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**Working Paper**

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ZEI Working Paper, No. B 21-2003

**Provided in Cooperation with:**

ZEI - Center for European Integration Studies, University of Bonn

*Suggested Citation:* Pyle, William (2003) : Reputation flows: Contractual disputes and the channels for inter-firm communication, ZEI Working Paper, No. B 21-2003, Rheinische Friedrich-Wilhelms-Universität Bonn, Zentrum für Europäische Integrationsforschung (ZEI), Bonn

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Zentrum für Europäische Integrationsforschung  
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William Pyle

**Reputation Flows:  
Contractual Disputes and  
the Channels for Inter-Firm  
Communication**

**Working Paper**

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**Reputation Flows:**

**Contractual Disputes and the Channels for Inter-firm Communication**

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**Abstract:** Inter-firm information exchange with respect to the reliability of trade partners may be unmediated in the sense that it involves direct communication between the personnel of two firms. Alternatively, this information flow may be channeled by or through an organization such as a trade association. We assess the relationship between these two mechanisms for conveying reputational information. Based on evidence from five transition countries, we find that trade associations' role as informational intermediaries in this regard is sensitive to the geographic relationship between a potential supplier (demander) of reputational information and the firm whose behavior may be reported (acquired). What is more, the use of trade associations as conduits for reputation flows is more strategic than the use of unmediated communication in that the former is highly sensitive to the effects of market structure.

Key words: reputation, information, transition, trade associations

JEL classification: D83, L2, O17, P3

## REPUTATION FLOWS: CONTRACTUAL DISPUTES AND THE CHANNELS FOR INTER-FIRM COMMUNICATION<sup>1</sup>

The way one behaves in a particular transaction, or series of transactions, will color his general business reputation ... Sellers who do not satisfy their customers become the subject of discussion in the gossip exchanged by purchasing agents and salesmen, at meetings of purchasing agents' associations and trade associations, or even at country clubs and social gatherings where members of top management meet ... (Macaulay, 1963: 64)

### 1. Introduction

As Macaulay suggested in his seminal article on relational contracting, business-to-business information flows with respect to the behavior of third parties can assume at least two general forms. They may be unmediated, in the sense of being direct communications between the personnel of two firms. Alternatively, they may be assisted by a coordinating organization, such as a trade association, that has been designed (at least in part) for that purpose. Both types of *reputation flows*, mediated and not, have been recognized for their ability to serve as the basis for relational contracting, to reduce search costs and to mitigate information asymmetries (Greif, 1993; Kali, 1999; Kandori, 1992; Klein, 1992; Lizzeri, 1999; Macaulay, 1963; McMillan and Woodruff, 1999; Milgrom *et al.*, 1990; Rauch, 2001). But the economics literature is largely silent as to how the two interact. Our knowledge is limited as to whether organizations that mediate reputation flows (1) add much, if any, value in the presence of pre-existing networks of unmediated communication or (2) if their marginal value, in this sense, is in any way contingent upon the economic environment. This paper addresses both issues.

Based on evidence from five transition countries, we find that some trade associations increase reputation flows even when controlling for pre-existing, unmediated communication. Their value in this regard, however, is sensitive to several factors, including the geographic relationship

between a potential supplier (demander) of reputational information and the firm whose history that it may be interested in conveying (acquiring). We also show that the use of trade associations as conduits for reputation flows is more strategic than the use of unmediated communication. That is, the former is particularly sensitive to market structure effects and is not used when markets are particularly competitive.

This study builds directly on the work of Johnson, McMillan and Woodruff (2002) in the sense of exploiting the same set of data and addressing the general theme of relational contracting. Among many noteworthy findings, Johnson *et al.* showed that membership in a trade association that provides information on prospective trade partners is associated with a firm both granting more trade credit to customers and being more willing to switch to new, price-competitive suppliers.<sup>2</sup> As to this point, we might presume that access to an association's information network reduces the risk associated with these actions by both facilitating relational contracting and mitigating information asymmetries. However, accepting that it is trade associations themselves that facilitate the exchange of information requires controlling for a firm's access to additional, perhaps unmediated, information networks and considering whether or not there might be an important selection bias for trade association membership. On the first count, Johnson *et al.* decide not to give serious attention to the impact of variables measuring the frequency of a firm's communication with other firms, both inside and outside its sector.<sup>3</sup> The potential endogeneity between these variables and decisions either to grant trade credit or switch suppliers makes such a choice understandable (*i.e.*, firms that either carry out or contemplate such actions are more likely to talk with other firms so as to become better informed about a current or prospective trade partner). But one consequence of omitting these variables could be that the relationship between membership in a trade association and a firm's willingness either to grant trade credit or to change suppliers is spurious. That is, firms that already communicate with each other directly about trade partners and other matters may be more likely to

join associations with those same firms with which they are in regular contact. The relationship found by Johnson *et al.* then could be due not to the impact of the trade association, *per se*, but to a pre-existing communication network. That is, a veneer of mediation may simply conceal a set of well-established, unmediated ties. In such a case, the marginal value of the association (in terms of increasing reputation flows) is negligible.

In order to sort out the relative contributions of the different mechanisms for transmitting information and to avoid the noted endogeneity problem involved in assessing the relationship between a firm's actions and its use of alternative information networks, *we explore the determinants of reputation flows as opposed to their consequences.* Specifically, we investigate a firm's responses to questions about a potential dispute involving a trade partner. Why, in general terms, does such a dispute become known to a broader audience? And what, in specific terms, is the role of alternative channels for these reputation flows? In answering these questions, we are able to control for, and thus assess the inter-relationship between, mediated and unmediated channels.

The paper is structured as follows. Section 2 reviews relevant literature on mechanisms for transmitting reputation flows. Section 3 presents survey evidence on information exchange among manufacturing firms in five transition countries. Section 4 investigates the factors that affect whether or not information on contractual disputes between firms is disseminated to other market participants. Section 5 presents conclusions and implications.

## **2. Reputation Effects, Networks and Transition**

A given relationship between two firms may be situated within a wider network of relations. Parties that are "plugged in" can either access information from or provide information to the network as to the behavior of a current or potential trade partner. A firm's concern for its reputation within this larger community may thus curb the inclination to behave opportunistically within the

context of a given bilateral relationship. And in addition to providing a basis for relational contracting, this information exchange within the network can increase the allocative efficiency of markets by reducing adverse selection.<sup>4</sup>

In spite of their potential social value, the appearance of inter-firm reputation flows is not inevitable. Presuming a positive cost of communication, the public-good-like qualities of information suggest that it will be underprovided by profit-motivated businesses. What is more, even if the transmission costs are zero, a firm may not want to forego the rents that it could otherwise extract from trade partners by controlling a certain piece of information. The economics literature, nevertheless, presents us with numerous examples of institutions that have emerged to disseminate reputations among self-interested actors (*World Development Report*, 1998/99 and 2002). Some of the most noteworthy studies have focused on institutions that evolved in the pre-modern era. Greif (1993), for instance, shows how the rich, unmediated flow of information among dispersed Maghribi traders helped expand trade between Mediterranean Sea ports in the eleventh century. And Milgrom *et al.* (1990) demonstrate how the Champagne Fairs developed the institution of the Law Merchant to mediate reputation flows, allowing medieval traders to identify reliable partners from distant locales. More recently, several authors have highlighted business associations as reputational intermediaries in developing countries (Doner and Schneider, 2000; Woodruff, 1998).<sup>5</sup>

It should not be surprising that the transition from centrally planned socialism provides an ideal setting in which to study the mechanisms for channeling reputation flows. In the aftermath of communism's collapse, governments in Eastern Europe and the former Soviet Union have struggled with establishing institutions to enforce private contracts, while at the same time firms have struggled with reducing the costs of transacting through the market. In this environment, we would suspect that firms might have strong incentives to seek out and/or share information about their trade

partners. Based on a firm-level survey in Russia, Hendley *et al.* (2000) present evidence that unmediated information sharing was important for ensuring contractual compliance and reducing information asymmetries. However, they found that business associations played only a marginal role in helping to enforce contracts and spread information on prospective customers' ability to pay.<sup>6</sup> This finding, however seems to conflict with those of Recanatini and Ryterman (2001) and Greif and Kandel (1995); both these studies present evidence suggesting that the constituents of business associations had superior access to information on the identity and trustworthiness of prospective trade partners. That is, like Johnson *et al.* (2002), they suggest that business organizations do add value in the sense of improving inter-firm information flows.

Although the aforementioned studies have contributed to our understanding of the consequences of reputation flows, they have generally been limited by a focus on single mechanisms for disseminating reputations. Moreover, they have focused, perhaps understandably, on the behavioral effects of information exchange rather than on the exchange mechanisms themselves. Many markets, however, rely upon a diverse array of mediated and unmediated mechanisms rather than one to the exclusion of the other. And since many economic actors face a choice as to how they either disseminate or access reputational information, understanding the reasons for and the effect of the mechanism(s) they choose to use requires understanding the full choice set. Thus, in what follows, we explore the determinants of reputation flows giving particular attention to the inter-relationship of alternate channels for inter-firm information exchange.

### **3. Data on Inter-Firm Communication**

The data presented here come from a 1997 survey sponsored by the European Bank for Reconstruction and Development. Roughly 1500 small to medium-sized manufacturing firms from five transition countries participated.<sup>7</sup> As shown in Table 1, the average firm in the survey has less than a hundred employees and was started after 1990. More than those in Ukraine and Russia, the

respondents in Eastern Europe operate in a more competitive environment, are more likely to both be a *de novo* enterprise and express confidence in the ability of courts to enforce commercial contracts. Table 1 also presents data on the percentage of firms in the respective countries that have experienced standard contractual problems with clients. Over half of the firms had experienced a customer failing to pay for a delivery; roughly one quarter had had problems with a supplier that refused to either accept the return of defective merchandise to provide monetary compensation to the respondent.

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Place Tables 1 and 2 here

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The survey variables of greatest interest to us concern inter-firm communication. Of course, there are many types of business-to-business information exchange besides that between two existing or potential trade partners. Firms may communicate with competitors on matters of individual or mutual interest. In addition to sharing information on potential trade partners, they might share ideas and experiences relating to production processes, collude to reduce the competitiveness of their market, or coordinate efforts to influence public policies. Tables 2 and 3 provide us with some sense of the frequency and nature of communication among potential competitors. With the exception of Ukraine, over a third of the manufacturing firms in all these countries communicate with other firms that produce goods similar to theirs at least once per month for some reason. This may well be a function of the comparatively lower degree of competition in the Ukrainian manufacturing sector (see Table 1).

Intra-sectoral communication on matters relating to customers and suppliers appears not to be all that unusual among East European firms. Roughly a third of the firms in the Central and East European (CEE) countries report engaging in these sorts of contacts. Hardly any firms, however, in Ukraine and Russia talk with their competitors about trade partners. This difference does not apply

to technology and product design as healthy percentages of manufacturers across all of the countries report sharing this kind of information. Table 3 also shows that these two subjects hardly exhaust the potential matters for discussion. Roughly half of all respondents report talking about “other subjects.”

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Place Tables 3 and 4 here  
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Firms may also exchange valuable data with firms that are neither their competitors, nor their current (or even prospective) trade partners. For one, they may share information with firms with whom they share an existing or potential trade partner. These are the flows that we suspect would be the crucial building blocks of a firm’s reputation in a nascent market. Table 4 lays out responses to questions regarding the frequency of a respondent’s communication with its newest trade partner’s trade partners. Here again, we see tremendous variation across countries. Confirming Hendley *et al.*’s (2000) finding, in Russia, over sixty percent of the firms report having at least monthly communications with other suppliers of their newest customer. But in the four other countries, these types of contacts are much less frequent. In Poland, Romania and Ukraine, less than ten percent report talking on at least a monthly basis with the suppliers of their newest customer. A similar relationship can be seen in the answers to a question regarding communications with the other clients of a respondent’s newest supplier.

From the manner in which the survey questions above were structured, we cannot know definitively whether the reported firm-to-firm communication has been carried out within or outside the framework of a mediating institution like a trade association. That is, some firms may communicate with their competitors and/or others *because* they share membership in the same trade

association.<sup>8</sup> However, evidence will be presented in Section 4 that suggests that these questions effectively capture unmediated information flows.

Table 5 provides data on trade association membership and the services provided to constituents. Membership rates are lowest in Poland and highest in Russia and Ukraine.<sup>9</sup> Moreover, we see that association members in these two former Soviet republics rely upon them disproportionately for contract and/or dispute arbitration services. To the extent that these associations may offer services privately that substitute for ineffective or missing public institutions, these results are not surprising. As shown in Table 1, Russian and Ukrainian firms were the most skeptical about the effectiveness of the public courts.

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Place Tables 5 and 6 here  
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We also present data on a firm's primary source of information about their newest customer and newest supplier before the relationship was initiated. Table 6 shows that prior business acquaintances are important sources of information in all the countries. Informal networks of family and friends play some role as well, particularly in Romania.<sup>10</sup> We also see that trade associations play relatively important roles in Romania, Ukraine and Russia as sources of information about prospective clients and suppliers.

And lastly, we present our measure of reputation flows. The dependent variable in our subsequent regression analysis is taken from a series of questions that ask respondents about business disputes. Firms were first asked two questions about a potential disagreement involving their newest customer:

- (1a) If your firm had a dispute with this customer, would other suppliers of this customer find out about it?

- (1b) If this customer had a dispute with another firm, would your company find out about it?

Firms were then asked similar questions about a potential dispute involving their newest supplier:

- (2a) If your company had a dispute with this supplier, would other customers of this supplier find out about it?
- (2b) If this supplier had a dispute with another firm, would your company find out about it?

With respect to the scenarios described in questions 1a and 2a, the respondent would be in the position of potentially supplying valuable information to other, interested parties. For questions 1b and 2b, the respondent would be on the receiving end of any reputation flow.

These questions allow us to evaluate the extent to which information relating to a firm's business history circulates among a community of firms. Table 7 shows that there is not an insignificant amount of cross-country variation in the responses to these questions. For instance, relative to firms in Ukraine, a high percentage of Russian firms believe that news of an inter-firm dispute would be much more likely to "get out." We might also generalize that firms are more confident that they will learn of a trade partner's dispute in another relationship than that a dispute between themselves and that trade partner would become known to others. What these data do not reveal, of course, are the answers to how and why this information "gets out."

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Place Table 7 here  
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#### **4. Determinants of Reputation Flows**

Based on our discussion to this point, we would anticipate that a firm's response to the "reputation flow" questions would first be sensitive to the nature of the information networks or channels into which it is already plugged. The greater the extent to which one was "plugged in" to

mediated and unmediated information flows, presumably, should be positively related to supplying and being supplied with news relating to inter-firm disputes. This could be due either to (1) the lower costs of inter-firm communication within a network or (2) the positive incentives therein for sharing information, or both.

If this is true, firms that already communicate regularly with other firms (in addition to their regular trade partners) will be more likely to publicize their disputes with trade partners and to find out about those partners' disputes with others. We might also expect that membership in an organization like a trade association that supplies members with information on existing and potential trade partners would be more likely to partake in both the provision and receipt of information relating to contract disputes. We do not, however, have strong priors as to the relative magnitudes of these two channels in terms of promoting these flows.

Second, we would expect that a firm's supply of and demand for reputational information would be sensitive to its experience with contractual disputes and its perception of the ability of courts to resolve them. To the extent that the circulation of this information can substitute for ineffective courts, we would expect that a less favorable view of public institutions would be associated with a greater reliance on information exchange for the purposes of relational contracting (Johnson *et al.*, 2002). We might also suspect that a firm that has had a history with contractual problems might be more attuned to the value of relational contracting and inter-firm information exchange.

Third, we would expect reputation flows to be sensitive to the characteristics of a specific relationship between the respondent and its newest trade partner. These bilateral relationship characteristics might include, first, the risk that the trade partner would be particularly willing to renege on an agreement with the respondent. A bilateral relationship involving more risk and for which more is at stake for the respondent is likely to result in a more elaborate governance structure

(Williamson, 1985). For instance, the degree to which a responding firm faces high search costs to replace a particular trade partner may influence either its desire to seek out reputational information or its decision to spread information on a dispute that the two might have. A firm might be particularly motivated to track down the performance record of a supplier from which it may be receiving an input that could not easily be found from another source. Or a supplier whose client can easily find alternative suppliers of the same input might be more interested in applying the threat of publicizing its bad behavior. The same might be true for a supplier that had made an investment in the relationship (*e.g.*, had offered trade credit).

A second set of relationship-specific characteristics that may influence reputation flows involves the manner in which the respondent learned about its trade partner (Johnson *et al.*, 2002). For one, that initial source of information may itself be a source of information on the firm's history or it might be, directly or indirectly, connected to other sources that are. For another, that source might be considered by the respondent to offer particularly trustworthy (untrustworthy) referrals in which case the respondent might not feel (feel) a need to seek out additional information about the firm's performance history.

Given these considerations, we explore the determinants of reputation flows in a series of probit regressions on each of the reputation flow questions (1a-2b). The dependent variable in each takes on the value of one if a firm's response to a particular question (1a-2b) is "yes" and zero if the response is "no." Per our previous discussion, as controls we include a vector of variables characterizing the information channels or networks into which the respondent is already plugged, a vector capturing the respondent's experience with contractual violations and its attitudes toward the ability of courts to address them, and a vector characterizing the particular bilateral relationship about which the respondent is being asked. We also include country and branch dummies as well a series of respondent and trade partner controls.

#### 4.1 Effects of Alternate Channels for Inter-firm Communication

Our primary interest here will be in the regressors that represent potential channels (or networks) for disseminating information. Table 8 presents the regression results from questions 1a and 1b (*i.e.*, the questions that address a dispute involving the respondent's newest customer) in columns 1-4 and 5-8, respectively.<sup>11</sup> The first four columns of Table 8 report results from a probit regression in which the dependent variable represents the respondent's answer to the question of whether or not other suppliers of its newest customer would find out about a dispute between the respondent and that customer. Controls are included for both the frequency with which the respondent talks with its competitors about suppliers and customers and the frequency with which it talks with other suppliers of this particular customer.

We see that if a firm communicates on at least a monthly basis with its client's other suppliers, there is a 22% greater chance that news of the dispute will reach other firms. Both the magnitude and statistical significance of this effect remain consistent across several specifications. Similarly, as demonstrated in columns 5-8, those same firms are roughly 16% more likely to expect to learn of a customer's disputes with other firms. These effects are statistically significant at the .01 level. In general, these results suggest that the nature of the communication networks in which the respondent is already participating influences subsequent reputation flows.

Columns 1-8, however, demonstrate that the frequency of pre-existing communication with one's competitors about trade partners does not produce a statistically significant impact on the dissemination of dispute-related information. Our inability to confirm any relationship here may reflect firms' desire not to lose rents that would accrue to them by holding valuable, non-public information about a client with whom a competitor may be interested in doing business; or it may simply reflect the less pointed nature of the question regarding competitors (*i.e.*, one question asks whether the respondent talked to other suppliers of this particular customer, while the other asked

about talking with competitors about trade partners generally). We return to this matter in the discussion of Table 9.

In columns 2 and 6 of Table 8, a dummy variable has been added that takes on the value of one if the respondent is a member of a trade association. In both of these regressions, we see that simple membership in a trade association does not increase a firm's access to reputation flows. In neither is the effect of this variable statistically significant. Perhaps this should not be terribly surprising since, as Table 5 indicated, a trade association can be a multi-purpose organization that may or may not count the provision of information on trade partners among its services provided (Doner and Schneider, 2000).

In columns 3 and 7, we exchange the trade association membership dummy for a more narrowly defined variable that takes the value of one only if the firm is a member in a trade association that offers information services -- that is, one that helps identify and locate new trade partners and/or provides information on their trustworthiness (see Table 5). Membership in a trade association with these services is positively associated with reputation flows when the dispute involves the customer and the respondent (column 3). In this case, information on the dispute is 6% more likely to be spread, an effect that is significant at the .10 level. The effect of this variable, however, is not statistically significant when the question relates to a potential dispute between the respondent's customer and another firm.

In columns 4 and 8, we add an interaction term to the model specified in columns 3 and 6; it takes on the value of one if the respondent is a member of a trade association with information services and its newest customer is located in or near the city in which the respondent is located.<sup>12</sup> In both cases, the effects of the trade association dummy and the interaction term are highly significant. That is, we have strong evidence that the value of a trade association as a conduit for reputation flows is contingent upon the geographic location of the member's (*i.e.*, respondent's) trade partner.

For customers that are located in the same city, the magnitude of the marginal effect of membership in a trade association with information services is near zero. Summing the two coefficients on these variables, we see that being a member of a trade association with information services makes it only roughly 2% more likely that information on a dispute involving the respondent and a “nearby” customer is disseminated (see column 4); moreover, it makes *absolutely no difference* as to whether information on a dispute involving a “nearby” customer and another firm becomes known to the respondent (see column 8). In this sense, the marginal value of trade association membership is zero.

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Place Tables 8 and 9 here  
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However, if the customer is not located in or near the respondent’s hometown then the marginal effect of the trade association is quite noteworthy. Disputes involving the respondent and that customer become 18% more likely to become publicized; whereas disputes involving other firms and the customer are 13% more likely to become known. These effects are significant at the .01 and .05 levels, respectively. To the extent that reputation flows support the development of markets, these findings suggest that trade associations may be of particular value in promoting transactions across geographic space. In more localized relationships, alternative, less formal institutions for transmitting information appear to be of greater use; unmediated reputation flows, in this sense, appear to “crowd out” the mediated.

Table 9 presents regressions in which the value of the dependent variable depends upon the expectation as to a potential dispute involving the firm’s newest supplier.<sup>13</sup> Again, we see that information dissemination relating to current or future disputes is a function of the communication networks to which a firm already has access. Similar to the questions dealing with the newest

customer, we see that talking at least monthly with the other clients of one's newest supplier makes it more likely that news of contractual disputes is spread. If the respondent talks with other clients of the supplier on at least a monthly basis, it is roughly 24% more likely to have its disputes with that supplier publicized (see columns 1-4) and 19% more likely to become aware of disputes involving the supplier and other firms (see columns 5-8). These effects are both significant at the .01 level.

A firm that talks on a monthly basis with its competitors about existing and potential trade partners is 15% more likely to believe that any dispute it might have with its newest supplier will become known by the supplier's other customers. This effect is significant at the .01 level. In the regressions dealing with a dispute involving the newest supplier and another firm, the respondent is roughly 9% more likely to believe that it would learn about it if it is already communicating frequently with its competitors, an effect that is significant at the .10 level. The frequency of communication with competitors thus seems to be more important to explaining reputation flows involving suppliers than those involving customers. This suggests a different calculus with regards to divulging information about customers: information that might make it easier for competitors to attract a reliable customer, apparently, is more jealously guarded than analogous data on suppliers.

As we saw above, the effect of generalized trade association membership is not statistically significant (columns 2 and 6). But a firm that is in a trade association that identifies and/or vouches for the reliability of potential trade partners is at least 11% more likely to have its disputes with the supplier publicized and roughly 9% more likely to learn about its supplier's disputes with others. The effects are significant at the .01 and .05 levels, respectively. Finally, the effect of the interaction term that was important to the models in Table 8 appears unimportant here in Table 9. That is, the location of the supplier *vis a vis* the respondent does not have a statistically significant impact on the use of trade associations to channel reputation flows.

By way of summarizing our discussion on the effects of different mechanisms for channeling reputation flows, we return to the distinction made earlier between mediated and unmediated institutions. As was already pointed out, answers to the questions addressing the frequency of communication with both competitors and a trade partner's trade partners did not allow us to delineate precisely whether or not such contacts, if they were present, were the result of mediated or unmediated communication. It is at least conceivable that respondents provided answers to these questions with reference (at least in part) to services and/or occasions arranged by a trade association to which they belonged. The results in Tables 8 and 9, however, suggest otherwise. In both tables, when the controls for membership in trade associations with information services are added, the explanatory power of the other network variables remained unchanged. This observation, in other words, is consistent with these variables representing unmediated communication (or at least communication that is not mediated by a trade association) between respondents and other firms.<sup>14</sup> If this is the case, our Tables 8 and 9 present ample evidence that both mediated and unmediated mechanisms generally both contribute to reputation flows. Trade associations, with the exception of the case in which the talked-about firm is a local customer, can make an appreciable addition to the flow of information even in the presence of robust unmediated communication. Moreover, conditional on membership in an organization that mediates reputation flows, a firm's current participation in unmediated networks of information exchange increases the likelihood of it partaking in information exchange in the future.

#### 4.2 Contracting Problem Effects

We now proceed to a brief discussion of other variables that may play a role in the exchange of reputational information. We will focus our discussion on the specifications in columns 4 and 8 in Table 8, as well as columns 3 and 7 in Table 9. First, a firm's attitude toward the court system as well as its own history with arrears are shown to be important to the dissemination of information on

contract disputes. Firms that are not optimistic about the courts' abilities to enforce contracts are roughly 9% more likely to find out about a contractual dispute involving either their customer (Table 8, column 8) or their supplier (Table 9, column 7) and another firm; these effects are significant at the .05 and .01 level, respectively. In other words, if firms are skeptical of the ability of public mechanisms to protect them from the bad behavior of their trade partners, they may be more vigorous in tracking down their partners' behavioral histories. The evidence for information flows in the opposite direction, however, is not as strong. The negative relationship between confidence in the court system and other clients of the respondent's supplier learning of a dispute between the respondent and the supplier is significant but only at the .10 level (Table 9, column 3). There is no statistically significant relationship in this regard between confidence in the court system and other firms finding out about a dispute involving the respondent and its newest customer (Table 8, column 4).

Having a history with contractual disputes seems to predispose a firm to participate more in the exchange of reputational information. A firm that has had problems collecting a debt in the past is roughly 11% more likely to believe that a future dispute involving it and its customer would be publicized, an effect that is significant at the .01 level (Table 8, column 4). This evidence may suggest a learning process; firms that have experienced prior disputes may better understand the value, and therefore make better use of the mechanisms for relational contracting. The same variable is shown to have a similar effect on the respondent learning about its client's disputes with others; this effect is significant at the .10 level (Table 8, column 8). A history of contractual disputes with suppliers is also shown to be an important explanatory variable. If a firm's supplier has ever refused to accept the return of defective merchandise or to refund money for goods returned due to low quality, it is more likely both to have its disputes with its newest supplier publicized (Table 9, column 3) and to

learn about disagreements between that supplier and other firms (Table 9, column 7). The effects are significant at the .05 and .01 levels, respectively.

There is thus a good deal of evidence that problems with public enforcement of contracts as well as actual experiences with breach of contract influence the demand for and supply of reputational information. The evidence suggests that firms that are dubious of the courts' abilities are particularly eager to seek out information on the behavior histories of their trade partners. Firms that have firsthand knowledge of contractual disputes, perhaps through a learning process, appear to be more inclined to participating in information exchange on both the supply and demand sides.

#### 4.3 Bilateral Relationship Effects

We now turn our attention to potential determinants of reputation flows that are specific to the bilateral relationship in which a dispute might occur. In this regard, we first explore variables that capture the costs to the two parties of terminating their relationship. A firm, for instance, might face high termination costs if it is difficult or time consuming to find a trade partner to replace its current one. Additionally, a firm that must invest in an asset whose value is specific to the bilateral relationship faces a higher cost of termination. By increasing the costs of termination, higher search costs and asset specificity both increase the cost of trade partner opportunism and, for the respondent, raise the value of preventative contracting mechanisms (Williamson, 1985). We might thus expect to find that a firm whose search costs are higher or one whose stake in the continuation of a specific relationship is greater, would be more likely to resort to (the threat of) disseminating information on a trade partner's misbehavior. Conversely, lower termination costs for the trade partner reduce its cost of behaving opportunistically *vis a vis* the respondent, increasing the value to the former of preventative contracting mechanisms such as reputation flows.

In support of some of these hypotheses, we first see in Table 8 (column 4) that the longer the time for the respondent to find another buyer for its product (in the event that its most recent

customer refuses delivery) the more likely that its disputes with that customer become known, an effect that is significant at the .10 level. In other words, if the costs of termination are high, the greater the value of this relationship to the respondent and the greater the value of disseminating the trade partner's behavioral history so as to discourage opportunism. We also see that a firm that has gives trade credit to its client and thus has more at stake in the relationship is more likely to avail itself of reputation mechanisms in the event of a dispute; this effect is significant at the .05 level. What is more, the less time that it takes for the customer to find an alternative supplier, the more likely that a dispute that it had with the supplier would be publicized. That is, customers with outside options, with low costs of terminating the relationship, are more likely to be threatened with the punishment of having their bad behavior publicized since the cost to them of behaving opportunistically would otherwise be relatively low; this effect is significant at the .05 level.<sup>15</sup>

Some of the variables that are meant to measure the costs of terminating the relationship between the respondent and its newest supplier also appear to explain variation in the dependent variable. As was true for the questions involving customer relationships, the less that the respondent's newest supplier is locked in to the bilateral relationship and the more that the respondent is locked in, the greater the magnitude of reputation flows. If the supplier markets a product to the respondent that is not sold to other firms (for which it may have made investments that would not be recoverable if the relationship were to be terminated), a dispute between the two is less likely to become known by the supplier's other customers; this effect is significant at the .05 level (Table 9, column 3). If the supplier only produces to fill orders from the respondent, and does not maintain inventories for it (and thus has less to lose, *ceteris paribus*, if the relationship is terminated), the respondent is roughly 15% more likely to be on the supplying side of reputation flows; this effect is significant at the .01 level.

The variables measuring the costs to the respondent of losing the relationship, interestingly, do not have as pronounced an effect. As would be expected from the discussion above, firms that receive frequent (at least bi-weekly) deliveries from the supplier are more likely to publicize any disputes, although the effect is significant at only the .10 level. However, there is no statistically significant relationship between the respondent publicizing a dispute with its supplier when it is the only supplier of a particular input. Although the coefficient here is positive, as we would expect, it is not significant.

The manner in which the respondent first learned of this customer also is important for the eventual dissemination of information on the respondent's contract disputes. A firm that learned about its customer through a business contact (*i.e.*, another customer, supplier or competitor) was over 7% more likely to think that information about a dispute with that customer would become known by that firm's other suppliers.<sup>16</sup> Similarly, the respondent is 16% more likely to find out about a dispute involving its customer and other firms. The first effect is significant at the .05 level, the second at the .01 level. A firm that learned about its most recent customer through a family or friend, however, is 13% less likely to have its disputes with that firm become publicly known. This effect also is significant at the .01 level. Finally, we see that if a firm received its information about the client from a trade association, the firm expects to find out about any trade dispute involving that client. This effect also is significant at the .01 level. However, the flow of information in the opposite direction, from the respondent to other firms, appears not to be as strong. That is, learning of its client through a trade association does not have a demonstrable effect on whether or not a trade dispute of theirs with that client will become known to others.

If the respondent's primary source of information about the newest supplier prior to becoming its client was a trade association, it is 18% more likely that the respondent will learn about whether or not the firm becomes involved in a subsequent business dispute. This effect is significant

at the .01 level. Similarly, there is a significant effect with regard to whether or not a firm's dispute with the supplier becomes known to others. Also as was the case with customers, receiving information about the supplier from a business contact is positively related to subsequent reputation flows. This effect is significant in terms of respondents' expectation about learning of their supplier's disputes with other firms.

#### 4.4 Split Samples and the Role of Market Structure

We now return to our focus on the effect of different information sharing mechanisms by re-running regression models initially presented in Tables 8 and 9 but for split samples based on the number of competitors that a respondent reports having in the same city. We are particularly interested here to see if the relative importance of the different channels for reputation flows changes with a change in the structure of the respondent's market. In Table 10, we present the results from a regression model that mimics those presented in Table 8, columns 4 and 8, the only difference being that the sample is divided between firms that have one or no local competitors and firms that have more than five. We only report the coefficients from the network variables.

While there are no statistically significant differences between the coefficients on the variables which capture unmediated information sharing (monthly communication with competitors about suppliers and customers; and monthly communication with other suppliers of the customer), we do find that market structure has an appreciable effect on reputation flows through trade associations that offer information services. Specifically, in both pairs of regressions in Table 10, the effect of the trade association variable is positive and highly significant for firms that have fewer than two local competitors; the difference between this coefficient and that on the same variable in the regressions run on firms with more than five local competitors is statistically significant at the .05 level. The magnitude of these effects is most easily captured with reference to a respondent whose customer is located outside the respondent's hometown. In this case, when the respondent faces

little local competition, being a member of a trade association with information services makes it 39% more likely to have any dispute with its customer made known to the other suppliers of that customer. The effect when the respondent faces stiffer local competition is not statistically different from zero. In a similar fashion, that respondent is 29% more likely to learn of the customer's dispute with another firm when local competition is minimal. And again, the effect when the respondent faces more local competition is not statistically different from zero.

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Place Tables 10 and 11 here  
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In Table 11, we present the results from regressions that are identical to those presented in Table 9, columns 3 and 7, the only difference being that the sample is divided between firms that have two or fewer local competitors and those that have more. Again, the only statistically significant differences in coefficient pairs across the split samples are found with respect to the trade association variable. There are no statistically significant differences, that is, between the coefficient pairs on the variables that capture unmediated information sharing. But market structure does have an appreciable effect on whether reputation flows are directed through trade associations that offer information services. When a firm faces little competition, being a member of a trade association with information services makes it 20% more likely that the respondent's disputes with the supplier become known to the supplier's other clients and 19% more likely that the respondent finds out about the supplier's contractual problems with other firms. However, the effects when the firm faces more competition are not statistically different than zero.

The evidence in Tables 10 and 11 suggests that the mediated reputation flows may be more sensitive to strategic considerations. Specifically, the findings are consistent with the supply of information to a trade association from either the respondent or its competitors depending upon the degree of competition in the local market. Unmediated reputation flows are less sensitive in this

regard, perhaps, because firms have greater control over to whom they are channeled. For instance, a firm may share reputational information directly with a trusted customer or supplier when it perceives there to be value associated with that action and it knows that that information is unlikely to be passed on to a competitor. If, however, a firm shares information with a mediating institution, it may have to be more sensitive to weighing that value against the potential cost to it that the information is transmitted to another, less trusted, firm. If, as seems reasonable, information channeled through a trade association is perceived as being more likely of reaching competitors, then we should not be surprised that the value of a trade association in channeling reputation flows diminishes in a more competitive environment.

## **5. Conclusion**

A firm's reputation in a marketplace is shaped by the nature of communication among other market actors. Our analysis suggests that if one behaves badly *vis a vis* a trade partner, knowledge of the infraction will be more widely disseminated if the aggrieved possesses the willingness and ability to spread the information. Similarly, the information might be more widely disseminated if parties external to the relationship in which the grievance occurred have reasons to seek out, as well as the means to acquire, the offending firm's behavioral history. We confirm here that firms' participation in and access to inter-firm communication channels are both important determinants of the dissemination of reputation-relevant information.

More specifically, we show that some, but not all, trade associations have a real and significant effect on inter-firm reputation flows. Even when we control for the frequency of communication with competitors and trade partners, being a member of a trade association that offers information services generally has a positive and significant effect on the circulation of news relating to contractual disputes. Trade association membership, in these cases, does not just represent a veneer of mediation on existing, unmediated reputation flows. The associations,

themselves, seem to facilitate inter-firm information exchange. The exception to this finding comes in the relationship with local customers. A trade association member, in this case, is neither more likely to have its disputes publicized nor learn of the customer's disputes with others; unmediated mechanisms seem to "crowd out" mediated mechanisms.

Our results also suggest the powerful role of unmediated communication. Controlling for membership in a trade association that offers information services, we found that the frequency with which a firm talks with its trade partner's trade partners influences reputation flows. Monthly communication with other suppliers of one's customer and with other clients of one's supplier meaningfully increases the probability that future disputes involving one's trade partners will become known. Interestingly, however, communication with competitors has an uneven effect on reputation flows; it promotes reputation flows when the dispute involves a supplier but not when it concerns a customer.

In a similar vein, we find that reputation flows through trade associations are much more sensitive to the competitiveness of local markets and, in this sense, seem to be utilized more strategically. It is plausible that this could be because an aggrieved firm that is the initial source of a reputation flow does not have as much control over who is on the receiving end when that information is shared with a mediating institution.

For reputation flows to serve as the basis for relational contracting, information must be exchanged between and among market participants. The same holds true if the diffusely held stock of knowledge on firms' behavioral histories is to reduce search costs and mitigate adverse selection. In this paper, we have shown how both mediated and unmediated mechanisms can work in tandem to promote these flows. We have also shown that the flows are sensitive to the specific features of the relationship in which a contractual problem might arise. And we have also confirmed that they are sensitive to firm-level perceptions of the macro-institutional environment. What we have not

been able to do here is assess directly either the private or social value of these flows. Just because information is disseminated does not necessarily mean that it provokes a behavioral response that increases market efficiency. A firm might communicate to another the problems it has had with receiving payments from a client, but that other firm to which the information is communicated might never be in a position to use it, or that firm might not find the information trustworthy. Nevertheless, the fact that we found meaningful mediation of reputation flows is strongly suggestive that these flows have value. The role that we see some trade associations playing suggests that the costs of this mediation have been willingly absorbed and the micro-level disincentives for sharing information have been overcome. Presumably, this has been done because of the value that these flows provide. Given these findings, one logical extension of our work here would be to explore why some associations develop this role and some do not.

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TABLE 1. SELECTED SUMMARY DATA ON ALL SURVEYED FIRMS

	All	Pol.	Slov.	Rom.	Rus.	Ukr.
Avg. firm's age (years)	6.9	7.4	6.1	7.0	6.8	6.1
Avg. number of employees	54.3	63.0	57.0	56.4	33.5	60.1
Spun off from SOE	33%	22%	23%	12%	49%	69%
Avg. number of competitors in city	7.1	10.7	6.5	8.8	3.2	1.9
Customer failed to pay for product after delivery	54%	76%	81%	74%	15%	12%
Supplier refused return of defective merchandise or to refund money for low quality merchandise	24%	18%	37%	33%	9%	15%
Believe court can enforce agreement with trade partner	68%	73%	68%	87%	56%	55%

TABLE 2. HOW OFTEN DO YOU TALK WITH PRODUCERS OF GOODS SIMILAR TO YOURS? (% OF FIRMS RESPONDING "YES")

	All	Pol.*	Slov.	Rom.	Rus.	Ukr.
Weekly	15.1	18.8	23.1	15.6	3.2	5.5
Monthly	21.9	18.1	16.9	20.6	43.6	15.1
Less frequently or not at all	61.0	55.0	60.1	63.9	53.2	79.5

\* 8.1% of the Polish firms' responses were "no answer."

TABLE 3. DISCUSSION TOPICS OF FIRMS THAT COMMUNICATE AT LEAST MONTHLY WITH PRODUCERS OF GOODS SIMILAR TO THEIR OWN  
(% OF FIRMS RESPONDING "YES")

	All	Pol.	Slov.	Rom.	Rus.	Ukr.
Customers and suppliers	49.9	56.4	58.5	67.2	10.1	4.4
Technology / product design	68.0	64.2	58.5	64.7	92.8	78.3
Other subjects	47.3	45.0	57.7	68.1	5.8	21.7

TABLE 4. FREQUENCY OF TALKING WITH TRADE PARTNER'S TRADE PARTNERS

	All	Pol.	Slov.	Rom.	Rus.	Ukr.
With other suppliers of newest customer						
At least monthly	13.8	5.3	11.7	4.4	60.8	7.2
Infrequently	10.8	4.3	10.7	5.0	11.4	33.5
Not at all	75.3	90.4	77.6	90.7	27.9	59.3
With other clients of newest supplier						
At least monthly	13.5	9.4	8.9	7.8	67.6	3.7
Infrequently	12.7	3.7	18.0	7.8	10.5	34.1
Not at all	73.8	86.9	73.1	84.4	21.9	61.5

TABLE 5. BUSINESS ASSOCIATIONS

	% firms that are members	OF ASSOCIATION MEMBERS, % SAYING ASSOCIATIONS PROVIDE ...				
		Info. on Technology	Identity & location of new trade partners	Info. on trustwor- thiness of new trade partners	Contract and/or dispute arbi- tration	Other
All	47.8	56.6	47.3	33.7	48.8	13.3
Pol.	28.9	41.4	50.0	42.5	31.0	20.9
Slov.	31.5	54.6	47.4	42.3	29.9	31.3
Rom.	44.2	59.6	69.5	30.5	21.3	9.2
Rus.	74.4	58.3	35.8	46.0	71.7	8.1
Ukr.	67.3	59.8	39.4	33.3	64.8	8.3

TABLE 6. PRIMARY INITIAL SOURCE OF INFORMATION ...

	All	Pol.	Slov.	Rom.	Rus.	Ukr.
About newest customer						
Managed / owned by family member or friend	12.5	4.0	13.0	22.7	10.1	11.6
Previous business acquaintance	37.0	37.0	39.9	21.8	35.1	54.1
Business association	9.7	2.0	4.9	14.0	10.4	17.9
About newest supplier						
Managed / owned by family member or friend	7.2	3.0	9.1	15.6	3.3	3.7
Previous business acquaintance	30.9	45.2	41.9	22.4	10.8	32.2
Business association	7.3	1.3	6.5	13.4	9.3	5.9

TABLE 7. REPUTATION FLOWS (% OF FIRMS RESPONDING "YES")

All	Pol.	Slov.	Rom.	Rus.	Ukr.
If your firm had dispute with this customer, would its other suppliers find out?					
27.7	26.7	35.7	22.8	41.7	10.8
If this customer had a dispute with another firm, would your firm find out?					
34.2	29.7	42.2	32.7	40.0	24.1
If your firm had dispute with this supplier, would its other customers find out?					
21.9	20.2	30.2	18.7	29.8	5.5
If this supplier had dispute with another firm, would your firm find out?					
27.2	20.3	34.5	27.1	32.6	18.8

**Table 8. Disputes Involving Newest Customer**

	If your company had a dispute with this customer, would its other suppliers find out?				If this customer had dispute with another firm, would your company find out about it?			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Alternate Channels for Inter-firm Communication</b>								
Talk to competitors about supps. & custs. at least monthly	.055 (1.41)	.053 (1.37)	.048 (1.23)	.047 (1.20)	.043 (1.02)	.041 (0.97)	.039 (0.94)	.038 (0.90)
Talk with other sups. Of customer at least monthly	.226*** (4.63)	.228*** (4.64)	.225*** (4.61)	.227*** (4.62)	.161*** (3.22)	.165*** (3.30)	.160*** (3.20)	.160*** (3.21)
Member of trade association		.017 (0.49)				.000 (0.01)		
Member of trade assoc. w/ info. services ...			.064* (1.69)	.179*** (3.00)			.044 (1.08)	.132** (2.06)
Member of trade assoc. w/ info. services x customer close				-.156** (-2.49)				-.131* (-1.78)
<b>Contracting Problem Effects</b>								
Can courts enforce an agreement with a customer or supplier?	-.055 (-1.47)	-.057 (-1.52)	-.059 (-1.55)	-.054 (-1.44)	-.093** (-2.27)	-.095** (-2.30)	-.095** (-2.31)	-.091** (-2.21)
Has a customer ever failed to pay for a product after delivery?	.110*** (2.93)	.111*** (2.95)	.114*** (3.03)	.109*** (2.87)	.066 (1.60)	.066 (1.61)	.073* (1.78)	.069* (1.67)
<b>Bilateral Relationship Effects</b>								
Do you now or ever give credit to customer?	.072* (1.80)	.074* (1.86)	.076* (1.89)	.084** (2.07)	.078* (1.82)	.080* (1.85)	.076* (1.76)	.082* (1.88)
If customer refused to accept delivery, length of time to find another customer? ++	.026* (1.78)	.025* (1.75)	.026* (1.80)	.026* (1.81)	-.016 (-1.02)	-.017 (-1.09)	-.016 (-0.97)	-.015 (-0.96)
If you failed to deliver these goods, how long for customer to find alternative supplier? ++	-.039** (-2.34)	-.040** (-2.39)	-.040** (-2.43)	-.041** (-2.48)	.002 (0.10)	.000 (0.01)	-.001 (-0.08)	-.002 (-0.11)
Before transacting, what was primary source of information about customer?								
... previous business acquaintance	.074** (2.04)	.073** (2.01)	.073** (2.00)	.072** (1.98)	.165*** (4.12)	.164*** (4.08)	.166*** (4.12)	.166*** (4.13)
... managed or owned by family or friend	-.130*** (-2.74)	-.130*** (-2.74)	-.131*** (-2.74)	-.132*** (-2.77)	.013 (0.24)	.010 (0.18)	.007 (0.14)	.008 (0.14)
... business association	.026 (0.42)	.024 (0.39)	.029 (0.46)	.028 (0.43)	.226*** (3.29)	.223*** (3.25)	.228*** (3.32)	.230*** (3.34)
Country Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Respondent Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Trade Partner Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of observations	902	900	899	899	896	894	893	893
Pseudo R-square	.1165	.1172	.1190	.1248	.0990	.1002	.1007	.1035

Notes: (i) All regressions are probits with marginal effects reported; (ii) \* indicates 0.10 level, \*\* 0.05 level, \*\*\* 0.01 level.; (iii) t-stats reported in parentheses; (iv) ++ scaled 1-5 with 1 being one day or less.

**Table 9. Disputes Involving Newest Supplier**

	If your company had dispute with this supplier, would its other clients find out?				If this supplier had dispute with another firm, would your company find out?			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Alternate Channels for Inter-firm Communication</b>								
Talk to competitors about suppliers and customers at least monthly	.154*** (3.29)	.154*** (3.29)	.149*** (3.18)	.152*** (3.23)	.093* (1.85)	.093* (1.85)	.089* (1.78)	.091* (1.80)
Talk with other clients of supplier at least monthly	.240*** (5.94)	.237*** (5.85)	.233*** (5.75)	.232*** (5.71)	.197*** (4.62)	.195*** (4.54)	.192*** (4.47)	.191*** (4.44)
Member of trade association		.038 (1.21)				.029 (0.85)		
Member of trade association w/ information services			.110*** (3.12)	.069 (1.38)			.089** (2.34)	.066 (1.21)
Member of trade association w/ information services x supplier close				.073 (1.07)				.040 (0.55)
<b>Contracting Problem Effects</b>								
Can courts enforce an agreement with a customer or supplier?	-.056 (-1.64)	-.058* (-1.69)	-.061* (-1.77)	-.061* (-1.75)	-.094** (-2.49)	-.096** (-2.52)	-.098*** (-2.57)	-.098*** (-2.56)
Has a supplier ever refused to accept return of defective merchandise or to refund money for merchandise returned because of low quality	.076** (2.31)	.077** (2.34)	.081** (2.45)	.084** (2.51)	.114*** (3.16)	.115*** (3.19)	.120*** (3.29)	.121*** (3.32)
<b>Bilateral Relationship Effects</b>								
Does supplier make same product uniquely for your firm?	-.123** (-2.31)	-.123** (-2.31)	-.126** (-2.36)	-.121** (-2.25)	-.021 (-0.38)	-.022 (-0.38)	-.025 (-0.44)	-.022 (-0.38)
Does supplier produce only to fill orders (i.e., not keep inventories)?	.156*** (4.17)	.156*** (4.16)	.153*** (4.07)	.152*** (4.04)	.103** (2.47)	.103** (2.46)	.101** (2.39)	.100** (2.37)
Do you receive goods from supplier on at least a bi-weekly basis	.055* (1.86)	.057* (1.91)	.053* (1.80)	.053* (1.79)	.101*** (3.06)	.102*** (3.10)	.099*** (3.01)	.099*** (3.01)
Do you have other suppliers of this input?	.029 (0.93)	.033 (1.04)	.039 (1.25)	.043 (1.36)	.030 (0.87)	.033 (0.97)	.040 (1.16)	.042 (1.21)
Before you began working with this supplier, what was your primary source of information?								
... previous business acquaintance	.040 (1.21)	.042 (1.27)	.044 (1.34)	.043 (1.32)	.044 (1.21)	.046 (1.26)	.049 (1.34)	.049 (1.33)
... managed or owned by family or friend	.045 (0.86)	.050 (0.96)	.055 (1.05)	.053 (1.02)	.125** (2.15)	.129** (2.21)	.133** (2.28)	.132** (2.26)
... business association	.099* (1.71)	.098* (1.69)	.097* (1.67)	.100* (1.71)	.178*** (2.84)	.177*** (2.83)	.177*** (2.81)	.178*** (2.83)
Country Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Respondent Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Trade Partner Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of observations	885	884	882	882	876	875	873	873
Pseudo R-square	.1470	.1483	.1565	.1577	.1248	.1251	.1294	.1297

Notes: (i) All regressions are probits with marginal effects reported; (ii) \* indicates 0.10 level, \*\* 0.05 level, \*\*\* 0.01 level.; (iii) t-stats reported in parentheses.

**Table 10. Local Market Structure and Customer Disputes**

	If your company had dispute with this customer, would its other suppliers find out?		If this supplier had dispute with another firm, would your company find out?	
	Number of similar firms in the same city			
	< 2	> 5	< 2	> 5
Talk to competitors about suppliers and customers at least monthly	0.181 (1.49)	0.099 (1.58)	-0.046 (0.41)	0.141 (2.18)**
Talk with other suppliers of customer at least monthly	0.251 (2.53)**	0.245 (2.75)***	0.269 (2.59)***	0.175 (2.02)**
Member of trade association w/ information services	<b>0.388</b> (3.51)***	<b>-0.014</b> (0.12)	<b>0.291</b> (2.51)**	<b>-0.086</b> (0.77)
Member of trade association w/ information services x supplier close	-0.265 (2.54)**	0.014 (0.10)	-0.223 (1.67)*	0.032 (0.23)
Controls for contracting problem effects	Yes	Yes	Yes	Yes
Controls for bilateral relationship effects	Yes	Yes	Yes	Yes
Country Controls	Yes	Yes	Yes	Yes
Industry Controls	Yes	Yes	Yes	Yes
Respondent Controls	Yes	Yes	Yes	Yes
Trade Partner Controls	Yes	Yes	Yes	Yes
Prob > chi2	0.0067	0.0169	0.0001	0.0005
Number of observations	302	290	321	307
Pseudo R-square	.1790	.1755	.1964	.2046

Notes: (i) All regressions are probits with marginal effects reported; (ii) \* indicates 0.10 level, \*\* 0.05 level, \*\*\* 0.01 level.; (iii) t-stats reported in parentheses; (iv) numbers in bold represent statistically significant difference in pair of coefficients; (v) specifications are same as in Table 8, columns 4 and 8.

**Table 11. Local Market Structure and Supplier Disputes**

	If your company had dispute with this supplier, would its other clients find out?		If this supplier had dispute with another firm, would your company find out?	
	Number of similar firms in the same city			
	≤ 2	> 2	≤ 2	> 2
Talk to competitors about suppliers and customers at least monthly	0.039 (0.48)	0.191 (3.29)***	0.042 (0.43)	0.082 (1.32)
Talk with other clients of supplier at least monthly	0.295 (4.68)***	0.204 (3.59)***	0.228 (3.38)***	0.172 (2.80)***
Member of trade association with information services	<b>0.205</b> <b>(3.91)***</b>	<b>0.042</b> <b>(0.85)</b>	<b>0.193</b> <b>(3.31)***</b>	<b>0.007</b> <b>(0.14)</b>
Controls for contracting problem effects	Yes	Yes	Yes	Yes
Controls for bilateral relationship effects	Yes	Yes	Yes	Yes
Country Controls	Yes	Yes	Yes	Yes
Industry Controls	Yes	Yes	Yes	Yes
Respondent Controls	Yes	Yes	Yes	Yes
Trade Partner Controls	Yes	Yes	Yes	Yes
Prob > chi2	0.0067	0.0169	0.0001	0.0005
Number of observations	302	290	321	307
Pseudo R-square	.1790	.1755	.1964	.2046

Notes: (i) All regressions are probits with marginal effects reported; (ii) \* indicates 0.10 level, \*\* 0.05 level, \*\*\* 0.01 level.; (iii) t-stats reported in parentheses; (iv) numbers in bold represent statistically significant difference in pair of coefficients; (v) specifications are same as in Table 9, columns 3 and 7.

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<sup>1</sup> The author would like to thank Michael Alexeev, Jeff Carpenter, David Colander, Jessica Holmes, Jon Isham, Simon Johnson, Jim Leitzel, Peter Matthews, John Nye as well as seminar participants at Middlebury College, Union College, the Centre for European Integration Studies and the University of Munich's Seminar for Comparative Economics for their helpful comments.

<sup>2</sup> Johnson *et al.* do not focus on the relationship between trade association membership and these actions. Rather, they concentrate on the relationship between the perceived effectiveness of courts and the use of relational contracts.

<sup>3</sup> They do, however, control for the firm's initial source of information about its trade partner. They show, for instance, that firms identified by business contacts as well as friends or family members are more likely to receive trade credit.

<sup>4</sup> We should note that the welfare impact of these inter-firm reputation flows might be ambiguous. If the networks through which they are channeled are not accessible to all market actors, it is conceivable that firms that are "on the outside" may potentially be more productive but are ultimately uncompetitive because of their lack of access to the existing stock of reputational information. In this case, the welfare impact of reputation flows will be a function of the social value of information exchange within the network and the social cost of excluding those "on the outside."

<sup>5</sup> It has long been recognized that in many environments organized business groups pursue objectives that benefit their members to the net detriment of society (Smith, 1776; Olson, 1965 and 1982). A relatively newer strand of research, some cited in this paper, highlights how, particularly in countries with weak or failed states, organized business groups provide members with services and institutions that enhance the performance of markets and create net social benefits

<sup>6</sup> This finding runs parallel to what Pyle (2002) reports from the Russian financial sector, in which banks generally refrained from sharing information on delinquent borrowers through a mediating institution, even though a well-functioning organizational structure, the Association of Russian Banks, could have been used for this purpose.

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<sup>7</sup> With the exception of Slovakia, respondents were drawn from a single, medium-sized city in each country: Volgograd, Russia; Dnepopetrovsk, Ukraine; Katowice, Poland; Brasov, Romania. In Slovakia, roughly half of the firms were from Kosice and Bratislava with the rest coming from one of seven other cities. The survey was designed to address the institutional constraints confronting SME development and included nearly three hundred questions that were to be asked of firm management. A more comprehensive discussion of the survey can be found in Johnson *et al.* (2000).

<sup>8</sup> Recanatini and Ryterman (2001) report that Russian trade associations are diversely populated; they include financial institutions and a firm's trade partners as well as its competitors.

<sup>9</sup> Studies by Recantini and Ryterman (2001) and Frye (2002) report membership rates in Russia that are more in line with the averages reported here for the Central and East European countries.

<sup>10</sup> Alternative responses not presented in Table 6 include banks and government agencies (relatively important sources in Russia) and direct contacts from the prospective trade partner and advertisements (relatively important in Eastern Europe).

<sup>11</sup> Respondent controls include a dummy for whether or not a firm in the same city had been set up by a former employee, the responding firm's age, whether or not it was a spin-off from a state enterprise, the number of producers of similar goods in same city, the number of employees, proportion of sales made to firms in the city, proportion of sales made to firms of different ownership type, a dummy for whether or not firm sells to intermediaries such as a wholesaler, the number of customers and the customer turnover rate. Trade partner (customer) controls include a dummy for whether it is located in the same city as the respondent, a dummy for whether or not firm is wholly domestically owned, dummies for the firm's type (*e.g.*, private industrial firm, state trading company, *etc.*), and the number of months it had been a customer.

<sup>12</sup> Roughly two-thirds, 66.4%, of respondents' customers are located in or near the city in which the respondents were based. Additionally, we should note that we also include a control for whether the customer is located in or near the same city as the respondent; it is one of the standard "respondent controls."

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<sup>13</sup> Respondent controls include: a dummy for whether or not a firm in the same city had been set up by a former employee, the responding firm's age, whether or not it was a spin-off from a state enterprise, the number of producers of similar goods in same city, the number of employees, proportion of purchases made from firms in the city, and proportion of purchases made from firms of different ownership type. Trade partner (supplier) controls include geographical location relative to respondent, a dummy for whether or not firm wholly domestically owned, dummies for the firm's type (*e.g.*, private industrial firm, state trading company), and the number of months it had been a customer.

<sup>14</sup> The correlation coefficients between membership in a trade association with information services and both talking monthly with competitors and talking monthly with a customer's other suppliers are both low: -.011 and .077, respectively. That between membership in a trade association with information services and talking monthly with the other clients of one's supplier is .044.

<sup>15</sup> Note that the relationship of the "time to find a new trade partner" variables do not have a statistically significant impact on the respondent learning of a dispute involving its customer and another trade partner (Table 8, column 8). Relative to their relationship to reputation flows *from* (as opposed to *to*) the respondent, this may not be surprising. Reputation flows that respond to termination costs address the needs for developing contracting mechanisms given the potential for the trade partner to behave opportunistically; if the responding firm only cares about curbing the customer's opportunism in its transactions with itself, then there is no reason we should expect the respondent to seek out information on the customer's contractual disputes with other firms.

<sup>16</sup> The unobserved reference group here includes all other responses some of which were offered by the survey others of which were provided unprompted – e.g., banks, government agencies, direct contacts from the prospective trade partner, advertisements, *etc*

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ISSN 1436 - 6053

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