coordination provisions on relationship continuance is mediated by the level of competence-based trust.*

## RESEARCH METHODS

### Data

We were granted access to all legal files concerning contract disputes handled by one law firm in Western Europe between 1991 and 2005. This mid-sized law firm is a generalist in the field of corporate law; its clients include small, midsize, and large firms from a variety of industries. We restricted our sample to all two-party disputes involving vertical relationships; these represented 80 percent of all two-party disputes the firm handled. Our sample consisted of 102 cases (i.e., disputes), 99 of which involved only European firms; each of the other 3 involved at least one non-European firm. Because some companies were repeat clients and involved in more than one dispute, the sample contained 178 different firms.<sup>2</sup> To check for selection bias, we examined differences between included and excluded files (i.e., those involving nonvertical relationships). We found no significant differences on any observable dimension (contractual complexity, firm size, etc.).<sup>3</sup>

<sup>2</sup> The results were unchanged when a "repeat client" control variable was included in the analyses.

<sup>3</sup> Because all of the studied relationships involved legal disputes, we evaluated the representativeness of our sample—at the contract level and relationship level—relative to the broader universe of interfirm relation-

Each legal file contained between 800 and 5,000 pages and included (1) the original contract, along with any contract revisions that were made prior to the dispute and (2) all documents exchanged during the dispute resolution process. In addition, the lawyers in each case obtained from the clients all potentially relevant information related to the initial context of the relationship, the origins of the conflict, and its progression over time. In total, over 150,000 pages of documents were collected and analyzed for this study. Data collection took place over four months. The law firm did not allow us to contact the disputing firms directly.

The firms in our sample came from a variety of industries: manufacturing (52%), services (32%), retail (15%), and construction (2%). There were four types of contracts: distribution (35.3%), production supply (29.4%), information technology (IT; 26.5%), and consulting and other services (8.8%). Forty-six percent of the cases involved cross-border relationships; 65.7 percent of the contracts were time-bound in that they stipulated a prespecified end to the relationship; and 32.4 percent of the cases included exchange partners that had interacted with each other previously.

### Dependent Variable: Intent to Continue

We analyzed the intent of parties to continue a relationship after a dispute had been resolved. For multiple reasons, this performance variable is especially relevant when one is considering the effects of contract structure on trust in the context of conflict. First, strategic alliance scholars have traditionally sought to investigate factors that contribute to alliance survival (Dhanaraj & Beamish, 2004; Park & Russo, 1996) and stability (Blodgett, 1992; Inkpen & Beamish, 1997). Second, an analysis of the parties' intent to continue collaborating after a dispute has arisen responds to the call by trust researchers to examine when and how damaged relationships can be repaired (Bottom, Gibson, Daniels, & Murnighan, 2002; Dirks, Lewicki, & Zaher, 2009). Finally, this measure provides a more

ships. On Parkhe's (1993: 829) unweighted index of contractual complexity, which tabulates the presence of up to eight key contractual clause categories, our sample's score (4.36) was situated comfortably between the score (3.69) for Reuer and Ariño's (2002) sample and that (5.05) for Reuer, Ariño, and Mellewig's (2006) sample. At the relationship level, the percentage of prior ties among firms in our sample (32.4%) was within the range observed in prior research: 12 percent in Gulati (1995b); 20 percent in Reuer and Ariño (2002); and 53 percent in Hagedoorn and Heslen (2009).

direct measure of the consequences of trust than would be provided by some (eventual) financial measure of performance.

We examined the messages that were exchanged between the parties to each dispute, as well as the terms of the settlement/judgment recorded in the legal files, to look for indications of a willingness to continue with the relationship. Such intent was sometimes manifested in a direct communication between the firms (e.g., "I hope we have clarified and overcome this "misunderstanding" and we can now continue our fruitful collaboration on a sound basis"). In other cases, it was made evident through the crafting of a new agreement by the parties. For example, in one case, the following clause was added to the contract: "Addendum to Clause 14: The Parties thereby agree that [Firm A] and [Firm B] shall now each conduct by the end of each month review of the progress made [...] The Agreement is thereby extended for a 2 (two)-year period." We coded as "no intent to continue" those cases in which either or both parties explicitly stated no willingness to continue the relationship (e.g., "You should perfectly understand that we have put an end to our collaboration") and those cases in which no indication of an intent to continue the relationship was present. Intent to continue the relationship was indicated in 29 cases out of 102.

### Independent Variables

**Control versus coordination provisions.** Our codification of contract provisions as control-versus coordination-oriented was based on existing research (e.g., Parkhe, 1993; Reuer & Ariño, 2007) and supplemented with extensive interviews with legal experts specializing in contract law. We conducted 17 interviews with three practicing lawyers and seven professors in contract law. Interviews lasted between 1.5 and 3 hours. The experts examined both the codification scheme we had prepared drawing on the literature and a sample of contracts from our data set. The experts then offered an evaluation of the coding scheme and proposed some changes, which we implemented. Here, more precisely, is the method we followed in coding our contract provisions:

**Step 1: Codification based on prior research.** We relied upon a set of indicators developed by Parkhe (1993: 829) that are designed to evaluate various provisions in formal contracts. Parkhe identified the following eight key provisions that might be included in a contract: (1) the exchange of periodic written reports of all relevant transactions, (2) prompt written notice of any departures from the agreement, (3) the right to examine and audit all

relevant records through a firm of CPAs, (4) designation of certain information as proprietary and subject to confidentiality provisions of the contract, (5) nonuse of proprietary information even after termination of agreement, (6) termination of agreement clauses, (7) arbitration clauses, and (8) lawsuit provisions. Reuer and Ariño (2007) factor-analyzed the inclusion of Parkhe's eight provisions in an analysis of 88 strategic alliances and found that the first three provisions of Parkhe's eight-item index related primarily to coordination, whereas the remaining five related primarily to enforcement (what we call control). They therefore defined *coordination provisions* as the number of coordination-related clauses included in a contract (i.e., clauses 1, 2, and/or 3 from Parkhe [1993]), a measure yielding an integer variable ranging from 0 to 3; *control provisions*, defined as the number of control-related clauses in a contract (i.e., clauses 4, 5, 6, 7, and/or 8 from Parkhe), yielded a score ranging from 0 to 5.

The coding of our contracts for control versus coordination provisions was done by (1) one of the authors and (2) a faculty member with a degree in law who was unaware of the hypotheses or the purpose of the study. To further eliminate the possibility of bias, all coding of contracts was done prior to any analysis of dispute-related data (e.g., trust messages, intent to continue, etc.). Pairwise correlation among raters for the coding of control-related provisions ( $r = .91$ ;  $p < .001$ ) and for coordination-related provisions ( $r = .92$ ;  $p < .001$ ), along with high Cronbach's alpha coefficients (0.95 and 0.96, respectively), confirmed the reliability of the coding. Any disagreements on coding were resolved by discussion.

**Step 2: Revisions based on expert advice.** To evaluate and refine our coding scheme, we presented the scheme, as well as a sample of real contracts, to a set of legal experts. These interviews yielded two primary results. First, the legal experts supported our general approach to codification, stating that contract provisions could be meaningfully distinguished as being focused primarily on control versus coordination. Second, the legal experts expressed concerns with two clause categories from Reuer and Ariño's (2007) coding framework. Specifically, the experts argued that clause category 3 (regarding the right to examine and audit all relevant records through a firm of CPAs) did not clearly represent a coordination function. In addition, the legal experts suggested that clause category 7 (regarding arbitration clauses) was ambiguous because such provisions may not serve a clear control function. On the basis of this advice, we revised our categorization scheme so that our mea-

sure of coordination provisions would be based on clauses 1 and 2 from Parkhe (1993) and our measure of control provisions would be based on clauses 4, 5, 6, and 8 from Parkhe (1993).<sup>4,5</sup>

**Robustness checks.** The results below are based on the measures of coordination and control provisions derived by the two-step process described above. In addition, we conducted two robustness checks of our results. In the first set of analyses, we used the initial (step 1) Reuer and Ariño (2007) coding framework for our measures of coordination and control provisions. The findings based on this eight-clause analysis strongly converge with the results reported below (results available on request). In the second set of analyses, we added an interpretive (coding) step to the step 1 categorization, in which a rater evaluated each provision in every contract of the data set for seeming ambiguity of intent (Hagedoorn & Heslen, 2009). All clauses that seemed ambiguous as to whether their function was coordination or control were then eliminated. To test the reliability of this elimination procedure, a second rater evaluated ten randomly selected clauses for each of the eight types of provisions; the level of agreement was 91.25 percent. This process yielded more conservative measures in which we deleted 5.96 percent of the coordination provisions and 12.42 percent of the control provisions. The results based on these measures were also consistent with our primary (reported) analyses, with no differences in the tests of our hypotheses. Together, these two robustness checks provide confidence in our reported analyses.

### Mediator Variables: Competence-Based Trust and Goodwill-Based Trust

To assess the level of trust between the parties during the conflict, we analyzed every communication (paper or electronic) exchanged between disputing firms during the entire resolution process for a focal dispute. The choice *not* to reply to a communication by the other party was also coded as a ("no reply") message. In total, 2,293 messages were studied (of which only 132 were coded as "no reply"). A scheme for categorizing statements as relating to competence- and/or goodwill-based trust (or neither) was constructed to evaluate each message (see below for more details). We allowed

<sup>4</sup> A confirmatory factor analysis confirmed that the revised scheme improves on Parkhe's (1993) eight-clause coding.

<sup>5</sup> Following Lui and Ngo (2004) and Barthélemy and Quélin (2006), we used unweighted composite indexes.

each message to be coded as signaling neither, one, or both types of trust. After an evaluation of all documents in a given dispute, the ratio of competence-based trust messages to total messages was calculated, and it served as a measure of the degree of competence-based trust. Likewise, the ratio of goodwill-based trust messages to total messages served as a measure of the degree of goodwill-based trust. Thus, the score on each variable could vary between 0 (i.e., a complete absence of this type of trust) and 1 (i.e., all the messages exchanged between the partners conveyed this type of trust).

A team of two researchers coded the messages: a coauthor of this paper and a colleague (with a law degree) who was unaware of the hypotheses or the topic of research. We followed the coding procedure developed by Weber (1990: 21–24), which includes the following steps: defining the message as our unit of analysis; developing a list of relevant preliminary response categories; applying the coding scheme to a subsample (four cases); assessing and revising the coding rules as a result; and having both raters independently read and code each message in the data set.<sup>6</sup> The percentage of agreement between raters (97 percent for competence-based trust and 95 percent for goodwill-based trust) and the pairwise correlation between raters ( $r = .94$ ,  $p < .01$  for competence-based trust, and  $r = .93$ ,  $p < .01$  for goodwill-based trust) were high. Any disagreements were resolved through discussion. (See Appendix A for examples of statements that were coded as competence-based trust and goodwill-based trust.)

### Control Variables

**Asymmetry of revenues.** We controlled for power asymmetry between the parties using firm revenues as a proxy for firm strength. Asymmetry is necessary to control because it may affect the likelihood that the parties include coordination and/or control provision in the contract. Asymmetry was measured as  $\ln(\text{ABS}[\text{revenue of firm A} - \text{revenue of firm B}])$ . Revenue was measured in thousands of inflation-adjusted euros for the year when the contract was signed. These data were obtained from the Bureau van Dijk's ORBIS database.

**Type of dispute.** We evaluated the nature of each dispute as described by the disputants (Weaver & Dickson, 1998) at the outset. Disputes could be meaningfully distinguished as either disagreements regarding the nature of the transaction in-

involved (30.4%) or as a perceived failure on the part of one party to meet payment, delivery, or other clear objectives (69.6%). Type of dispute took a value of 1 in disputes regarding the nature of the transaction and 0 otherwise.<sup>7</sup>

**Type of settlement.** We controlled for the type of resolution that was eventually pursued—litigation versus private settlement—because the anticipation of this eventuality may have influenced a party's willingness to make statements that admit to the other party's trustworthiness (or lack thereof). Type of settlement took a value of 0 if the dispute was eventually settled through litigation and the value of 1 if the dispute was eventually settled via private negotiation.

**Prior ties.** To mitigate endogeneity concerns regarding the relationship between contract provisions and trust, we controlled for preexisting trust. Following Gulati (1995a), we used the existence of prior ties between the parties to a dispute as a proxy. We then improved on this measure by coding whether the parties viewed the previous transactions (if any) positively or negatively. Following prior research on satisfaction with trading partners (Heide & John, 1992; Jap & Ganesan, 2000), we coded files with messages that explicitly referenced norms of flexibility, participation, and/or solidarity as positive prior ties; files referencing inflexibility, nonparticipation, and/or individualism in prior interactions were coded as negative prior ties. Two dummy variables were created: 16.67 percent of relationships were coded as having *positive prior ties*, and 12.74 percent had *negative prior ties*. When there was no prior tie (67.65%), or if there was no reference to positive or negative perceptions (2.94%), both variables took a value of 0.

**Prior relationship length.** We controlled for the length of the prior relationship between the parties to a dispute because a lengthy interaction history may help parties build trust (Kramer, 1999). As such, controlling for prior relationship length helps to further mitigate endogeneity concerns. Also, organizations interacting repeatedly may learn from prior experiences, allowing contracts to be specified in greater detail (Mayer & Argyres, 2004; Vanneste & Puranam, 2010). We measured the amount

<sup>6</sup> We based coding on the item selection and classification process outlined by Jauch, Osborn, and Martin (1980).

<sup>7</sup> It is arguable that disagreements regarding the nature of the transaction are coordination problems and that failure to meet objectives is a control problem. We pursued this intriguing possibility with supplemental analyses to test whether (1) our control or coordination independent variables predicted type of dispute and (2) type of dispute interacted with either independent variable to predict intent to continue. Neither test produced significant results.



of time for which the firms had transacted prior to engaging in the transaction that led to the current conflict (Argyres et al., 2007; Dekker, 2008) as  $\ln(\text{number of days} + 1)$ . The mean prior relationship length was 942 days for the 33 cases in which firms had prior ties.

**Revisions to the initial contract.** In 10.8 percent of cases, the contract in place at the outset of the dispute was not identical to the original contract that was signed by the parties. Amendments over time may indicate recurrent conflict—or, to the contrary, the ability of parties to cooperatively re-engage to improve their relationship (Mayer & Teece, 2008; Reuer & Ariño, 2002). Thus, we controlled for whether a contract had been revised previously, prior to the current conflict.<sup>8</sup> (We did not observe any revisions during a dispute period.)

**Asymmetry of alternatives.** Even parties that have low levels of trust may decide to continue collaborating if they have few viable alternatives. Given our dyad-level outcome variables, we controlled for outside alternatives by evaluating the degree of asymmetry between the parties' alternatives, as well as the sum of their alternatives. To approximate each party's number of alternatives to dealing with the other, we content-analyzed the communications to look for mentions of alternative options and/or partners (e.g., "You know that if you continue to deny the facts, we will turn to [firm X] to supply this part"; "If we aren't able to put this relationship on the right track, we will produce the [part] ourselves"). Because the texts did not allow us to calculate the precise number of each party's alternatives, we estimated the strength of alternatives in terms of the frequency with which a party mentioned alternatives. *Asymmetry of alternatives* was measured as  $ABS [(number\ of\ references\ to\ alternatives\ by\ firm\ A) - (number\ of\ references\ to\ alternatives\ by\ firm\ B)]$ .

**Sum of alternatives.** We evaluated *mutual dependence* by calculating the sum of each party's alternatives. A higher value indicated that the parties had strong alternatives to dealing with each other (i.e., a lower degree of mutual dependence).

**Dropped variables.** The following variables were tested in a supplemental set of tests for our hypotheses but dropped from the analyses reported below because they did not have any significant

effects in any of the analyses: industry (e.g., manufacturing), type of transaction (e.g., distribution contract), international (i.e., whether the transaction entailed a cross-border relationship), time bound (i.e., a dichotomous variable capturing whether an initial contract had a specified end time), technical detail (i.e., the level of complexity of a transaction), stakes (i.e., the amount of money involved in the contract), and geographic distance between contracting firms.

## Analyses

Regression analyses were used to test the impact of contractual provisions on the level of each type of trust (Hypotheses 1–4). As some companies in our sample were repeat clients (i.e., were involved in multiple disputes), correlated residuals across observations were possible; we therefore report results with robust standard errors clustered on firms (76 clusters). When intent to continue the relationship, a binary variable, served as the dependent measure (Hypotheses 5–8), we used probit models. As a robustness check, we also used logit models for these analyses; results were identical. Hypotheses 7b, 7c, 8b, and 8c predict mediated relationships. To test for mediation, we followed the procedure outlined by Baron and Kenny (1986). Mediation is supported if (1) the independent variable (IV) significantly predicts the dependent variable (DV), (2) the IV significantly predicts the mediator (MV), (3) the MV significantly predicts the DV, and (4) when the IV and MV are simultaneously included in the analysis, the MV is a significant predictor, but the IV is less (or no longer) significant.

It is worth noting that although regression analysis cannot evaluate temporal causality, our data suggest that a temporal sequence is in play. The data on contract provisions and transaction attributes are based on information that predates the onset of the disputes ( $T = 1$ ). The data on goodwill- and competence-based trust are based on messages exchanged at a later time ( $T = 2$ ), after the onset of the conflict. Finally, the intent to continue the relationship is manifested at the end of the dispute resolution process ( $T = 3$ ). In addition, we tried to address this issue of alternative relationships by including a host of control variables (described above) that might influence initial contract structure, most notably the existence and influence of preexisting trust (measured *both* by the length of prior ties and with measures of the quality of prior ties). Finally, as an additional robustness check, we conducted a supplemental analysis aimed at mitigating, to the degree possible, concerns regarding

<sup>8</sup> We conducted an additional analysis at the provision level and found that 96.1 percent of the control provisions and 94.4 percent of the coordination provisions were in the contracts from the beginning of the transactions. Including controls for changes made at the provision level did not change any of the results.

whether prior relationships (and prior trust, specifically) influenced the types of contractual clauses. In this analysis, we eliminated all 32.35 percent of relationships that contained *any* prior ties. The results are consistent with those of our core analyses, again suggesting that endogeneity is perhaps not problematic for our results.

## RESULTS

Interfirm relationships varied in the degree to which their associated contracts included coordination versus control provisions. The mean number of coordination provisions was 0.99 (out of 2), and the mean number of control provisions was 2.30 (out of 4). Table 1 provides summary statistics and Pearson correlations for the variables in our analysis. Because some variables were significantly correlated, we checked for multicollinearity problems. The observed variance inflation factor (VIF) ranged from 2.47 to 4.70, diminishing this concern (Chatterjee & Price, 1991).

Table 2 displays the first set of results in which goodwill-based trust and competence-based trust are regressed on contractual provisions (control vs. coordination). As Hypothesis 1 predicts (Table 2, model 1d), when attributes of transaction, of dispute, and of relationship are controlled for, the higher the level of control provisions, the lower the level of goodwill-based trust ( $\beta = -0.05$ ,  $p < .001$ ). We also found (Table 2, model 2d) that control provisions positively influence competence-based trust ( $\beta = 0.06$ ,  $p < .001$ ), supporting Hypothesis 2. As Hypothesis 3 predicts, increasing the coordination provisions of a contract results in an increase in competence-based trust ( $\beta = 0.16$ ,  $p < .001$ ; Table 2, model 2d). However, Hypothesis 4, which

predicts that an increase in coordination provisions will result in an increase in goodwill-based trust, was not supported (Table 2, model 1d).

Table 3 shows the results of binomial probit regressions in which the dichotomous dependent variable is intent to continue. A positive coefficient indicates an increased likelihood of continuing a relationship. In keeping with our predictions, we found (Table 3, model 3d) that both goodwill-based trust ( $\beta = 17.07$ ,  $p < .001$ ) and competence-based trust ( $\beta = 9.45$ ,  $p < .01$ ) positively impact the intent to continue, supporting Hypotheses 5 and 6, respectively.

We also predicted that the greater the level of control provisions in a contract, the less likely it would be that the parties to the contract would intend to continue the relationship (Hypothesis 7a) and that both goodwill-based (Hypothesis 7b) and competence-based (Hypothesis 7c) trust would mediate this relationship. Supporting Hypothesis 7a (Table 3, model 4c), the higher the number of control provisions, the lower the likelihood of continuing the relationship ( $\beta = -0.62$ ,  $p < .01$ ).

The mediation predictions of Hypotheses 7b and 7c required multiple tests (Baron & Kenny, 1986). We have already shown that control provisions predict goodwill-based and competence-based trust. We have also shown that goodwill-based trust and competence-based trust are positively related to the intent to continue. Finally, in keeping with Hypothesis 7b, when we simultaneously included control provisions (the independent variable) and goodwill-based trust (the mediator variable) as predictors of intent to continue (Table 3, model 5a), goodwill-based trust was still a significant predictor ( $\beta = 12.93$ ,  $p < .001$ ), but number of control provisions was no longer significant ( $\beta = -0.15$ ,

TABLE 1  
Descriptive Statistics and Correlations

Variables	Mean	Min.	Max.	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Intent to continue	0.28	0	1	0.45													
2. Control provisions	2.30	0	4	0.90	-.13												
3. Coordination provisions	0.99	0	2	0.89	.39*	-.11											
4. Goodwill-based trust	0.22	0	0.66	0.16	.78*	-.16	.21*										
5. Competence-based trust	0.26	0	0.8	0.22	.60*	.24*	.68*	.47*									
6. Asymmetry	7.66	5.17	10.28	0.96	.00	.04	-.02	.03	-.08								
7. Type of conflict	0.32	0	1	0.47	.02	-.02	.14	.01	.16	.00							
8. Settlement type	0.40	0	1	0.49	.45*	.12	.09	.57*	.36*	.14	-.05						
9. Negative prior ties	0.12	0	1	0.33	-.11	-.19	.07	-.12	-.20*	.22*	-.07	-.25*					
10. Positive prior ties	0.16	0	1	0.37	.00	-.00	.00	.02	.03	.03	-.08	.16	-.17				
11. Prior relationship length	1.80	0	8.63	2.94	-.08	-.14	.01	-.07	-.16	.15	-.13	-.07	.64*	.59*			
12. Revisions	0.22	0	4	0.72	.13	.32*	.15	.13	.20	.12	-.09	.21*	-.03	.11	.07		
13. Asymmetry of alternatives	1.18	0	5	1.27	-.07	.10	-.10	-.06	.00	.09	-.08	-.13	.05	-.10	-.04	-.02	
14. Sum of alternatives	1.51	0	8	1.65	.02	.09	-.04	-.05	.33	.03	-.00	-.14	.04	-.01	-.00	-.04	.82*

\*  $p < .05$

**TABLE 2**  
**Effects of Control vs. Coordination Provisions on Goodwill- and Competence-Based Trust<sup>a</sup>**

Variables	Goodwill-Based Trust				Competence-Based Trust			
	Model 1a	Model 1b	Model 1c	Model 1d	Model 2a	Model 2b	Model 2c	Model 2d
<i>Independent</i>								
Control provisions		-.05*** (.01)		-.05*** (.01)		.03 <sup>†</sup> (.02)		.06*** (.01)
Coordination provisions			.03 <sup>†</sup> (.01)	.02 (.01)			.15*** (.01)	.16*** (.01)
<i>Control</i>								
Asymmetry	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.03 (.02)	-.03 <sup>†</sup> (.02)	-.02 (.01)	-.02 (.01)
Type of conflict	.01 (.02)	.01 (.02)	.00 (.02)	.00 (.02)	.08 <sup>†</sup> (.04)	.08 <sup>†</sup> (.04)	.03 (.03)	.03 (.03)
Settlement type	.20*** (.03)	.20*** (.03)	.20*** (.03)	.20*** (.03)	.16** (.04)	.16** (.04)	.13*** (.02)	.12*** (.02)
Negative prior ties	-.01 (.10)	-.05 (.10)	-.06 (.10)	-.08 (.10)	.22 (.28)	.24 (.27)	-.02 (.18)	-.00 (.16)
Positive prior ties	-.06 (.08)	-.07 (.08)	-.09 (.07)	-.09 (.08)	.18 (.23)	.19 (.23)	.03 (.15)	.04 (.13)
Prior relationship length	.00 (.01)	.00 (.01)	.01 (.01)	.00 (.01)	-.03 (.03)	-.03 (.03)	-.01 (.02)	-.01 (.02)
Revisions	.00 (.02)	.02 (.01)	-.00 (.01)	.02 (.01)	.05* (.02)	.04 <sup>†</sup> (.02)	.02 (.01)	-.00 (.01)
Asymmetry of alternatives	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.02 (.02)	-.02 (.02)	-.01 (.01)	-.01 (.01)
Sum of alternatives	.00 (.01)	.01 (.01)	.00 (.01)	.01 (.01)	.03 <sup>†</sup> (.01)	.03 <sup>†</sup> (.01)	.03** (.01)	.02* (.01)
Constant	.19 <sup>†</sup> (.11)	.29* (.11)	.15 (.11)	.25* (.11)	.42* (.17)	.36 <sup>†</sup> (.16)	.18 (.12)	.04 (.12)
R <sup>2</sup>	.34	.41	.36	.42	.27	.29	.64	.70

<sup>a</sup>  $n = 102$ . Standard errors are in parentheses; clustering ( $n = 76$ ) is on firms.

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

n.s.), suggesting full mediation. To evaluate the mediation effect, we conducted a Sobel test (Sobel, 1982), computing a  $Z$ -value to assess whether the indirect effect of the independent variable on the dependent variable through the mediator is significantly different from zero. The Sobel test confirmed the mediating effect of goodwill-based trust between control provisions and the intent to continue ( $Z = -2.71$ ,  $p < .01$ ). In contrast, when we simultaneously included control provisions (the IV) and competence-based trust (as the MV) as predictors of intent to continue (Table 3, model 5b), both variables—competence-based trust ( $\beta = 11.90$ ,  $p < .001$ ) and control provisions ( $\beta = -2.11$ ,  $p < .001$ )—remained highly significant, suggesting no support for the mediation predicted in Hypothesis 7c. Thus, the (negative) effect of control provisions on intent to continue a relationship is mediated by goodwill-based (but not competence-based) trust.

Hypothesis 8a predicts that coordination provisions will positively influence intent to continue. Hypotheses 8b and 8c predict that goodwill-based trust (8b) and competence-based trust (8c) will mediate this effect. Supporting Hypothesis 8a, we found (Table 3, model 4c) that the higher the level of coordination provisions in the contract for a relationship between firms, the higher the likelihood of the firms' continuing the relationship after

a dispute ( $\beta = 0.77$ ,  $p < .01$ ). Since we had already established, in failing to support Hypothesis 4, that coordination provisions do not affect goodwill-based trust, we did not need to assess the role of goodwill-based trust as a mediator; Hypothesis 8b was not supported. The mediation prediction regarding competence-based trust (Hypothesis 8c), however, was supported: we have already shown that competence-based trust positively influences intent to continue a relationship. When we simultaneously included coordination provisions and competence-based trust as predictors of intent to continue (Table 3, model 5b), competence-based trust remained a significant predictor ( $\beta = 11.90$ ,  $p < .001$ ), but coordination provisions did not ( $\beta = -0.61$ , n.s.). This pattern of results suggests full mediation, which a follow-up Sobel test confirmed ( $Z = 3.32$ ,  $p < .001$ ). Thus, the (positive) effect of coordination provisions on the intent to continue collaboration is mediated by competence-based (but not goodwill-based) trust.

For completeness, as a final analysis (Table 3, model 5c), we simultaneously included both independent variables (coordination and control provisions) and both mediators (competence- and goodwill-based trust) as predictors of intent to continue. Both mediators remained marginally significant predictors of intent to continue ( $\beta = 19.38$ ,  $p < .01$ , and  $\beta = 14.96$ ,  $p < .01$ ). Also consistently with

TABLE 3  
Effects of Control and Coordination Provisions on the Intent to Continue in a Relationship<sup>a</sup>

Variables	Model 3a	Model 3b	Model 3c	Model 3d	Model 4a	Model 4b	Model 4c	Model 5a	Model 5b	Model 5c								
<i>Independent</i>																		
Control provisions	-0.13	(0.14)	-0.11	(0.24)	-0.02	(0.16)	-0.14	(0.25)	-0.14	(0.16)	-0.11	(0.20)	-0.15	(0.28)	-2.11***	(0.51)	-1.45 <sup>†</sup>	(0.75)
Coordination provisions	0.09	(0.30)	-0.08	(0.43)	-0.36	(0.35)	-0.84	(0.51)	0.16	(0.36)	-0.12	(0.33)	-0.23	(0.45)	-0.41	(0.45)	-1.27	(0.94)
Goodwill-based trust	1.53***	(0.32)	0.30	(0.53)	1.21**	(0.38)	-0.22	(0.73)	1.79***	(0.37)	1.68***	(0.44)	1.93***	(0.49)	2.08**	(0.61)	0.34	(1.16)
Competence-based trust	0.27	(1.43)	1.02	(1.49)	-0.12	(1.16)	1.07	(1.54)	-0.00	(1.65)	-0.67	(1.28)	-0.82	(1.43)	1.52	(1.47)	1.74	(1.73)
	-0.31	(1.15)	0.42	(1.19)	-0.92	(1.01)	0.16	(1.25)	-0.45	(1.35)	-1.05	(1.07)	-1.12	(1.20)	-0.11	(1.19)	-0.60	(1.47)
	-0.02	(0.18)	-0.12	(0.20)	0.10	(0.16)	0.01	(0.22)	-0.04	(0.22)	0.09	(0.17)	0.05	(0.19)	-0.05	(0.20)	-0.18	(0.25)
	0.11	(0.19)	0.05	(0.20)	-0.16	(0.18)	-1.35*	(0.55)	0.44	(0.22)	0.04	(0.17)	0.31	(0.20)	-0.21	(0.27)	0.67*	(0.26)
	-0.39 <sup>†</sup>	(0.22)	-0.74**	(0.26)	-0.36	(0.26)	-0.45	(0.34)	-0.35	(0.22)	-0.39	(0.27)	-0.32	(0.27)	-0.62 <sup>†</sup>	(0.31)	-0.25	(0.37)
	0.34*	(0.16)	0.55**	(0.18)	0.24	(0.21)	0.25	(0.20)	0.37*	(0.15)	0.38 <sup>†</sup>	(0.21)	0.39 <sup>†</sup>	(0.20)	0.51 <sup>†</sup>	(0.24)	0.11	(0.24)
Constant	-0.40	(1.14)	-2.61	(1.83)	-2.18	(1.47)	-6.52**	(2.48)	0.77	(1.39)	-1.60	(1.28)	-0.22	(1.51)	-3.88*	(1.89)	1.33	(1.81)
Pseudo-R <sup>2</sup>	.23		.65		.43		.76		.31		.36		.42		.75		.65	
Wald $\chi^2$	26.90		81.73		43.64		39.82		33.11		23.60		31.37		96.73		28.85	

<sup>a</sup>  $n = 102$ . Standard errors are in parentheses; clustering ( $n = 76$ ) is on firms.

<sup>†</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

predictions, coordination provisions was no longer significant ( $\beta = 0.46$ , n.s.). Meanwhile, control provisions continued to have a marginally significant, direct negative effect on intent to continue ( $\beta = -1.45$ ,  $p < .10$ ), which suggests that control provisions may negatively influence the intent to continue in ways that are not fully accounted for by the effects of control provisions on trust.

## DISCUSSION

We sought to extend theoretical and empirical work by distinguishing between the control and coordination functions of contracts, and between goodwill-based and competence-based dimensions of trust judgments. Prior research on the effects of contracts on trust has focused primarily on the control function of contracts and the goodwill dimension of trust judgments. Less attention has been paid to the coordination function of contracts, and the competence dimension of trust has been largely ignored. We found, as have those who have argued that contracts crowd out trust (e.g., Malhotra & Murnighan, 2002), that the greater the number of control-oriented provisions in a contract, the lower the subsequent level of goodwill-based trust in the associated relationship. In addition, in keeping with those who have perceived a more complementary relationship between contracts and trust (e.g., Lazzarini, Miller, & Zenger, 2004; Poppo & Zenger, 2002), we found that increases in control provisions as well as increases in coordination provisions lead to higher levels of competence-based trust. Thus, our more nuanced approach to analyzing contracts and trust reveals that seemingly divergent conclusions in prior research are not necessarily incompatible.

The current investigation also addresses the scarcity of research on the effects of contractual governance on performance and relational outcomes (e.g., Argyres et al., 2007; Lumineau, Fréchet, & Puthod, 2011). Our findings indicate that contract design affects the degree of trust that exists after a conflict has arisen, and, through this effect, the likelihood of relationship continuance. In particular, control provisions have a negative effect on the willingness to continue a damaged relationship, and goodwill-based trust mediates this effect. Although control provisions enhance perceptions of competence and high levels of competence-based trust increase the likelihood of continued collaboration, competence-based trust does not act as a mediator in the relationship between control provisions and the intent to continue collaboration. Whereas the argument that control mechanisms can diminish goodwill-based trust has been made

in prior research (e.g., Malhotra & Murnighan, 2002), ours is the first study to document (1) the effects of control mechanisms on the willingness to continue a relationship and (2) the mediating role of goodwill-based trust in this relationship. Furthermore, although perceptions of competence do not mediate the effects of control on collaboration, ours is the first study to empirically document a positive relationship between (control provisions in) contracts and competence-based trust.

We also find that coordination provisions increase the likelihood of continued collaboration after a dispute and that perceptions of competence mediate this effect. Although prior research has predicted a relationship between coordination and continued collaboration (Argyres et al., 2007; Mayer & Argyres, 2004), ours is the first empirical study to identify a mechanism—enhanced perceptions of competence—underlying this relationship. Contrary to predictions, we did not find an effect of coordination provisions on goodwill-based trust.

## Theoretical Implications

The results yield a number of theoretical implications that build upon and clarify prior research. Our study extends research based on transaction cost economics (e.g., Barthélemy & Quélin, 2006; Reuer & Ariño, 2002) by showing that firm decisions regarding contractual governance structures should embrace not only (1) transaction attributes (as per the transaction costs approach [Sampson, 2004; Williamson, 1985]) and (2) existing levels of trust (e.g., Gulati, 1995a), but also (3) the effect of contract choices on subsequent trust and commitment (cf. Puranam & Vanneste, 2009).

Another important implication of our results concerns the simultaneity with which contracts can produce positive and negative effects. Previously, Vlaar argued:

The relationship between contracting and interorganizational performance is likely to follow a curve-linear path, where too little contracting gives rise to chaos and destructive or opportunistic behaviour and where too much contracting causes rigidity and curbs creativeness and entrepreneurial activities (Foss, Foss, & Klein, 2007; Luo, 2002; Mintzberg, 1994; Sampson, 2004a). In this respect, Mintzberg (1994: 386) notes that “formalization is a double-edged sword, easily reaching the point where help becomes hindrance.” (2008: 18)

Although this logic suggests that there may be an optimal level of contracting, our results suggest otherwise, at least as far as control provisions are concerned. We find that an increase in control pro-

visions decreases goodwill-based trust and increases competence-based trust, suggesting that an optimal contract will not be found by discovering the “point where help becomes hindrance,” but by appreciating inherent trade-offs and evaluating the priorities of current relationships. Future research that studies whether it is possible to avoid such trade-offs—for example, by mitigating the effects of control on goodwill-based trust—would be of significant value.

Finally, the current research suggests that future work on the effects of contractual governance should include outcome measures as well as mediator variables. In our complete model, for example, we find that our mediator, goodwill-based trust, accounts for some, but not all, of the effects of control provisions on the intent to continue collaboration, thus raising additional questions regarding the mechanisms underlying these relationships.

### Managerial Implications

The current investigation also has implications for managers who are tasked with the responsibility of mitigating relationship risks. By distinguishing between control and coordination provisions (rather than relying on standard measures of contractual complexity, such as length or detail [Joskow, 1987; Pirrong, 1993]), we are able to advocate for an increase in coordination provisions as a means of building competence-based trust in anticipation of conflict. In keeping with this view, a South Asian executive recently explained to one of us that he refuses to do business with any U.S. firm unless the firm contractually agrees to sending each new project manager to his city and on a car ride from the airport to his manufacturing facility; the facility is 18 kilometers from the airport, but requires three hours of travel. “Because if the managers have not done that, they do not understand how things work here—and the next time something goes wrong, they think it is because we are incompetent.”

Our results regarding control give us pause and suggest that optimal decisions regarding contract structure require an assessment of the key sources of vulnerability in a relationship. If the relationship is likely to evolve, and it is difficult to predict the kinds of vulnerabilities that will emerge over time—as is often the case when negotiating contracts at the outset of a long-term joint venture, or among partners in a start-up environment—goodwill-based trust is likely to be critical, and managers may choose to reduce the emphasis on control and increase the emphasis on coordination. If competence-based trust is critical, as it is in re-

lationships in which one or both of the parties are providing technically or operationally complex services, managers may increase reliance not only on coordination provisions (an obvious initiative), but also on control provisions.

Managers might also take note that although 29 percent of the disputes in our sample—all of which had escalated to the point that law firms were involved—were resolved with the parties intending to continue collaborating, contract structure influenced whether the relationships could be revived. They were more likely to survive when they contained fewer control provisions and more coordination provisions. This finding suggests that if parties anticipate future conflict (for example, in cross-cultural relationships) they might choose contracting structures that, even if they are suboptimal in some ways (e.g., for minimizing risk via control), are better able to encourage trust development (through an increase in coordination provisions). This suggestion highlights another insight for managers to appreciate: the types of contracts that are best at avoiding conflict may not be the most helpful in situations in which conflict has not been avoided.

### Limitations and Directions for Future Research

A number of limitations of the current research can be identified. First, we focus on only one type of outcome variable: relationship continuance. Research on other performance variables (e.g., profits) and relational variables (e.g., partner satisfaction) would be of clear benefit. Second, as with any such analysis, it is impossible to fully ensure that the results of our analyses precisely support the causal relationships we have predicted. Our longitudinal data, control variables, and numerous robustness checks help mitigate these concerns, but future research using experimental designs would nicely complement the current investigation. Third, although our empirical approach suggests a clear distinction between control and coordination provisions, we acknowledge that some provisions may simultaneously accomplish both objectives. To address this concern, we (1) revised the coding scheme that was derived from existing research with the help of legal experts and (2) conducted two separate robustness checks. Future research could extend our approach by seeking other methods of evaluating the coordination versus control functions of contracts.

In this study, we sought to conceptually refine and empirically extend previous work on the effect of contracts on trust and trust-related outcomes in interorganizational relationships. The findings pro-

vide a more nuanced understanding of these issues, as well as unique and actionable theoretical and managerial insights. We hope our investigation aids future research that builds on the strengths of our approach and overcomes the weaknesses herein admitted.

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## APPENDIX A

### Examples of Statements Coded as Competence- or Goodwill-Based Trust

Response categories were derived from definitions of trust dimensions in Davis, Schoorman, Mayer, and Tan (2000), Mayer and Davis (1999), Mayer and colleagues (1995), and Schoorman, Mayer, and Davis (2007).

#### Competence-Based Trust

Messages were coded for references to skills, competencies, aptitude, training, and/or experience.

Examples:

“We know that you are able to do it properly.”

“Usually you deliver it on time.”

“My engineers told me that they are confident about your experience in the [...] field.”

“You manifested your high level of competence during Phase 1 of the Project.”

#### Goodwill-Based Trust

Messages were coded for references to benevolence and/or integrity.

Benevolence examples:

“We know you want the success of this Project.”

“We really appreciated your technicians’ efforts to repair the damage during the night.”

“Your employees have been kind and friendly to help [Firm A] to face this issue.”

Integrity examples:

“So far, you have been fair and honest.”

“[Firm B] is well known for respecting its employees. It is what gives you a great reputation!”

“You have moral principles and I like that.”



**Deepak Malhotra** (dmalhotra@hbs.edu) is a professor at Harvard Business School. He received his Ph.D. from the Kellogg School of Management at Northwestern University. His research interests include issues related to trust development, competitive escalation, negotiation, and international and ethnic conflict.

**Fabrice Lumineau** (fabrice.lumineau@uts.edu.au) is an assistant professor at the University of Technology, Sydney. He received his Ph.D. in strategic management from HEC Paris. His research interests include interorganizational partnerships, governance design, contractual structures, and dispute negotiation strategies.



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