THE DETERMINANTS OF DISPUTE RESOLUTION MODE IN INTER-FIRM CONTRACTS

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ABSTRACT

The ability to resolve desputes via court ordering or private adjudication has been highlighted as a central concern in inter-firm governance in transaction cost economics (Williamson, 1991). It is thus surprising that this aspect of governance has received virtually no attention from TCE researchers. Integrating insights from previous research in law and economics regarding the fixed costs of court ordering with TCE's emphasis on the limits to court ordering for complex transactions, we predict a U-shaped relationship between contractual complexity and the probability of private settlement (arbitrated or negotiated settlement *vs.* a judicial decision). Our empirical analysis, employing a unique dataset with detailed information on 102 disputes arising in vertical relationships, supports this prediction. We also explore the impact of other contractual and relational features that may facilitate private dispute resolution. We show, inter alia, that the mere existence of a relationship predating the current contract does *not* increase the probability of private settlement; only when that past relationship is viewed by participants in positive terms is this associated with an increased probability of private dispute settlement.

Introduction

A fundamental assumption in organizational economic theories of inter-firm governance is that the way in which a relationship is structured through the contractual agreement significantly affects the subsequent behavior of transacting parties. The terms of the contract are believed to influence the extent to which contracting parties are willing to invest in cooperative activities, make efficient adaptations as circumstances change, and resolve disputes as interests evolve (e.g., Wathne & Heide, 2000; Jap & Anderson, 2003). Of these ex-post contracting behaviors, dispute resolution – i.e., the extent of reliance on public ordering (litigation) versus private ordering (negotiated dispute settlement) – has been relatively neglected by researchers in organizational economics (Ménard, 2002). This is despite the fact that it features prominently as a central differentiating feature of various hybrid governance modes (Williamson, 1991).

Beyond the realm of organizational economics research *per se*, an active theoretical and empirical research stream has developed on the subject of dispute resolution in the law and economics literature. Starting from a strict rational actor approach, researchers in this tradition view private settlement as the "default" dispute settlement mode as it allows contracting parties to avoid the costs associated with litigation. Theoretical efforts have focused on identifying situations where information problems cause contracting parties to have different expectations regarding the outcome of potential litigation, thus reducing (or eliminating) their ability to reach an acceptable private settlement and increasing the likelihood that a dispute will end in litigation. In contrast, in transaction cost economics (TCE), court ordering is the default dispute resolution mode associated with simple market transactions, but suffers from severe limitations in situations of high "information impactedness" (Williamson, 1985) often associated with complex inter-firm relationships; TCE thus suggests that firms will eschew court ordering and instead rely on private

settlement for highly complex transactions in the presence of non-trivial uncertainty. This prediction seems, at first sight, to be at odds with the presumptions of other branches of law and economics where litigation is associated with situations of *greater* uncertainty or asymmetry.

In this paper we reconcile these seemingly competing views of litigation *vs* private ordering in inter-firm dispute resolution by combining insights from prior research in law and economics regarding the cost-avoiding benefits of private settlement for simple disputes, with TCE's focus on the limitations of court-ordering in highly complex contracting situations. We predict a U-shaped relationship between transactional complexity and the likelihood of private dispute settlement. Our empirical analysis, employing a unique dataset containing a sample of 102 disputes arising in vertical relationships, confirms this relationship. We also explore the impact of other contractual and relational features that can facilitate private dispute resolution (and thus increase reliance on this dispute resolution mode). We show, *inter alia,* that the mere existence of a relationship predating the current contract does *not* increase the probability of private settlement; only when that past relationship is viewed in positive terms by participants are we more likely to see private dispute resolution.

We should make clear at the outset that the aim of our analysis is not to establish a causal link between particular characteristics of inter-firm relationships, contractual terms and dispute resolution modes – clearly contractual terms and dispute resolution modes are endogenously chosen as part of the overall governance process. Our study nonetheless underscores the notion that private ordering is not merely a convenient or necessary replacement for public courts but rather arises systematically and predictably. Our analysis also provides an important empirical base for theoretical discussions regarding efficient (ex ante *and* ex post) governance of inter-firm contractual relationships, and reinforces the view that when designing hybrid governance modes

firms consider *syndromes* of governance mechanisms that together are aligned with transactions to effect an economizing match.

1. Theory and Hypothesis Development

a. Dispute Resolution through the Lens of Transaction Cost Economics

In any economic relationship between independent firms, mutual cooperation is by no means automatic. Parties involved have an "inalienable *de facto* right to pursue their own interests at the expense of others" (Buckley & Casson, 1998: 34) and so inter-firm relationships are characterized by an "inherent instability arising from uncertainty regarding a partner's future behavior" (Parkhe, 1993: 794). It is not surprising then that, despite the best efforts of partner firms (and their lawyers) to foresee and guard against future contingencies that might threaten cooperation, many inter-firm relationships fall into dispute.

One of the most commonly-used instruments for safeguarding inter-firm exchange relationships is of course the contract. Backed by legal authority, formal contracts between firms detail the rights and obligations of parties within an agreement (Lyons & Mehta, 1997). A "classical" contract carefully delineates the nature of transactions, with the obligations of each party explicitly written "within the four corners of the document" (Macneil, 1978: 856). For simple transactions – "sharp in by clear agreement; sharp out by clear performance," (Macneil, 1974: 738) – contract enforcement and dispute settlement are thus straightforward, as it is easy to judge non-compliance with contractual obligations, and the rules of contract law can be strictly applied.

As Williamson (1991) highlights in his discussion of hybrid organizations, more complex transactions involving significant bilateral dependence strain firms' abilities to fully specify

rights and obligations within a contract, and classical contract law may be maladaptive in such cases: premature termination, or the emergence of circumstances requiring adaptation by one or both firms that were unforeseen at the outset, can place significant burdens on one or both parties, and so "perceptive parties reject classical contract law and move into a neoclassical contracting regime because this facilitates continuity and promotes efficient adaptation" (Williamson, 1991: 271). The "neoclassical contracting regime" referred to here is related to Llewellyn's (1931) concept of "contract as framework," wherein a contract is a "a framework, highly adjustable, a framework which almost never accurately indicates real working relations but which affords a rough indication around which such relations vary, an occasional guide in cases of doubt, and a norm of ultimate appeal when the relations cease to in fact work" (quoted in Williamson, 1991: 272).

In contracts associated with a neoclassical contracting regime, there is an expectation that disputes will be resolved through private ordering – e.g., arbitration or mediation[1] - rather than through litigation. In making the case for arbitrated settlement of complex disputes, for example, Williamson (citing Fuller, 1963) argues that, "there are open to the arbitrator…quick methods of education not open to the courts. An arbitrator will frequently interrupt the examination of witnesses with a request that the parties educate him to the point where he can understand the testimony being received…The end result will usually be a clarification that will enable everyone to proceed more intelligently with the case" (1991: 27X). This is not to say that firms

[1] Galanter (2001: 586) defines arbitration and mediation as follows:
Arbitration is a non-judicial proceeding in which disputing parties submit their conflict to an impartial person or group of persons for a final and binding resolution instead of to a judicial tribunal and must be invoked by voluntary agreement of the parties. For instance, the arbitrator may consider rules of contract law, practice, custom, and general principles of equity, as well as personal concepts of justice, public policy, logic and ethics.
Mediation is a non-judicial mode of conflict resolution in which a neutral third party employs non-adversarial techniques in order to reconcile the conflicting positions held by the parties. It is the least formal method of dispute settlement, since a mediator is not subject to the constraints of either contract or statute and thus has broad powers to encourage settlement...The sole purpose of a mediator's intervention is to facilitate and encourage an expeditious settlement actually forged by the parties themselves.

will never resort to litigation to settle disputes involving complex transactions and contracts, but rather that the court will be reserved as a forum of final appeal: as long as the gains from adaptation – and thus continuation of the relationship - exceed the gains to be had by either party through insistence upon literal enforcement of the original contract, then mediation or arbitration will be preferred as a dispute settlement mode.

In the extreme, for highly complex transactions, firms entering an agreement may have little or no confidence in the court's ability to deal with disputes arising over the course of the relationship. Even here, however, contracts may still have a meaningful impact on post-contracting behaviour. As emphasized by Smitka (1994), the *process* of writing a contract can help to flush out unspoken assumptions and thus be an important vehicle for creating a genuine meeting of the minds at the outset of the relationship. This coordinating function of contracts has also been emphasized in recent studies examining how contracting practices change over time as parties gain greater experience of working together (e.g., Mayer & Argyres, 2004; Ryall & Sampson, 2006).

Given the court's inability to effectively adjudicate disputes involving highly idiosyncratic transactions and complex contracts, parties to such transactions have a strong incentive to settle disputes privately, engaging in what Williamson refers to as "private ordering." Indeed, in extreme situations, even arbitration may become excessively costly as a method of resolving disputes, as the education necessary for understanding of the testimony and issues under dispute becomes prohibitively onerous. In this case, the parties have no choice but to either terminate the relationship entirely and seek partial compensation from the court (however arbitrary this may turn out to be), or to settle the matter themselves through negotiation and mutual agreement.

These theoretical arguments have a clear empirical implication: Just as we expect to see a "discriminating alignment" between transaction and relational characteristics of an agreement and the complexity and type of contract terms written into the contract (e.g., Kalnins & Mayer, 2004; Reuer *et al.,* 2006; Lumineau & Quélin, 2007), so we would expect to see different settlement modes being applied discriminatingly, with court ordering (litigation) being more common for relatively simple contracts, and private ordering being increasingly preferred as the complexity of transactions increases.

b. Dispute Resolution through the Law and Economics Lens

The economic analysis of litigation and settlement decisions began with Landes (1971), Gould (1973), and Posner (1973). Theories of private settlement of contract disputes in this law and economics tradition have tended to focus on the "bargaining surplus" created by the large fixed costs entailed in litigation, which can be shared by the parties if the dispute is terminated. Early research in this tradition, "simply assumed that a settlement would take place…whenever the expected cost attached by the plaintiff to a possible trial exceeded the expected benefit attached by the defendant to such a trial," (Bebchuk, 1984: 404). In this view, then, nonsettlement - i.e. litigation – occurs only when other considerations overwhelm these basic incentives to settle.

Several theories have been advanced to delineate conditions likely to undermine incentives to settle. Divergent expectations theories (e.g., Priest & Klein, 1984) focus on the role of uncertainty in leading to different expectations regarding the likely result of litigation. Divergence may be further exacerbated by self-serving biases in estimating likely outcomes (Babcock *et al.,* 1995). Theories focusing on information asymmetry further suggest that private

information may result in nonsettlement due to strategic signaling games being played in pursuit of information rents (P'ng, 1983; Bebchuk, 1984).

Revisiting our earlier discussion related to the complexity of the underlying transaction, and applying insights from divergent expectations (DE) and asymmetric information (AI) theories, the implication is that incentives to settle a lawsuit are strongest for simple transactions where uncertainty and asymmetric information are low, and will increase for more complex transactions involving greater informational lacunae. Thus, in contrast to the transaction cost economics prediction, one would expect to see the probability of private settlement (versus court ordering) ***decreasing*** in the level of transactional complexity.

c. Reconciling the TCE and Law and Economics Views on Settlement and Complexity

How do we reconcile these apparently competing views on the propensity to pursue private settlement versus court ordering / litigation? If one takes the position that the different predictions derive from fundamental differences in the behavioral assumptions adopted in the two perspectives – "strong form" rationality in the law and economics perspective versus bounded rationality in TCE - then one could argue that the two views are essentially irreconcilable and that empirical investigations should be aimed at uncovering which of the competing views is "correct" over a wider range of operational contexts. Loosening of the informational and rationality assumptions in more recent DE and AI settlement models, however suggest that the law and economics lens applies over a range of rationality assumptions and we must look to an alternative explanation of the apparently competing predictions.

We propose that a more important difference between the two theoretical perspectives – and one that allows for reconciliation - is in their assumptions regarding the relative costs and

competences of court ordering for dispute resolution under varying conditions of complexity. Law and economics has traditionally highlighted the fixed costs of litigation (regardless of contractual complexity) and the resulting bargaining surplus which provides incentives for private settlement, particularly for simple transactions. These fixed-cost avoidance incentives for private settlement have been largely ignored in TCE, although they are certainly consistent with the Macneil's assertion that simple contracts are "sharp in by clear agreement; sharp out by clear performance" (*ibid.*).

Reflecting its focus on more complex and idiosyncratic transactions, TCE instead redirects attention to the limited *competence* of the courts in settling disputes at high levels of complexity. Consistent with DE and AI theories in law and economics, transaction cost economists acknowledge that bargaining becomes increasingly costly and difficult as transactional complexity (and related informational gaps) increase; however, they go on to argue that at *high* levels of complexity private bargaining difficulties are dwarfed by the difficulties associated with court ordering (Williamson 1991). This contrasts with the (often implicit) assumption in much of the law and economics literature of effective – albeit costly – court ordering over the entire operational range of contractual complexity.

Interestingly, some of the most recent work in law and economics has increasingly recognized the informational advantages of private ordering arrangements that can lead to settlements better tailored to the joint needs of the contracting parties, in addition to saving costs. Echoing Williamson's earlier discussion, for example, Mattli (2001:920) notes that "[u]nlike judges in public courts, who follow fixed rules of procedure and apply the laws of the land, arbitrators can dispense with legal formalities and may apply whatever procedural rules and substantive law that best fit a case." Similarly, in the case of private dispute settlement, Johnson,

McMillan, & Woodruff (2002: 229) argue that "market participants are more expert than courts at monitoring other participants' conduct. Second, their decisions can be more nuanced than the binary decision of liability or no liability that the court must make. Third, they can consider information that cannot be introduced in court, such as impressionistic evidence about business trends or judgments about the quality of items sold. They can base their decisions on a firm's behavior over time, on probabilistic patterns that would not be admissible evidence in court."

Rejecting the importance of fixed litigation costs altogether in his discussion of private ordering systems, Richman (2004: 2366) goes so far as to suggest that "[w]hat truly drives the creation – really, the necessity – of private enforcement systems is the incapacity of public courts to assure transactional security. Administrative savings from private enforcement are only a secondary, albeit useful, consequence that emerges after the need for private ordering becomes apparent."

Recognizing the limited competence of the courts in settling complex contract disputes does not necessarily imply that the fixed costs of litigation are irrelevant, however, as the two arguments logically apply over different ranges of contractual complexity: One can expect that private settlement is motivated by the desire to avoid the fixed costs of litigation over the *lower* range of contractual complexity; in the *higher* range of contractual complexity, private settlement will be employed as a mechanism to overcome the limited competence of the courts to settle disputes. This combined argument leads naturally to the following hypothesis, which forms the basis for our empirical analysis:

H1: The probability of private settlement (versus court ordering) will ***at first decrease and then increase*** in the level of transactional complexity.

d. Decreasing the Costs of Private Settlement

Both TCE discussions of dispute settlement and law and economics litigation-settlement models derive their predictions from consideration of the *relative* costs and benefits of private settlement versus litigation / court ordering. This suggests that, in addition to the impact of transactional complexity featured in the theoretical arguments above, any other aspect of the contracting relationship between the transacting parties that systematically reduces the costs of private settlement will tend to increase the range of circumstances over which private settlement is observed (i.e., increase the probability of private settlement, *ceteris paribus*).

Given the fixed costs associated with litigation, we can assume that transacting parties would like to take actions *ex ante* to facilitate *ex post* private ordering wherever possible. Prior research on contract choice suggests that one important function of the formal contract is to facilitate coordination among the transacting parties, both in the normal course of operations and when disputes arise. As remarked by Mellewigt *et al.* (2005: 25), for example, 'besides being a legal document with policing or enforcement properties, contracts also serve as a framework to guide coordination.' This dimension of contracts relates to provisions that are often informational in nature (Reuer and Ariño, 2007: 315) and thus can be expected to have the effect of decreasing the informational asymmetries or divergence in expectations regarding litigation outcomes that can impede private settlement, even while they have little impact on the third-party verifiability (and thus the ability of the courts to effectively render judgment). Thus we have:

H2: The probability of private settlement (versus court ordering) will be higher when there is greater emphasis on coordination mechanisms in the contract.

Based on prior research on inter-organizational relationships both within and beyond TCE, we would expect choices made during dispute settlement – including the choice of settlement mode – to reflect not only the content of the formal contract, but also the development of informal norms within the exchange relationship. Early work examining how pre-existing relationships modified the choice between equity and non-equity inter-firm agreements, for example, suggested that informal governance, developed between alliance partners over time, could reduce the need for the formal governance associated with equity arrangements (e.g., Gulati, 1995). More recent work has also provided evidence of complementarities across different mechanisms of governance that firms may employ (e.g., Kale, Singh & Perlmutter, 2000; Poppo & Zenger, 2002).

Arguing the issue from a legal perspective, Galanter (1993) suggests that the more inclusive and enduring a relationship between a set of parties, the less likely disputes will be taken to official forums (public courts); instead, such parties will seek to resolve their differences in so-called embedded forums, that is, forums that are part of the social setting within which a dispute arose. Similarly, Mattli (2001: 933) suggests that "[p]arties involved in an ongoing mutually beneficial relationship […] are less likely to rely on highly institutionalized forms of dispute resolution than parties with no anticipated future relationship, that is, parties that are not repeat players or do not belong to some close-knit trading community." This argument is based in part on the idea that "parties in a continuing relationship typically have good information about each other's past behaviour, past problems, and past solutions. This knowledge may be usefully brought to bear in a new instance of conflict."

All of these prior studies thus share the view that parties engaging in repeated contracting display a higher propensity to believe that the transacting partner is acting in good faith if

performance does not exactly match initial expectations, and are able to coordinate adaptation more effectively. In the case of contract disputes, this suggests that self-serving biases are less prevalent among repeat transactors, and that the bargaining surplus available to parties that avoid litigation is likely to be expanded as a result. In the context of our study this implies that the existence of a relationship prior to the current contract may be expected to tip the balance in favour of private ordering. This leads to our final hypothesis:

H3: The probability of private settlement (versus court ordering) will be higher for contracting parties with prior ties than for first-time transactors.

2. Empirical Analysis

a. Sample

Our empirical study involves a sample of disputes arising in vertical relationships. One of the authors was granted access by a law firm to all legal files concerning inter-firm contract disputes handled by the firm between 1991 and 2005. A total of 102 disputes, involving 178 firms, were analyzed using data collected through the law firm.[2] Data collection took place over a four month period in 2005. This period of immersion enabled the researcher to gain insights into the legal regime relevant to the contracts under dispute, and to understand the practices and routines of the law firm, through daily informal conversations with lawyers and administrative staff. In addition, 17 interviews were conducted with lawyers and law professors specialized in contract law.

[2] Cases involving more than two parties and contracts unrelated to vertical inter-firm relationships were excluded from consideration at the beginning of the data collection process. See Lumineau and Quélin (2007) for further details.

This data collection process yielded unusually detailed information on contractual characteristics, relational history of the contracting firms, and the final resolution of the dispute in each case. The legal files related to the disputes in our sample contain between 800 and 5,000 pages; each file includes all documents issued by each party to the contract and exchanged during the dispute resolution process. In addition to these legal documents, the lawyers in each case requested from the client all potentially relevant information that could further explain their situation and their perception of the conflict: the initial context of the contracting relationship, the nature and strength of any prior relationship, the origin of the conflict, and its evolution. Due to the highly confidential character of the data the researchers were not able to speak directly to the firms, nor is it possible to identify the companies in the sample by name. The resulting data is nonetheless unusually rich, and this compensates, at least in part, for the narrow range of the data, drawn as it is from a single law firm without communication with the transacting firms themselves.

b. Measures

From the data obtained from the legal files, along with supplementary data from archival sources, we construct the following operational variables for our empirical analysis:[3]

Dispute settlement mode: We use a dummy variable, *Private Settlement,* which takes the value of 1 if the dispute was settled by private negotiation, arbitration and/or mediation;[4] *Private Settlement* = 0 if the dispute resulted in litigation and a judicial ruling.

Complexity of the transaction: We proxy for transactional complexity using two variables. First, we measure the technical complexity of the transaction by counting the number

[3] All variables are derived from the case files unless otherwise noted.
[4] These are combined into one category as they appear to be operationally equivalent – future plans include extending the analysis to incorporate more fine-grained categories.

of contract pages devoted to laying out technical specifications. This is based on the common assumption that transactions involving more complex technologies and technical specifications are inherently subject to greater uncertainty and difficulties in interpretation (see e.g., Monteverdi & Teece, 1982). *Technical Complexity* is calculated as the number of pages of technical detail in the contract.[5]

The second measure of transactional complexity is based on the number of control clauses in the contract (Parkhe, 1993; Blumberg, 2001; Das, 2005; Ryall and Sampson, 2006), as these have been shown to correlate well with the complexity of the underlying transaction (Lumineau & Quélin, 2007; Reuer & Ariño, 2007). Initial coding of the contracts was undertaken with input from three lawyers (with no connection to the disputes or to the law firm providing the data) and a law professor specializing in contract law. Operational measures resulting from this exercise were then validated by six other legal experts – again professors specializing in contract law.[6] The relevant clauses incorporated into our measure of contractual control are (1) right to audit/inspection (e.g., ""Firm A maintains the right to audit Firm B manufacturing facility for conformance...."); (2) safeguard/hostage clause (e.g., "Upon termination of agreement, the Manufacturer shall repurchase the product stock from the Distributor …"); (3) control / inspection by a third party; (e.g., In a contract between Firm A and Firm B to supply product for final customer Firm C: "Firm C may at all reasonable times visit Firm A facilities and observe the work being performed."); (4) penalty clause (e.g., ""If Firm A

[5] We also re-estimated the regressions using the log of the number of pages (results not reported) – similar results obtained, but interpretation is less straightforward since the log function is itself non-linear.

[6] For both contractual control and contractual coordination (below), the following procedure was used in deriving the measures: following initial coding of the contracts by three independent lawyers, six additional experts were contacted, all of whom were professors in contract law. Each was asked to evaluate the level of contractual control and contractual coordination of five randomly selected contracts in the data set; i.e., each expert was asked to make 50 assessments (5 contracts * 2 functions * 5 criteria). Intra-class correlation coefficients for the ratings of the six experts were 0.988 for the control clauses and 0.980 for coordinating clauses, indicating significant inter-rater reliability.

fails to complete and deliver on the specified dates…Firm A shall pay Firm B liquidated damages at the rate of [X] euros per day of delay"); and (5) termination/resolution clause (e.g., "In the event the obligations of one of the Parties do not comply with the articles referred to hereunder, the contract shall be, if required by the creditor of the said obligations, cancelled, by giving notice of such termination…"). Our index variable, *Contractual Control* is then defined as: $\sum$ Di; where Di=1 if provision i exists; Di=0 otherwise, and the result is an integer variable ranging from zero to five. [7]

Because our hypothesis predicts that the likelihood of private settlement is non-linear (U-shaped) in transactional complexity, we include both the main effect and a square term for each of these two measures. We anticipate a negative coefficient on the main effect and a positive coefficient on the square term in each case.

Contractual coordination mechanisms: Also following prior research (Blumberg, 2001; Luo, 2002; Dekker, 2004; Argyres and Mayer, 2007) we assess contractual coordination mechanisms by examining whether or not the contract includes five key groups of clauses: (1) assignment of roles and responsibilities (e.g., "…All development work will be performed by Developer or its employees at Developer's offices or by approved independent contractors who have executed confidentiality and assignment agreements that are acceptable to the Client."; (2) indications of duration and conditions of renewal (e.g., "This Agreement is made for a term of three years. The Agreement shall be renewed automatically at the end of three years unless…"); (3) operational coordination related to reassignment of tasks among participants (e.g., "Upon completion of Phase 1, Parties agree to discuss the allocation of resources to the task."); (4)

[7] The choice of clauses to include in the contractual control index follows practices validated in the prior research noted above. The unweighted summation of these clauses into a simple index also follows prior research: Barthélemy and Quélin (2006) show that weighted and unweighted measures of contract complexity are very highly correlated and, in a different context, Reuer and Ariño (2007) also show that weighting of clauses (in their case for "stringency") does not provide new information when modeling alliance contracts.'

strategic coordination, (e.g., "The 2nd-stage specific objectives will be defined by the Parties through mutual consultations after completion of the 1st-stage objectives."); and (5) dispute resolution provision (e.g., "Any dispute arising out of or in connection with this Agreement shall be settled without recourse to the courts…").[8] *Contractual Coordination* is defined as: $\sum$ Di; Di=1 if provision i exists; Di=0 otherwise. The result is again an integer variable ranging from zero to five. Although our hypothesis indicates a positive linear relationship between contractual coordination and the likelihood of private settlement we also estimate a model with a square term to allow for possible non-linearity.

Past relationship: We use a dummy variable, *Prior Ties*, to indicate the existence of a prior relationship between the contracting parties. Based on automated textual analysis using Concordance™ software, followed by an independent rating by two researchers, we evaluated prior ties by searching for any mention of a past relationship between the two firms (i.e. a relationship which pre-dated the beginning of the current contract).

In addition to these variables related to our hypotheses, we include a range of control variables in our analysis that prior research suggests may be related to dispute settlement mode. First we include information related to the size of the stakes of the two companies in the contract dispute. Given the substantial fixed costs of litigation it is possible that private settlement will be preferred for disputes involving small amounts of money, particularly in the case of simple transactions. We do not have a direct measure of the monetary value under dispute, but we have

[8] We include dispute resolution clauses amongst the coordination clauses for consistency with prior literature and note that the existence of contract terms designating preferred dispute resolution processes are not determinative of dispute resolution mode. However, given our focus on dispute resolution outcomes, we naturally want to ensure that the effect of coordination clauses is independent of the dispute resolution provision. We therefore report results of a robustness check using a coordination index that omits this clause (see results in Table 4 and associated discussion, below).

information on the total value of the contract and we therefore include *Contract Value* as a control variable, where the measure is defined as the logarithm of the total value in thousands of inflation-adjusted euros.

We also make the distinction between exchanges specifically designed to operate for a pre-defined length of time and open-ended relationships (Reuer & Ariño, 2007: 323), to test for the possibility that dispute resolution via private settlement is more likely to preserve the relationship and thus may be preferred in the context of an open-ended transacting relationship. *Time Bound* is a dummy variable which takes a value of 1 if the contract indicates a pre-specified duration for the relationship. This also allows for the possibility of end-game strategies and lower willingness to "work things out" in situations where the endpoint of a relationship is known *ex ante* (Ness & Haugland, 2005).

In some settlement models in the law and economics literature, settlement is not possible because asymmetry in the stakes of the partners wipes out the bargaining surplus, because one party has more to gain from winning a lawsuit than the other party has to lose, (e.g., Lanjouw and Lerner, 1998). Unfortunately we cannot directly address this argument in our empirical analysis as we do not have good measures of transacting parties' relative stakes in the suit. Instead, we include a measure of asymmetry in the total size of the two firms involved in the dispute: *Asymmetry* is defined as Firm A revenues divided by revenues of Firm B for the year in which the contract was signed, in thousands of inflation-adjusted euros, where Firm A is the larger of the two transacting firms. These data were obtained from the Bureau van Dijk's ORBIS database, which contains data for more than twenty million companies.

Finally, to control for the possibility of greater divergence in expectations in contractual disputes spanning national boundaries we include a dummy variable *International,* which takes a

value of 0 for relationships between firms headquartered in the same country and 1 for international relationships.

c. Results

Descriptive statistics are displayed in Table 1 and the main empirical results are in Table 2. Given the dichotomous nature of our dependent variable we adopt binomial probit regression. The dependent variable is Private Settlement, and so a positive coefficient indicates an increased likelihood of private settlement relative to a judicial order resulting from litigation.

Looking first at the results relevant to hypothesis H1 we see evidence of the predicted U-shaped relationship between transactional complexity and private settlement. For both of our measures of transactional complexity (number of pages of technical detail, and number of control clauses in the contract) the main effect of transactional complexity on the probability of private settlement is negative, but the square term is positive: as transactional complexity increases, the likelihood of private settlement at first decreases and then increases.

Contractual coordination mechanisms are also differentially associated with dispute resolution modes. As hypothesized (H2), *ex ante* efforts to promote coordination through the contract reduces the likelihood of resorting to court ordering *ex post*: The coefficient on *Contractual Coordination* is positive and significant and, when added, the square term is insignificant (Model 2). Thus, increased use of coordination clauses in the contract is monotonically associated with greater reliance on private dispute resolution. As noted earlier in the variable definitions, one of the contractual clauses associated with efforts to promote coordination speaks directly to the choice of dispute resolution mode. Inclusion of such clauses in the contractual coordination index is consistent with prior research and, as discussed by Mattli

(2001), the existence of contract terms designating preferred dispute resolution processes are not determinative of dispute resolution mode.[9] We nonetheless want to ensure that the observed effect of contractual coordination is not driven solely by the inclusion of an arbitration or mediation clause. Table 4 (Model 3) therefore reports estimation results for a specification with the dispute resolution clause isolated in a single dummy variable (Contractual Coordination is then a modified index based on the four other clauses included in the original index.) These results indicate that, while the inclusion of a dispute resolution clause significantly increases the probability of private settlement it does not preclude litigated outcomes, and the impact of the modified contractual coordination index is still positive and significance, albeit with reduced impact.

With respect to the impact of prior relationships (hypothesis H3), our results are inconclusive: the coefficient on *Prior Ties* is insignificant although it is positive as predicted. Therefore there is no evidence here that the simple existence of a prior relationship increases the probability of private settlement. The only other variable that carries a significant coefficient in the regression is *Time Bound*, and the coefficient here is in the opposite sign than one might expect: contracts that indicate a pre-specified duration for the relationship are more likely to result in private dispute resolution than are open-ended relationships.

One possible reason for the lack of significance of prior ties is that not all prior experiences turn out to be good experiences: While we might think that firms are unlikely to re-contract given a negative prior experience, there may be circumstances where this is the case if, for example, specialized technical skills are needed so that there are few viable alternative sources, or if the second contract is initiated before the first contract goes awry. We explore this

[9] "Even if the parties have contractually agreed to use one method, they may switch to another if they feel that the latter is more appropriate for a given dispute." (Mattli, 2001: 920).

possibility by going back and coding mentions of a prior relationship between the firms in the case files (particularly during early stages of the dispute) to distinguish between positive references to prior relationships from neutral or negative mentions. Based on this recoding (described in detail in Appendix 1) we then disaggregate the measure of prior ties into *Negative Prior Ties* and *Positive Prior Ties.*[10] While it is certainly possible that some interpretations of prior experiences are tainted by interactions during the current dispute, it is nonetheless surprising that in 13 of the 33 cases involving firms with prior ties, mentions of these prior ties included negative commentary, i.e., reference to a partner's prior inflexibility, non-participation or individualism during past contracts.

Results of the analysis using the disaggregated measures of prior ties are shown in Table 4 (Model 4) and allow for interesting additional inference: negative mentions of prior ties do not change the probability of private settlement relative to those cases without prior ties. Positive mentions, on the other hand, are positively and significantly associated with private settlement outcomes. This suggests that the mere existence of a prior relationship is not in itself sufficient to change the outcome of disputes, once they arise:[11] only when the transacting parties have a positive perception of prior interactions does this increase their willingness to "work things out" and avoid judicial action.

[10] There were three cases where prior ties were mentioned but no further details were provided that indicated either a positive or negative experience. In the reported results these were aggregated with the firms having no prior ties. As a robustness check we also included these cases in a separate category (*Neutral Priors*) but this in no way changed the results: the coefficient on Neutral Priors was insignificant, and all of the other coefficients were essentially identical to those reported in the table.

[11] It is possible that disputes are less likely to arise in ongoing / repeat relationships – this selection issue is discussed at greater length in the following section.

3. Results and Discussion

Following and extending Williamson's (1996: 122-123) suggestion that "the incentives of private parties to devise bilateral contractual safeguards is a function of the efficacy of court adjudication, and… varies with the attributes of transactions," we have shown in our empirical analysis that the dispute resolution mode adopted by transacting parties varies systematically, and that no one method of dispute resolution is deemed appropriate in all cases. Our findings are thus consistent with Richman's (2004: 2332) assertion that "concerns over transactional assurance and contractual enforcement drive firms to adopt private ordering," but we also show that this does not necessarily preclude a role for "efforts to economize on administrative costs." Rather, our findings suggest that economizing on the fixed costs of litigation may indeed be the main motivation for choice of dispute resolution mode for relatively simply transactions, and that litigation arises only when uncertainty and complexity increase to sufficient levels to induce information asymmetries and divergent expectations. As complexity continues to increase, however, incentives to engage in private settlement re-emerge as the context-specific know-how and flexibility required for effective dispute resolution go beyond those that can be accommodated within the constraints of the court and the formal judicial system.

Overall then, our results are consistent with the notion that enforcement forums play a central role in the functioning of contractual relations. One important limitation of our study, of course, is that we are able only to observe those contracts where cooperation broke down to a sufficient extent to bring in lawyers, at least to some limited extent. Furthermore, as Scott & Triantis (2006: 839) suggest, managers and lawyers "do not simply respond to conflict; they have the opportunity to limit or damage problems prospectively through negotiating and drafting. They may tackle prospective conflict at its roots by encouraging clear and concise contract

language, realistic risk assessment and allocation, and suitable issue and conflict resolution mechanisms for contractual relationships." In so doing, parties "weave their way between the Scylla of ambiguity and the Charybdis of too-tight drafting" (Stipanowich, 2001: 833).

It is with this contractual foresight in mind that we avoid making any claims regarding *causality* in the observed relationships between contractual control and coordination clauses and the dispute resolution mode adopted by firms in our sample: both the terms of the contract and the dispute resolution process reflect underlying transactional and relational characteristics, many of which are unobservable, even given the relative richness of our data. It is therefore difficult to tackle head-on the likely selection bias that arises from our limited view of disputes involving legal representation: If it is the case that transactors have little confidence in formal dispute resolution modes (whether public *or* private) for extremely complex transactions, then these cases are likely to be excluded from our sample. In this event, we are likely understating the effect of contractual complexity on the probability of private settlement. Similarly, if firms in repeated transactions are better able to avoid escalation of disputes to the point where it is necessary to engage lawyers these too will be under-represented in our sample. Alternatively, if contracts evolve systematically over repeat transactions (as suggested, for example by Argyres & Mayer, 2007) then the effect of prior ties may be masked by differences in the complexity of contracts employed by repeat transactors.[12]

Despite these limitations we believe that the correlations among relational and contractual characteristics and dispute resolution mode that we are able to establish through our

[12] Note, however, that in an analysis of the antecedents of contractual control and coordination clauses in this same sample of dispute cases, Lumineau & Quélin (2007) show no relationship between prior ties and contractual control, and a *negative* relationship between prior ties and contractual coordination mechanisms. Given the positive link between contractual coordination and judicial settlement in our model this would tend to indicate that firms with prior ties are *less* likely to use private settlement modes. Other relevant findings from Lumineau & Quélin's analysis are confirmation of the correlation between technical detail and contractual control, increased contractual complexity for contracts of higher value, and greater control but lower coordination clauses for time bound contracts.

empirical analysis are in themselves interesting, and lay the groundwork for future research. Given that the ability to manage inter-organizational arrangements – including contract design – has been proposed as a key to competitive advantage in an increasingly decentralized environment (Dyer & Singh, 1998; Anand & Khanna, 2000; Argyres & Mayer, 2007), furthering our understanding of "contracting in its entirety" (Williamson, 1985) is an endeavor of continuing importance. Future research should continue to integrate the study of dispute resolution mechanisms within the theory of contract design.

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Table 1 – Descriptive Statistics

Variables		Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1	Technical detail	9.205	18.633										
2	(Technical detail)^2	425.9	2085.3	.939									
3	Contractual control	2.813	1.487	.266	.208								
4	(Contractual control)^2	10.107	7.602	.329	.257	.952							
5	Contractual coordination	2.568	1.389	.291	.200	-.130	-.099						
6	Contractual coordination^2	8.509	7.228	.332	.231	-.175	-.112	.952					
7	Prior ties	.323	.470	-.040	.023	-.054	-.051	-.117	-.104				
8	Contract value	2.422	.669	-.157	-.155	.248	.132	.080	.116	.030			
9	Time bound	.656	.477	-.064	-.061	.676	.567	-.162	-.419	-.511	.106		
10	Asymmetry	86.506	344.4	.175	.098	.013	.066	-.041	.179	.208	.104	-.188	
11	International	.460	.500	.088	.023	-.162	-.112	-.134	.032	.079	-.171	-.119	-.119

Table 2 – Empirical Results

Binomial probit regression

Dependent Variable: 1= Private settlement; 0= Judicial order

	Model 1	**Model 2**
Technical detail	-0.346***	-0.343***
	(.097)	(.098)
(Technical detail)^2	0.018***	0.018***
	(.005)	(.005)
Contractual control	-1.089*	-1.154*
	(0.468)	(0.479)
(Contractual control)^2	0.166*	0.177*
	(.079)	(.081)
Contractual coordination	0.527**	0.947*
	(.156)	(.421)
(Contractual coordination)^2		-0.092
		(.085)
Prior ties	0.348	0.342
	(.349)	(.351)
Contract value	-0.136	-0.158
	(.281)	(.284)
Time bound	1.724**	1.58*
	(.621)	(.640)
Asymmetry	0.001	0.001
	(.001)	(.001)
International	0.222	0.222
	(.320)	(.323)
Constant	-0.702	-0.815
	(.733)	(.750)
LR χ^2	41.12	42.35
Pseudo R^2	0.299	0.308

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$
$N = 102$

Table 3 – Supplementary Estimations

Binomial probit regression

Dependent Variable: 1= Private settlement; 0= Judicial order

	Model 3	**Model 4**	**Model 5**
Technical detail	-0.324**	-0.341**	-0.319**
	(.096)	(.102)	(.101)
(Technical detail)^2	0.018***	0.018***	0.018**
	(.005)	(.005)	(.005)
Contractual control	-1.119*	-1.264*	-1.301**
	(0.465)	(0.508)	(0.507)
(Contractual control)^2	0.167*	0.177*	0.178*
	(.079)	(.084)	(.083)
Contractual coordination*	0.379*	0.549*	0.360†
	(.196)	(.166)	(.212)
Dispute resolution clause	0.818*		0.914*
	(.349)		(.369)
Prior ties	0.302		
	(.349)		
Positive prior ties		1.261*	1.227*
		(.496)	(.499)
Negative prior ties		-0.483	-0.638
		(.591)	(.617)
Contract value	-0.123	-0.154	-0.150
	(.278)	(.285)	(.285)
Time bound	1.728**	2.372**	2.389**
	(.629)	(.753)	(.768)
Asymmetry	0.001	0.001	0.001
	(.001)	(.001)	(.001)
International	0.264	0.448	0.508
	(.323)	(.346)	(.354)
Constant	-0.564	-0.975	-0.758
	(.732)	(.810)	(.816)
LR χ^2	40.84	49.35	49.49
Pseudo R^2	0.297	0.359	0.360

† $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

$N = 102$

* Contractual coordination in Models 3 and 5 excludes the dispute resolution clause.

Appendix 1 – Re-coding of Prior Ties

To distinguish between positive and negative references to prior contracts / relationship between the transacting firms, the first task involved developing a list of relevant concepts and preliminary response categories for use in coding. This was achieved by reviewing relevant prior literature on attitudes or relational norms associated with general satisfaction with trading relationships. This literature suggests three relevant dimensions: flexibility, participation, and solidarity (Heide and John, 1992; Jap and Ganesan, 2000; Noordewier *et al.*, 1990). *Flexibility* refers to the shared expectations that parties will make adjustments to accommodate changes in the environment; *participation* also facilitates adaptation and problem solving and refers to partners' willingness to make investments and share information, whether or not the party is contractually obliged to do so. Finally, *solidarity* refers to bilateral expectations that parties will generally act in a manner that increases mutual benefit, promoting a bilateral approach to problem solving, and creating a commitment to joint action through mutual adjustment.

When it comes to negative prior ties, to the best of our knowledge there has been little research specifically examining relational norms leading to *dissatisfaction* with trading relationships. Rather, negative or strained relationships tend to be associated with an absence of the positive norms identified about. Thus one may infer a negative experience with a trading relationship from references to *inflexibility* when a firm is rigid and unwilling to change its way of doing things; *non-participation*, reflecting obstructive or otherwise unhelpful behavior by the partner; and *individualism* involving perceptions of a selfish or unilateral approach to problem solving.

Armed with these general concepts, all documents in the legal files in the sample were examined and coded by each of the two team members working independently to classify the data. This was followed by a discussion of item selection and classification, and systematic analysis of data, employing both manual search and automated textual analysis using Concordance™ software. All inter-rater reliabilities calculated as intraclass correlation coefficients were significant at the 0.001 level and thus support consistency of the ratings.

It is interesting to note that in the overwhelming majority of files, the two firms involved are quite consistent in their statements regarding the existence and the general quality of prior ties. The final step was therefore to re-code prior ties for each pair of transacting firms in the sample as follows:

Positive prior ties = 1 if the file contains explicit references to flexibility, participation, and/or solidarity in prior interactions between the partners; 0 otherwise. Based in these criteria, 17 of the 33 firm pairs with prior ties were re-coded as having positive prior ties.

Negative prior ties = 1 if the file contains explicit references to inflexibility, non-participation, and/or individualism in prior business interactions between the partners; 0 otherwise. Based in these criteria, 13 of the 33 firm pairs with prior ties were re-coded as having negative prior ties.

Files coded as zero on both of these measures were cases with no reference to any prior contracts or other business interactions between the firms pre-dating the start of the contract under dispute. 69 cases fit this description. In addition there were three cases with a very brief mention of prior ties but no elaboration. (For example, "Our teams worked together last year for the [ABC] contract"). In the results reported in Table 3 these 3 cases are combined into the "no prior ties"

category. In supplementary analysis (not reported) we re-estimated the model with these three cases coded separately, with no material change in the results.