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nges interact so that anticipated type of change, such as ownership, and e given the variety of additional factors anagers' perceptions of their situation especially so when much of the "rules" h and both managers and unions, as : of becoming constituted as collective velopment. As comparative analyses of and roles of key interest groups during nificantly between countries and these is of social and economic organization nitial changes have occurred (Kristensen

Chapter 3

Networks, Transaction Costs, and the Persistence of Interfirm Ties: The New York Apparel Industry, 1985 to 1995

Michael Alan Sacks and Brian Uzzi

Sociology is increasingly interested in how social relations influence economic development. Early sociological work examined how institutions, culture, and law create and sanction different economic systems (Swedberg 1994). Recently, the new economic sociology, rooted in the concept of embeddedness, has begun to examine how social relations shape economic behavior in ways not addressed by the seminal theorists or modern economic theory, seeking to directly explicate how social structure affects economic action (Granovetter 1985; Coleman 1988). The promise of this work has been two-fold. First, it has shown that embeddedness is an important feature of economic exchange that enables particular economic outcomes better than competing forms, especially atomistic market exchanges. Secondly, through its use of network analysis and organization theory, this new research has rescued sociology from the absolute sway of the neoclassical paradigm.

This paper attempts to add to research in the new economic sociology by examining the dynamics of tie structuration between firms. Consistent with Giddens's (1984) notion that "the fundamental concept of structuration...[is] repetitiveness....," I analyze structuration with a focus

on whether exchange partners repeat contract with one another or dissolve their tie by switching to another exchange partner, a decision I refer to as the stick or switch decision.

The study of the repeat versus switch decision is significant to the study of embeddedness and sociology in a broad sense because of the differences in opinion about the purpose and outcomes of structuration. One line of research considers the study of structuration to be important because of its effect on economic transacting, both positive and negative. Much sociological and policy research views ongoing ties as a key aspect of organizational effectiveness and development (Coleman 1988; Larson 1992; Saxenian 1994; see chapter 10). This literature is replete with references to how "trust develops over time," "ongoing exchanges reinforce reciprocity," "social capital accrues with repeated contact," and "embedded ties permit access to exclusive resources that collect with time." For example, Powell, Koput, and Smith-Doerr (1996) found that long-term ties enable learning-by-doing. White (1981), Baker (1990), and Abolafia (1996) reported that stable ties shape price setting. Romo and Schwartz (1995) found that long-term interfirm relationships condition organization migration decisions. Uzzi (1996b, 1997a) showed that ongoing ties promote organizational adaptation, Pareto-Improvements and economies of time, while Kranton (1996: 846) concluded that "...personalized relationships... significantly affect...the gains from trade. Further study of these interactions is likely to lead to a better understanding of the emergence, disappearance and efficiency of different organizational forms."

Institutional theorists similarly hold that ongoing ties are a mechanism by which firms control their environment, manage critical resource flows, and tap into strategic information (Mintz and Schwartz 1985; Palmer et al. 1986; Stearns and Mizruchi 1986; Fligstein 1990). Finally, population ecologists view organizational inertia as a consequence of successful adaptation to environmental demands (Hannan and Freeman 1989) and they assert that forms of institutional and structural embeddedness boost the survival chances of firms in competitive industries (Baum and Oliver 1992; Amburgey et al. 1993).¹ In contrast, some approaches argue that structuration impedes efficiency and segregates actors. For example, the standard economic view is that efficient markets may "...function [only] without any prolonged human or social contact between parties. Under perfect competition there is no room for bargaining, negotiation, remonstrance or mutual adjustment and the various operators that contract together need not enter into recurrent or continuing relations as a result of

which they would get to know. Standard economics also views and suspicion because they can forces or interfere with the process. sociology, Burt (1997) contains informational constipation, organizational malignance.

Another line of research views because the decision of whether the boundaries of organizations are 1975; Powell 1990; Uzzi 1997b). first to revive the Coaseian question draw attention to the transaction about buying a product in the market question is important because it organization, but also helps determine which the firm has jurisdiction. Therefore more an organization can reduce organizations it transacts with through agreement, the more it can efficiently

While transaction cost economics contractual mechanisms needed, sociologists took notice of the mechanisms in markets (Perrow 1993). Here formal agreements protect transaction networks of social ties between malfeasance and change both the (Uzzi 1997a). Networks of firms whose absence of arm's-length boundaries them from both markets and hierarchies of the firm change because no governance mechanism and firm resources (Powell 1990; Portes networks blur the boundaries of exchange process. Thus, whether boundary question from the perspective of firms or from the perspective of whether firms stick or switch between boundaries of the firm and the market

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which they would get to know each other well" (Hirschman 1982: 1473).
 Standard economics also views behavior ongoing relations with hostility
 and suspicion because they can shield actors from competitive market
 forces or interfere with the price system (Goldberg 1980: 50-51). In
 sociology, Burt (1997) contends that closely-knit networks promote
 informational constipation, character assassinations, and other
 organizational malignance.

Another line of research views the study of repeated ties as important
 because the decision of whether to stick or switch raises questions about
 the boundaries of organizations as well as markets (Coase 1937; Williamson
 1975; Powell 1990; Uzzi 1997b). Williamson (1975), for example, was the
 first to revive the Coase-ian question of organizational boundaries and to
 draw attention to the transaction cost factors that influence the decision
 about buying a product in the market or making the product in-house. This
 question is important because it not only speaks to the efficient limits of
 organization, but also helps demarcate the features of the environment over
 which the firm has jurisdiction. The basic thrust of the argument is that the
 more an organization can reduce transaction costs by absorbing the other
 organizations it transacts with through acquisition, merger, or joint venture
 agreement, the more it can efficiently control its environment.

While transaction cost economists have focused on the formal
 contractual mechanisms needed to expand or contract firm's boundaries,
 sociologists took notice of the many informal relationships between firms
 in markets (Perrow 1993). Here the issues did not concentrate on how
 formal agreements protect transactors against opportunism, but on how
 networks of social ties between and among firms mitigate motives for
 malfeasance and change both the boundaries of the firm and the market
 (Uzzi 1997a). Networks of firms are legally independent organizations
 whose absence of arm's-length bargaining and long-term ties distinguishes
 them from both markets and hierarchies (Lazerson 1995). The boundaries
 of the firm change because networks enable trust to develop as a
 governance mechanism and firms to gain privileged access to interfirm
 resources (Powell 1990; Portes and Sensenbrenner 1993). Similarly,
 networks blur the boundaries of markets by changing the logic of the
 exchange process. Thus, whether one approaches the stick or switch
 boundary question from the perspective of formal ties between and among
 firms or from the perspective of informal social connections, the issue of
 whether firms stick or switch becomes important for understanding the
 boundaries of the firm and the market.

Given the above issues, this analysis has two aims. First, it examines the social structural mechanisms that influence sticking and switching. Secondly, it fleshes out the arguments of embeddedness, a concept which succeeds in critiquing current economic theories, but which only recently has begun to furnish its own concrete account of economic action. In undertaking these tasks, I compare two major theoretical approaches that make predictions about the stick or switch decision: the embeddedness approach (Granovetter 1985; Portes and Sensenbrenner 1993; Romo and Schwartz 1995; Uzzi 1996a, 1996b, 1997a, 1997b) and the transaction cost economic approach (Williamson 1985). These approaches offer different explanations that make their comparison useful to theory development in this area. I do not aim to conduct definitive competing tests of the theories; that is beyond the reach of one analysis. Rather, I aim to illustrate the unique properties of different perspectives and to form a basis for sharpening the embeddedness perspective.

I focus the analysis around the effects of two constructs that have been ascribed a key role in both approaches as well as operationalized in similar ways, although they are called different things in each theory. The first concept is concerned with the level of bilateral exchange between two transacting parties. It is referred to as relationship density in the embeddedness approach and asset-specificity in transaction cost economics (Joskow 1996; Uzzi 1996a). The second concept is network size in the embeddedness approach and small-numbers bargaining in the transaction cost approach. These constructs are similar in that the number of exchange partners used by the focal firm operationalizes both constructs (Pisano 1990). The concepts differ in that each approach predicts that a different set of processes will follow from these structural constraints. Thus, the important differences in these constructs do not reside in their measurement but in how these structural features facilitate or derail processes that increase or decrease the probability of switching.

In the following section, I outline the predictions from both theories, paying special attention to the mechanisms by which these constraints affect the probability of switching. I follow the lead of empirical studies that have employed the above operationalizations in order to maintain a basis of consistency with the current literature rather than attempt to flesh out new empirical manifestations of each concept. I then present the results of a random-effects panel probit model that examines the probability of switching out of a relationship. I close with a discussion of the results and their implications for future work on embeddedness and the boundary

question.

Transaction Cost Economics

The transaction cost economic understanding problems of contract firms shift their organizational boundaries. This approach has focused on how governance consequences they have for efficient has concentrated on how organization their interfirm transactions and the. With regard to the latter question, explanation of the boundary question asset-specificity and small-number bargaining.

Asset Specificity

Williamson has noted that asset specificity is a key concept in transaction cost economics. While it is difficult to define, it has been broadly conceptualized as an investment that would lose value if it were redeployed with a different transacting partner. It is an investment that is idiosyncratic to a transaction and that creates switching costs that in turn create incentives for the seller to bargain unfairly.²

There are two propositions on this point. In the first view, the buyer requires specific assets. In the second, which Williamson calls the "asset specificity" view, supplier's assets are not specialized in idiosyncratic investments, which are created by the exchange. For example, Joskow (1996) argues that coal supplied by a supplier to a coal purchaser is specific to the relationship.³

Williamson's conceptualization of dedicated assets in this factor in structuring coal supply relationships. The larger the annual quantity of coal supplied, the more difficult it is likely to be for the seller to switch to another buyer (if the buyer breaches) at a compensatory

effects of two constructs that have been defined as well as operationalized in similar but different things in each theory. The first level of bilateral exchange between two individuals is relationship density in the transaction cost economics approach and the second concept is network size in the social network bargaining in the transaction cost economics approach. These are similar in that the number of exchange partners operationalizes both constructs (Pisano, 2005). Each approach predicts that a different set of these structural constraints. Thus, the same constructs do not reside in their own structural features facilitate or derail the probability of switching.

I follow the predictions from both theories, mechanisms by which these constraints operate. I follow the lead of empirical studies that operationalizations in order to maintain a consistent literature rather than attempt to flesh out each concept. I then present the results of the model that examines the probability of switching with a discussion of the results and the link on embeddedness and the boundary conditions.

Williamson's conceptualization of dedicated assets implies that the importance of this factor in structuring coal supply relationships should vary with the quantity of coal.... The larger the annual quantity of coal that is contracted for, the more difficult it is likely to be for the seller to quickly dispose of unanticipated supplies (if the buyer breaches) at a compensatory price, and the more difficult will it be for

a buyer to replace supplies at a comparable price if the seller withdraws them from the market.

The key transaction cost argument is that increasing asset-specificity creates high-powered incentives to act opportunistically (Lazonick 1991; Lazerson 1995). This occurs because the member of a dyadic relationship with lower switching costs can dickie opportunistically without concern about retaliation from the more constrained partner.

According to transaction cost theory, when exchange involves significant investments in relationship-specific capital, an exchange relationship that relies on repeated bargaining is unattractive. Once investments are sunk... 'hold-up' or 'opportunism' incentives are created ex post...[that] make a socially cost-minimizing transaction privately unattractive at the contract execution stage (Joskow 1996: 168).

Once opportunism obtains in the relationship, the propensity to dissolve relations via exit or vertical integration increases as the more vulnerable actor attempts to avoid injury, potential lock-in, or higher monitoring costs. "[W]hen asset specificity is high, outside suppliers are more likely to exercise their self-interest at the buyer's expense. Therefore, when asset specificity is high, in-house suppliers will perform better than outside suppliers" (Walker 1994: 584).⁴ These arguments suggest that the higher the level of asset-specificity, the more intensive are the incentives to act opportunistically, and therefore, the higher the probability is that the relationship will dissolve or end in vertical integration.

Small-numbers Bargaining

Small-numbers bargaining is the second major factor in transaction cost economic explanations of organizational boundaries (Pisano 1990). Small numbers bargaining refers to those situations in which an organization has a limited number of partners that can supply it with a critical resource. Transaction costs economic theory argues that as the number of transacting partners for a particular resource declines, "a large numbers bidding condition at the outset is effectively transformed into one of bilateral supply thereafter" (Williamson 1985: 61). Williamson reasoned that this change should have pervasive effects on the motivations of the transacting parties because, once a small-numbers bargaining situation obtains, a buyer cannot credibly threaten to switch to another supplier with the relevant expertise, which in turn creates an incentive for the seller to

bargain opportunistically. Under withdraw from the exchange to through vertical integration. In t R&D suppliers, Pisano (1990: between small numbers bargainin relationship:

"...a pharmaceutical company that options should the supplier bar renegotiation cycles. Because the s partners, it would be stuck in a s creates an incentive for the R&D supplie the costs of market governance for a number of R&D suppliers.... ' internalization" [or switching]. (Italic

These arguments suggest th: between small-numbers bargainin relationship through exit or vertic:

While the relationship betwee of continuing the relationship le: transaction cost economic logic situations promote opportunism l investments. This is because a relationship with a supplier if the create bargaining asymmetries in (1985: 61). Statistically speaking, tl effect between asset specificity a: that small numbers bargaining has levels of asset specificity but stron: relationship at high levels of asset-

In summary, the transaction c about the stick or switch decision interest seeking with guile and bo motives that are set in motion b high asset-specificity and small-n: relevant over the course of transac levels of asset specificity create switching costs to bargain opport

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the relationship, the propensity to al integration increases as the more l injury, potential lock-in, or higher ecificity is high, outside suppliers are rest at the buyer's expense. Therefore, use suppliers will perform better than 4).⁴ These arguments suggest that the he more intensive are the incentives to the higher the probability is that the rtical integration.

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to those situations in which an of partners that can supply it with a economic theory argues that as the a particular resource declines, "a large tset is effectively transformed into one umson 1985: 61). Williamson reasoned ive effects on the motivations of the a small-numbers bargaining situation aten to switch to another supplier with 1 creates an incentive for the seller to

bargain opportunistically. Under these conditions, the buyer can either withdraw from the exchange to avoid opportunism or absorb the seller(s) through vertical integration. In the context of sponsor (buyer) firms and R&D suppliers, Pisano (1990: 158–159) summed up the relationship between small numbers bargaining and the probability of dissolution of the relationship:

"...a pharmaceutical company that contracts with an outside supplier has limited options should the supplier bargain opportunistically during one of the renegotiation cycles. Because the sponsor could not credibly threaten to switch partners, it would be stuck in a small-numbers bargaining situation, *which itself creates an incentive for the R&D supplier to bargain opportunistically*. [This] suggests that the costs of market governance for a biotechnology R&D project are related to the number of R&D suppliers.... These hazards provide an incentive for internalization" [or switching]. (Italics added)

These arguments suggest that there should be a direct relationship between small-numbers bargaining situations and the dissolution of the relationship through exit or vertical integration.

While the relationship between the number of suppliers and the hazard of continuing the relationship lead to a clear hypothesis, another line of transaction cost economic logic argues that small-numbers bargaining situations promote opportunism but only in the presence of asset specific investments. This is because a buyer can credibly threaten to exit a relationship with a supplier if there are no asset-specific investments that create bargaining asymmetries in the favor of the supplier (Williamson 1985: 61). Statistically speaking, this proposition is formally an interaction effect between asset specificity and the number of suppliers. It suggests that small numbers bargaining has weak or no effects on continuity at low levels of asset specificity but strong negative effects on the continuity of the relationship at high levels of asset-specificity.

In summary, the transaction cost economic approach builds arguments about the stick or switch decision based on strong assumptions about self-interest seeking with guile and bounded rationality, individual interests and motives that are set in motion by the particular structural conditions of high asset-specificity and small-numbers bargaining. Both conditions are relevant over the course of transacting. In the case of asset-specificity, high levels of asset specificity create incentives for the partner with lower switching costs to bargain opportunistically, thereby driving the other firm

to dissolve the tie through exit or vertical integration. In the case of small numbers bargaining, small number bargaining situations create similar incentives for the party with more exchange options to bargain opportunistically, thereby driving the other firm to dissolve the tie through exit or vertical integration, especially when the level of asset specificity is high.

Structural Embeddedness Approach

The structural embeddedness approach extends the work of Weber, Polanyi, and Schumpeter and combines it with advances in organization and social network theory (White 1981; Granovetter 1985; Powell 1990; Portes and Sensenbrenner 1993; Romo and Schwartz 1995; Uzzi 1997a). The basic argument is that the nature of relationships between and among firms and the overall structure of the network within which the firm is embedded influence individual firm behavior as well as the behavior of the entire network. The type of network in which an organization is situated defines the potential opportunities available to it, while its location in the network and the quality of its relationships with other actors demarcate its capacity to access those opportunities.

The embeddedness approach assumes that actors' interests and motives are variable and follow predictably from social structure parameters (Granovetter 1985). These differences in the microbehavioral foundations of embeddedness and the macro structural conditions of exchange are what distinguish the unique logic of embeddedness from other approaches.⁵ A key feature is that actors operate under a logic of exchange that results from the distinct social structure of organization networks. This logic has been referred to as the "logic of embeddedness" because ongoing social ties shape actors' expectations, motives, and decision-making processes in ways that differ from the logic of market behavior (Uzzi 1997a). In this logic, actors use heuristic decision rules rather than intensive calculation to make decisions, and aim to cultivate cooperative ties rather than narrowly pursue self-interest. Rationality appears to be neither the super rationality of game or agency theories, nor the bounded rationality of transaction cost economics, but expert rationality (Prietula and Simon 1989). Expert rationality suggests that decision-makers are more heuristic than super rationality posits, yet less boundedly rational because the rate and degree of knowledge transfer is

increased and information uneven by the social qualities of the embeddedness.

In sum, three main notions dynamics of the stick or switch c

1. Collective rationality as opposed to individual interests).
2. Pareto-improved solutions solutions (opportunistic motivation).
3. Reciprocity, as opposed to exchange.

The embeddedness approach well as the network of ties in which motion the above logic of exchange. types of social ties can mitigate and motivate actors to seek positive than selfish gains.

Uzzi (1997a) illustrated this fieldwork in the New York area described a clothing manufacturer from New York City to Asia intention to relocate, the manufacturer whether or not to inform its customers. hand, if the manufacturer informed it put itself in a vulnerable economic on quality or raise prices because hard pressed to find substitute customers. hand, if the manufacturer did not seriously and irreparably injure it time needed to adapt to the loss of

This case illustrates differences approaches by bringing into focus have strong incentives to act in constraints (e.g., hostages) that history of the relationship or the the decision (Williamson 1985). In particular social structural relationships embeddedness and mitigate opportunities in which they should be most like

critical integration. In the case of small bargaining situations create similar more exchange options to bargain other firm to dissolve the tie through when the level of asset specificity is

Embeddedness Approach

approach extends the work of Weber, joins it with advances in organization (1981; Granovetter 1985; Powell 1990; DiMaggio and Schwartz 1995; Uzzi 1997a). The nature of relationships between and among the network within which the firm is behavior as well as the behavior of the network in which an organization is situated is available to it, while its location in the relationships with other actors demarcate its position.

It assumes that actors' interests and are predictably from social structure. These differences in the microbehavioral and the macro structural conditions of a unique logic of embeddedness from those that actors operate under a logic of distinct social structure of organization are reduced to as the "logic of embeddedness" where actors' expectations, motives, and those that differ from the logic of market logic, actors use heuristic decision rules to make decisions, and aim to cultivate and pursue self-interest. Rationality is a mix of game or agency theories, not transaction cost economics, but expert rationality (1989). Expert rationality suggests that more than super rationality posits, yet less time and degree of knowledge transfer is

increased and information unevenness between network partners is reduced by the social qualities of the embedded tie (Uzzi 1997a).

In sum, three main notions distinguish this logic and explain the dynamics of the stick or switch decision:

- 1. Collective rationality as opposed to individual rationality (selfishness interests).
- 2. Pareto-improved solutions motivate action rather than zero-sum solutions (opportunistic motives).
- 3. Reciprocity, as opposed to calculativeness, defines the rules of exchange.

The embeddedness approach explicates how the substance of ties, as well as the network of ties in which an organization is embedded, sets in motion the above logic of exchange. The decisive factor is that particular types of social ties can mitigate opportunism, increase resource pooling, and motivate actors to seek positive sum Pareto-improved outcomes rather than selfish gains.

Uzzi (1997a) illustrated this logic using several cases grounded in fieldwork in the New York apparel industry. One case, for example, described a clothing manufacturer that was permanently moving operations from New York City to Asia. Having private information about its intention to relocate, the manufacturer was faced with the dilemma of whether or not to inform its contractors of the relocation. On the one hand, if the manufacturer informed its contractors of its impending move, it put itself in a vulnerable economic position: the contractors might shirk on quality or raise prices because they knew that the manufacturer would be hard pressed to find substitute contractors on short notice. On the other hand, if the manufacturer did not disclose its plans to move, it would seriously and irreparably injure its contractors because they would lack the time needed to adapt to the loss of business.

This case illustrates differences in transaction costs and embeddedness approaches by bringing into focus the point at which rational actors should have strong incentives to act in self-interest and there are no formal constraints (e.g., hostages) that make opportunistic behavior costly. The history of the relationship or the social relationship should play no role in the decision (Williamson 1985). Uzzi (1997a) showed, however, that when particular social structural relationships exist, they set in motion the logic of embeddedness and mitigate opportunistic acts even under those conditions in which they should be most likely to occur.

Consistent with embeddedness predictions, he found that the manufacturer notified those contractors with whom it had a social relationship of the move months before departure in order to help them adapt, while those contractors with whom the manufacturer had maintained an arm's-length relationship were not informed. The manufacturer affirmed that this dichotomy of responses was generated by differences in the social ties between it and its embedded and arm's-length ties. In this case of embedded ties, the history of interaction, the closeness of the personal relations, and the organizations' mutual dependence created a basis of trust and obligation that made disclosure feasible and rewarding.

Conversely, the contractors that received notice of the manufacturer's departure were motivated to reciprocate because of the good intent the manufacturer had showed to them in past transactions and in the current situation. In the case of the manufacturer's arm's-length ties, none of these social structural conditions existed and consequently the logic of market exchange obtained. As one manufacturer stated of arm's-length ties, "It's the opposite [of a close tie], one hand doesn't wash the other. They're the one shot deals. A deal in which costs are everything." Other interviews also focused on the lack of social content in these relationships: "They're relationships that are like far away. They don't consider the feeling for the human being." "You discuss only money."

Thus, while the manufacturer's non-disclosure of his move to arm's-length ties is consistent with transaction cost formulations, the decision to inform his "embedded ties" is difficult to explain. This is especially true because the manufacturer's divulgence of confidential information for the benefit of his close ties actually puts him at an even higher risk of malfeasance by those arm's-length ties that might learn about the move by accident or rumor.

Other noteworthy features of the logic of embeddedness that are exemplified in this case relate to (a) the use of collective rationality and (b) motives to search for Pareto-improved outcomes. Collective rationality refers to microbehavioral decision-making processes that are based on collective rather than selfish interests. This does not mean that persons ignore their independent interests but rather that persons attempt to improve the welfare of others by giving up gains that cost others or by being altruistic. In the above case, the manufacturer considered the effect of his move on the welfare of his embedded ties, even though it was likely to put his interests at risk, because he wanted to help them adapt and

because their history of contact gave responses illustrating collective rationality (1997a) were: "It is hard to see fit with these people—business friends have an interest in what they're doing," the interviewee said, "They know that part of the family." Dore (1983) found similar outcomes in the examination of Japanese formation of interorganizational ties.

The case also illustrates how motives for the search for Pareto-improved outcomes, individual motives to avoid loss (Ghoshal and Moran 1996). This can motivate actors to find Pareto-improved problems that make at least one party worse off. Because the contractors received notification, they were able to continue business in ways that the arm's-length ties enabled the productive resources increasing the chances that it would exchange partners (Uzzi 1997a). They by going through a disruptive period were forced to shut down by the manufacturer (Uzzi 1997b). Similar results have been found for incentives for opportunism do not exist (Portes and Sensenbrenner 1993; Coleman et al. 1996).

The main implication is that embeddedness can generate strategic partner rather than incurring the cost of the unit of analysis in the embedded relationship as it has developed in the past shifts the focus of inquiry from qualities of the relationship.

Another difference is how structural embeddedness approach, relationships create these outcomes. These structural ties they serve as sociological analogue.

predictions, he found that the actors with whom it had a social fore departure in order to help them from the manufacturer had maintained informed. The manufacturer affirmed generated by differences in the social and arm's-length ties. In this case of action, the closeness of the personal al dependence created a basis of trust asible and rewarding.

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because their history of contact generated indebtedness. Typical kinds of responses illustrating collective rationality that were reported by Uzzi (1997a) were: "It is hard to see for an outsider that you become friends with these people—business friends. You trust them and their work. You have an interest in what they're doing outside of business." Another interviewee said, "They know that they're like part of the company. They're part of the family." Dore (1983) and Larson (1992) demonstrated similar outcomes in the examination of Japanese supplier relationships and in the formation of interorganizational ties in the US respectively.⁶

The case also illustrates how embeddedness can generate individual motives for the search for Pareto-improved outcomes. In typical economic based models, individual motives are thought to be opportunistic in nature (Ghoshal and Moran 1996). This case demonstrates that social structure can motive actors to find Pareto-improved solutions to transacting problems that make at least one player better off without making any player worse off. Because the contractors with embedded ties to the manufacturer received notification, they were able to effectively adapt to the loss of business in ways that the arm's-length ties could not. The manufacturer also enabled the productive resources of the contractor to be recovered by increasing the chances that it would make a successful transition to new exchange partners (Uzzi 1997a). The arm's-length ties by contrast adapted by going through a disruptive period of layoffs and financial distress or were forced to shut down by the abrupt departure of the manufacturer (Uzzi 1997b). Similar results have been observed under conditions where incentives for opportunism do not produce malfeasance (Larson 1992; Portes and Sensenbrenner 1993; Granovetter 1994; Lazerson 1995; Powell et al. 1996).

The main implication is that organizations that employ the logic of embeddedness can generate strategic opportunities for sticking with a partner rather than incurring the costs of switching. A key difference is that the unit of analysis in the embeddedness approach is the interfirm relationship as it has developed from its inception. This unit of analysis shifts the focus of inquiry from the qualities of the transaction to the qualities of the relationship.

Another difference is how structuration influences economic action. In the embeddedness approach, relationship density and small ego networks create these outcomes. These structural conditions are important because they serve as sociological analogues to the transaction cost variables of high

asset specificity and small numbers bargaining situations. In the next section I outline the arguments by which relationship density and network size affect sticking.

Relationship Density

Relationship density refers to the intensity of exchange between two exchange partners. Like asset-specificity, it is often operationalized as the proportion of total business that is dedicated to a network partner (Burt and Carlton 1989; Baker 1990; Romo and Schwartz 1995; Uzzi 1996a). The embeddedness approach holds that the intensity of exchange at time t is positively associated with stability at time $t+1$. This happens for several reasons. First, trust develops as a function of interaction. The more exchange partners interact, the more each exchange partner samples the other's behavior, thereby building trust and lowering the economic and psychological costs of monitoring and haggling in the ongoing relation (Coleman 1988).⁷ Second, Homans (1950) found that the intensity of voluntary exchange between actors increases their level of mutual liking and empathy (see Simon 1952 for similar findings based on a mathematical model). In a similar vein, Granovetter (1985) reasoned that intensive exchanges "generate standards of expected behavior that not only obviate the need for but are superior to pure authority relations in discouraging malfeasance...[and arise in part from] the desire of individuals to derive pleasure from the social interaction that accompanies their daily work, a pleasure that would be considerably blunted by spot-market procedures requiring entirely new and strange work partners each day" (Granovetter 1985: 489). These social forces motivate ongoing interactions because actors are more likely to attempt to settle differences by voice rather than exit and to want to preserve the relationship for its own sake. Consistent with this argument, Larson (1992) and Helper (1990) showed that intensive interfirm relationships promoted the use of voice rather than exit mechanisms that enabled firms to jointly resolve transactional problems through collaboration rather than through "hostage taking" or vertical integration. Uzzi (1996a) found that concentrated exchanges encouraged cooperation because each exchange partner experienced more opportunities to reciprocate and extend non-standard resources voluntarily than they would in short-term arm's-length ties. Taken as a whole, these arguments suggest that the greater the level of exchange intensity, the greater the probability that the organizations will stick rather than switch.

Thus, the root difference between transaction costs economics and human behavior to structural approach holds that the intensity and an interest in searching for transaction costs approach predict exchange (and its companion behavior that would make continue or vertical integration. Furthermore dismiss the reality that actors can not as a constant, but as a variable

Network Size

The embeddedness approach promotes structuration the network grows in size, the number also grows which increases the likelihood to take advantage of new opportunities networks limit interaction between time and resources are spread throughout opportunity to establish joint-proposition to solve problems within the the ability of exchange partners enrich the relationship with various (Granovetter 1993). Consistent with organizations with large network overlooked more opportunities was more easily justified and the imagine for anonymous trading as well. Third, research has shown opportunism (Helper 1990; Simon grows in size, it is better able to each other for the purpose of 1992: 30). Consistent with this large supplier network was used

US automakers also face a legacy of the legs out from under...our suppliers

is bargaining situations. In the next which relationship density and network

the intensity of exchange between two city, it is often operationalized as the dedicated to a network partner (Burt and Schwartz 1995; Uzzi 1996a). The intensity of exchange at time t is at time $t+1$. This happens for several function of interaction. The more each exchange partner samples the trust and lowering the economic and and haggling in the ongoing relation (1950) found that the intensity of creases their level of mutual liking and ar findings based on a mathematical etter (1985) reasoned that intensive pected behavior that not only obviate re authority relations in discouraging y] the desire of individuals to derive that accompanies their daily work, a blunted by spot-market procedures ork partners each day" (Granovetter otivate ongoing interactions because settle differences by voice rather than tionship for its own sake. Consistent l Helper (1990) showed that intensive he use of voice rather than exit ointly resolve transactional problems hrough "hostage taking" or vertical concentrated exchanges encouraged ange partner experienced more id non-standard resources voluntarily -length ties. Taken as a whole, these the level of exchange intensity, the ations will stick rather than switch.

Thus, the root difference between the embeddedness approach and transaction costs economics seems to lie in the assumed responses of human behavior to structural conditions. Whereas the embeddedness approach holds that the intensity of exchange is likely to motivate empathy and an interest in searching for cooperative positive sum outcomes, the transaction costs approach predicts the opposite consequence. Intensive exchange (and its companion, asset-specificity) spurs opportunistic behavior that would make continuation in the relationship riskier than exit or vertical integration. Furthermore, the embeddedness approach does not dismiss the reality that actors can be selfish, but instead views opportunism not as a constant, but as a variable in exchange relationships.⁸

Network Size

The embeddedness approach argues that a limited number of network partners promotes structuration and sticking for several reasons. First, as the network grows in size, the number of substitutable firms in the network also grows which increases the likelihood of using exit to solve problems or to take advantage of new opportunities (Hirschman 1970). Second, large networks limit interaction between exchange partners because an actor's time and resources are spread thinly over many contacts. This reduces the opportunity to establish joint-problem solving routines that can be drawn on to solve problems within the borders of the relationship and decreases the ability of exchange partners to form a shared identity or values that enrich the relationship with value beyond immediate economic returns (Granovetter 1993). Consistent with this argument, Uzzi (1997a) found that organizations with large networks committed more self-interested acts and overlooked more opportunities to act altruistically because opportunism was more easily justified and the benefits of altruism were more difficult to imagine for anonymous trading partners than for partners who were known well. Third, research has shown that large networks produce incentives for opportunism (Helper 1990; Smitka 1991; Dyer 1997). As a firm's network grows in size, it is better able to play the other actors in its network against each other for the purpose of bargaining down price (Baker 1990; Burt 1992: 30). Consistent with this logic, Helper (1991: 820) found that GM's large supplier network was used to whipsaw its suppliers on price.

US automakers also face a legacy of mistrust, resulting from their years of "cutting the legs out from under...our suppliers," as one Ford executive put it. A supplier

executive, after citing several instances in which his firm had made investments in R&D only to see another firm awarded the contract using his firm's design, described one of the auto companies in this way: "They're nasty, abusive, and ugly... they make uneconomic demands, like 'follow us around the globe, and build plants near ours. *We need good suppliers like you—but if you can't do it, we'll find somebody else.*" (Italics added)

These arguments suggest an inverse relationship between network size and sticking in an exchange relationship.

In summary, the above outline of transaction costs economic arguments and embeddedness arguments suggest that these two approaches to the "stick or switch" question offer diverging explanations. On the one hand, transaction cost economics begins with the assumption that human motives and interests are hard-wired, whereas the embeddedness approach views interests and motives as variable and emergent features of social structure. These differences lead to separate predictions regarding two structural conditions: the level of exchange between partners and the number of trading partners. Transaction costs economics argues that a high level of exchange between transactors leads to asset-specificity, which should produce incentives for opportunism in market relationships because the market provides an incompatible governance structure. Consequently, as the intensity of exchange increases, market relationships should be more likely to dissolve. Conversely, the embeddedness approach argues that intensity of exchange promotes collective rationality and motives for the joint pursuit of Pareto-improved outcomes that bind the relationship more tightly. Similarly, the transaction cost economic approach holds that small numbers bargaining situations create incentives for opportunism by discrediting the threat of exit. On the contrary, the embeddedness approach argues that a small network size signals commitment and increases the likelihood of joint problem-solving, which in turn creates new value in the relationship and increases the probability of stability.

Data and Methods

The data analyzed come from several sources and contain information on the network, organization, and market characteristics of all unionized apparel firms in the Greater New York apparel economy from 1985 to 1995. The data on firms and their networks were collected by the International Ladies Garment Workers Union, now called UNITE (Union

of needle trades and industri organized about 85 percent of a are considered high quality. To i steps. First, the union audits th verify their reported transaction Second, the union physically ins reported organizational failures most sweatshops in the New Yo

The data record the lev manufacturer and each contrac have been trading partners. Fr measure of network size an characteristics included in this volume of each organization an the New York State Departmen exit rates of firms in this secto came from the *Merchandising a* industry trade periodical.

The analysis uses a sample c Dress sector of the industry, a \$180) comprises off-the-rack d department stores and chains, a quality, and fashion-sensitive. I for this sector were the most c sector revolve around man Manufacturers normally design only sample designs and colle contracting out production to a called contractors who grade, c jobber's design. The economic study are between jobbers and c

Thus, these data offer sever First, the data contain informat "receiving" firms—permitting Second, these interfirm relatio restrictions, legal or otherwise, j limit the number of ties a confounds that can occur i conservative setting closely

which his firm had made investments in and the contract using his firm's design, in this way: "They're nasty, abusive, and s, like 'follow us around the globe, and s, like you—but if you can't do it, we'll find

relationship between network size and

ne of transaction costs economic ents suggest that these two approaches er diverging explanations. On the one gins with the assumption that human , whereas the embeddedness approach able and emergent features of social o separate predictions regarding two exchange between partners and the ion costs economics argues that a high tors leads to asset-specificity, which tunism in market relationships because e governance structure. Consequently, s, market relationships should be more embeddedness approach argues that ective rationality and motives for the comes that bind the relationship more t economic approach holds that small ate incentives for opportunism by : contrary, the embeddedness approach ignals commitment and increases the which in turn creates new value in the ility of stability.

1 Methods

everal sources and contain information market characteristics of all unionized York apparel economy from 1985 to eir networks were collected by the ers Union, now called UNITE (Union

of needle trades and industrial and textile employees). UNITE has organized about 85 percent of all the garment firms in the US. These data are considered high quality. To insure reliability, the union has taken several steps. First, the union audits the financial statements of each company to verify their reported transactions with other firms that are also audited. Second, the union physically inspects shops to verify location changes and reported organizational failures. Third, the union locates and organizes most sweatshops in the New York area—helping to reduce sampling bias.

The data record the level of sales, in dollars, between each manufacturer and each contractor and the length of time the two firms have been trading partners. From these data, I derive for each firm a measure of network size and intensity of exchange. Organizational characteristics included in this date base are the age and annual sales volume of each organization and whether it is generalist or specialist. From the New York State Department of Labor, I merged data on the entry and exit rates of firms in this sector. Data on market growth and uncertainty came from the *Merchandising and Operating Results of Retail Stores* apparel industry trade periodical.

The analysis uses a sample of the full data set that focuses on the Better Dress sector of the industry, a midscale market niche that (retails: \$80–\$180) comprises off-the-rack dresses, skirts, and jackets, typically sells in department stores and chains, and tends to be moderately priced, of good quality, and fashion-sensitive. I focused on Better Dress because the data for this sector were the most complete. Interfirm ties in the Better Dress sector revolve around manufacturers, “jobbers,” and contractors. Manufacturers normally design and market a garment, but manufacture only sample designs and collections. The actual production is done by contracting out production to a network of legally independent producers called contractors who grade, cut, and sew the garment together from the jobber's design. The economic exchange relationships examined in this study are between jobbers and contractors.

Thus, these data offer several advantages for the study of structuration. First, the data contain information on the characteristics of “sending” and “receiving” firms—permitting the unit of analysis to be the relationship. Second, these interfirm relationships reflect typical open-market ties; no restrictions, legal or otherwise, prohibit competitive in-house production or limit the number of ties a firm may possess—thus minimizing the confounds that can occur in highly regulated contexts. Third, this conservative setting closely approximates the idealized, perfectly

competitive market. There are few barriers to entry, low start-up and search costs, high rates of entry and exit, many substitutable shops, and a low-level of market concentration (New York State Department of Labor Statistics 1988–95; McLean and Padgett 1997).

Measures

Dependent variable. The dependent variable is a binary variable that is coded to 0 if a firm sticks with an exchange partner and coded to 1 if it switches out of that relationship. Sticking implies that a firm reconstitutes a tie with a firm that it has worked with before (when it has ample opportunity to dissolve the relationship and form a new tie). In the context of this study, a tie refers to a production “job” with a finite period of production (e.g., 120 days) and a discrete finished product (e.g., number of garments produced) that define the boundaries of the exchange relationship.

In the apparel industry, the vast majority of jobs between firms follow the fashion seasons of Fall, Winter, Spring, and Summer. For example, a manufacturer may engage a contractor to produce a Fall or Spring collection that spans a continuous set of production days per year. This suggests that the best way to code a stick is if a firm reconstitutes a tie at least once each year. This represents the modal practice of a manufacturer using the same contractor to produce their Spring collection each year. In a few exceptional cases, a firm may transact for a spell with another firm and then “skip” a year before reconstituting their tie. Since fewer than five percent of the cases fit the “skip” pattern and there is no clear theoretical ground for defining it as a stick or a switch, I coded these cases both ways and examined the pattern of results. No differences in results occurred, so I coded it as a stick.

Independent variables. The underlying constructs of relationship density and asset-specificity are operationalized using a continuous variable of the percentage of a firm’s total sales that are dedicated to an exchange partner ($RELPROP_{mc}$). The underlying constructs of network size and small numbers bargaining are operationalized using a continuous measure of the number of exchange partners used by the firm ($XPARTNRS_{mc}$). The interaction effect of number of exchange partners and proportion of exchange is operationalized as ($RELXPART_{mc}$). For each variable, the

subscript m denotes that the variable the subscript c denotes that the variable subscript mc denotes the relative proportion of work that a contractor sends to a manufacturer

Control variables. Several variables for organizational and market characteristics probability of sticking or switching. measures the number of years the firm has been in business with manufacturers and contractor. Levinson, Faulkner, and Fisher (1998) have argued that this variable is correlated to the propensity to repeat business. Since there is no strong theoretical basis for this, I used the log of RELYRS ($RELYRS^2$) to capture non-monotonic attributes, size and age, have been identified as important determinants of organizational activities and place and social structure on stability (Nelson and Freeman 1989). MKTUNCER measures the retail demand market for better dressed than the standard industry measure of the original price of clothing and its change over time. TIES indicate that organizations lacked the ability to forecast their products’ demand. TIES and Operating Results of Retail Stores are the log of the firm’s annual sales age in years. LAGENTRY is the number of organizations in the prior calendar year. NUMBER OF FIRMS THAT DISBANDED IN PREVIOUS PERIOD AS REPORTED IN THE INDUSTRY COMPETITIVE PRESSURES ON FIRMS AND INDUSTRY are coded each left-truncated tie with a control for left-truncation. Ties existing at the start of the observation window, are left-truncated in 1985, since this implies that a relationship existed in the dataset. Ties in existence in 1991 are right-censored. A subset analysis

barriers to entry, low start-up and search costs, many substitutable shops, and a low-level of competition. State Department of Labor Statistics

control variable is a binary variable that is coded to 1 if the firm is an exchange partner and coded to 1 if it is a new tie (when it has ample time to form a new tie). In the context of a "job" with a finite period of time to produce a finished product (e.g., number of days to produce a finished product), the boundaries of the exchange

majority of jobs between firms follow a seasonal pattern, Spring, and Summer. For example, a firm may produce a Fall or Spring collection of production days per year. This variable is 1 if a firm reconstitutes a tie at the modal practice of a manufacturer (i.e., their Spring collection each year). In a firm's history, a firm may be in a relationship for a spell with another firm and then switch their tie. Since fewer than five firms switch and there is no clear theoretical pattern, I coded these cases both ways to account for differences in results occurred, so I

using constructs of relationship density and using a continuous variable of the number of firms dedicated to an exchange partner. I also constructed network size and small-firm network size using a continuous measure of the number of firms by the firm ($XPARTNRS_{mc}$). The number of change partners and proportion of change partners ($XPART_{mc}$). For each variable, the

subscript m denotes that the variable represents a manufacturer's value and the subscript c denotes that the variable represents a contractor's value. The subscript mc denotes the relative proportion of work that a manufacturer sends to a contractor and the subscript cm denotes the relative proportion of work that a contractor sends to a manufacturer.

Control variables. Several variables were added to the equation to control for organizational and market characteristics that might affect the probability of sticking or switching. RELYRS is a continuous variable that measures the number of years the relationship was maintained between a manufacturer and contractor. Levinthal and Fichman (1988) and Baker, Faulkner, and Fisher (1998) have argued that time in a relationship may be correlated to the propensity to repeat contract in linear or non-linear ways. Since there is no strong theoretical argument for one specification over another, I used the log of RELYRS (LOGRELYR) and RELYRS squared ($RELYRS^2$) to capture non-monotonic effects. Two organizational attributes, size and age, have been identified as important causes of a range of organizational activities and place in context the effects of unit attributes and social structure on stability (Nelson and Winter 1982; Hannan and Freeman 1989). MKTUNCER measures the level of uncertainty in the retail demand market for better dress clothing and is operationalized using the standard industry measure of the percentage difference between the original price of clothing and its final selling price. Larger markdowns indicate that organizations lacked the information needed to accurately forecast their products' demand. These data are from the Merchandising and Operating Results of Retail Stores (MORS). LOGSALES is measured as the log of the firm's annual sales. ORGAGE is a measure of the firm's age in years. LAGENTRY is the log of the number of births of new organizations in the prior calendar year. LAGEXIT is the log of the number of firms that disbanded in the prior calendar year. MKTGWTH measures the percentage change in sales of the retail market from the previous period as reported in the MORS. Growing markets reflect lower competitive pressures on firms and access to more resources (Gort 1963). I coded each left-truncated tie with an indicator variable, LEFTRUNC to control for left-truncation. Ties existing prior to 1985, the opening of the observation window, are left-truncated if both firms were born before 1985, since this implies that a relationship existed before it was observed in the dataset. Ties in existence in 1995, the close of the observation window, are right-censored. A subset analysis that removed the left-truncated

observations from the analysis produced no substantive differences from those reported with the indicator variable for left censoring. PRE1990 is an indicator variable set to one if the relationship formed prior to 1990, a time of heavy retailer consolidation in the apparel industry, and zero otherwise. It is added to control for period effects not controlled for by the other variables. Cases of breakup that coincided to the death of either the manufacturer or contractor were excluded from the analysis since they correlated perfectly with the dependent variables.

Statistical Model

I use a random effects panel probit model with a control for unobserved heterogeneity (Butler and Moffitt 1982). Unobserved heterogeneity is a condition that may create spurious state dependence and needs to be controlled for in populations where time in a state is a potential predictor of the probability of transition from that state (Petersen and Koput 1991). The model has the following form for panel data: i represents the independent units, $i=1, 2, 3, \dots, n$, measured at times $t=1, 2, \dots, T_i$.

$$Y_{it} = x_{it}\beta + v_i + \epsilon_{it}$$

$$Y_{it} = 1 \text{ if } Y^*_{it} > 0 \text{ and } 0 \text{ otherwise}$$

Where Y_{it} = the probability that firm i and j switch out of their exchange relationship at time t , $v_i \sim N(0, \sigma^2_v)$, $\epsilon_{it} \sim N(0, \sigma^2_\epsilon)$ and v_i and ϵ_{it} are independent and independent of x_i .

Results

Tables 3.1a to 3.1c display the results of the random effects panel probit models in a nested format to reveal the net effects of the control and independent variables. Models 1–3 display the results of just the control variables. Models 4–6 show the effects of combinations of independent variables in the absence of control variables. Models 7 and 8 display the results of combinations of the independent variables in the presence of controls. Finally, models 9 and 10 show the results for the full models.

Models 1–3 suggest that duration dependence, market structure, and unit actor features have an effect, but that these effects are partially netted out by relationship variables. LOGRELYR and RELYR and RELYRS² reveal that time in a relationship affect switching (Levinthal and Fichman

Table 3.1a Random Effects Panel Probit Model: Switching (1) versus Sticking (0) Dress Apparel Manufacturers and Contractors

| | 1 |
|-------------------------|-------------------|
| LOGRELYR | |
| RELYR | |
| RELYRS ² | |
| MKTUNCER | .146** (.053) |
| LAGEXIT | .001** (.000) |
| LAGENTRY | .000 (.000) |
| MKTGRWH | .057** (.013) |
| ORGAGE _M | .008 (.020) |
| ORGAGE _C | .031 (.016) |
| LOGSALES _M | -.110** (.019) |
| LOGSALES _C | -.053** (.019) |
| GENRLIST | -.021 (.087) |
| PRE1989 | .140* (.063) |
| LEFTRUNC | -.610** (.067) |
| CONSTANT | -7.71* (3.13) |
| # of cases | 7369 |
| Chi ² | 174.56 |
| Rho | 0.393 |
| Pseudo Rho ² | 0.0198 |

*, p<0.05; **, p<0.01. All tests two-sided. Subsc

uced no substantive differences from
able for left censoring. PRE1990 is an
ationship formed prior to 1990, a time
apparel industry, and zero otherwise.
fects not controlled for by the other
incided to the death of either the
cluded from the analysis since they
at variables.

probit model with a control for
and Moffitt 1982). Unobserved
create spurious state dependence and
ons where time in a state is a potential
sition from that state (Petersen and
wing form for panel data: i represents
measured at times $t=1, 2, \dots T_i$.

e
n i and j switch out of their exchange
 $v_i, \epsilon_{it} \sim N(0, \sigma^2_{\epsilon})$ and v_i and ϵ_{it} are

ults

results of the random effects panel
veal the net effects of the control and
isplay the results of just the control
cts of combinations of independent
riables. Models 7 and 8 display the
endent variables in the presence of
w the results for the full models.
1 dependence, market structure, and
that these effects are partially netted
RELYR and RELYR and RELYRS²
ct switching (Levinthal and Fichman

Table 3.1a Random Effects Panel Probit Estimates of the Probability of Switching (1) versus Sticking (0) with an Exchange Partner: Better Dress Apparel Manufacturers and Contractors, 1985–1994

| | Models | | |
|-------------------------|-------------------|-------------------|-------------------|
| | 1 | 2 | 3 |
| LOGRELYR | | .164 (.115) | |
| RELYRS | | | .172 (.094) |
| RELYRS ² | | | -.021* (.009) |
| MKTUNCER | .146** (.053) | .143* (.056) | .141* (.055) |
| LAGEXIT | .001** (.000) | .001** (.001) | .002** (.001) |
| LAGENTRY | .000 (.000) | .000 (.000) | .000 (.000) |
| MKTGRWH | .057** (.013) | .065** (.015) | .0565** (.015) |
| ORGAGE _M | .008 (.020) | .006 (.023) | .0126 (.023) |
| ORGAGE _C | .031 (.016) | .030 (.018) | .034 (.018) |
| LOGSALES _M | -.110** (.019) | -.119** (.022) | .122** (.022) |
| LOGSALES _C | -.053** (.019) | -.057** (.021) | -.058** (.020) |
| GENRLIST | -.021 (.087) | -.025* (.096) | -.020 (.093) |
| PRE1989 | .140* (.063) | .171** (.071) | .1221 (.069) |
| LEFTRUNC | -.610** (.067) | -.715 (.104) | -.641** (.094) |
| CONSTANT | -7.71* (3.13) | -7.82* (3.29) | -7.48* (3.24) |
| # of cases | 7369 | 7369 | 7369 |
| Chi ² | 174.56 | 44.42 | 182.99 |
| Rho | 0.393 | .478 | 0.459 |
| Pseudo Rho ² | 0.0198 | 0.020 | 0.020 |

** p<0.05; * p<0.01. All tests two-sided. Subscripts explained in text.

1988) and suggest that the quadratic specification offers a marginally better fit using the pseudo R^2 criterion. MKTUNCER lowers the probability of switching as expected (Podolny 1994), but this effect disappears once relationship variables are introduced into the model. This suggests that the effect of market uncertainty is reduced when other variables related directly to the relationship are controlled for statistically. In line with Kranton's (1996) argument that abundance lowers the need for cooperation among traders, MKTGRWTH increases the probability of switching. LAGENTRY had no statistical effect, while LAGEXITS has the expected effect of increasing the probability of breaking up standing relationships (Kranton 1996). The effect of FIRM_AGE suggests that older firms are more likely to dissolve their ties but the statistical significance of this effect varies widely by model, which alludes to the need for a cautious interpretation of this variable. Consistent with Podolny (1994) and Uzzi (1997a), LOGSALES has a positive effect on the likelihood of sticking.

Models 4–6 as well as models 7–10 demonstrate a consistent set of patterns regarding the effects of the main relationship variables on the probability of sticking or switching. Consonant with the embeddedness approach, the effects of bilateral exchange and number of trading partners are positive and negative respectively whether they are entered with or without controls. These results indicate that an increase in the level of bilateral exchange (RELPROP) decreases the probability of switching exchange partners across all models. As noted above, this result fails to support transaction cost economic arguments. According to transaction costs economics, intensity of resource exchange increases the level of asset-specificity which is supposed to promote opportunism and create high powered incentives to break off the relationship or formalize it through vertical integration (Joskow 1996). Future analysis should further examine these issues and the scope conditions under which embedded ties result in stability as opposed to instability or intercorporate absorption.

The results for number of exchange partners (XPARTNRS) are also consistent with the embeddedness approach. Stable findings across all models indicate that the smaller the network, the greater the likelihood of sticking. In contrast, transaction cost economics arguments hold that small networks should produce incentives to act opportunistically—thus building up pressure to rupture the relationship. Future research should continue to examine these important differences and the conditions under which small numbers bargaining begets opportunism or lays the foundation for embeddedness.

Table 3.1b Random Effects Panel 1 of Switching (1) versus Sticking (0) Dress Apparel Manufacturers and C.

| | 4 |
|-------------------------|-------------------|
| RELPROP _{MC} | -1.59** (.087) |
| RELPROP _{CM} | -1.10** (.054) |
| XPARTNRS _{MC} | |
| XPARTNRS _{CM} | |
| RELXPART _{MC} | |
| RELXPART _{CM} | |
| CONSTANT | 0.347** (0.31) |
| # of cases | 7809 |
| Chi ² | 50.74 |
| Rho | 0.187 |
| Pseudo Rho ² | 0.163 |

*: $p < 0.05$; **: $p < 0.01$. All tests two-sided. Subsc

Finally, the interaction effect (RELXPART) provides the most bilateral exchange and number switching. The interaction term, REL This suggests that the effect of a sn sticking is not dependent on the leve effect of a small network is positive a contrast to this pattern of results, th suggests that small numbers bargaining relationship, especially in the presenc (Williamson 1985). Finally, the ir (RELXPART_c) was not statistical transaction cost economic predictio RELPROP, XPARTNRS, and RELXP embeddedness approach, even in the

ge partners (XPARTNRS) are also approach. Stable findings across all network, the greater the likelihood of economics arguments hold that small act opportunistically—thus building. Future research should continue to nd the conditions under which small nism or lays the foundation for

| | Models | | |
|-------------------------|-------------------|-------------------|-------------------|
| | 4 | 5 | 6 |
| RELPROP _{MC} | -1.59** (.087) | | -1.32** (.121) |
| RELPROP _{CM} | -1.10** (.054) | | -.888** (.097) |
| XPARTNRS _{MC} | | .000 (.001) | .000 (.001) |
| XPARTNRS _{CM} | | .147** (.008) | .060** (.010) |
| RELXPART _{MC} | | | -.023** (.005) |
| RELXPART _{CM} | | | .000 (.020) |
| CONSTANT | 0.347** (0.31) | -1.07** (0.52) | -0.007 (0.07) |
| # of cases | 7809 | 7818 | 7809 |
| Chi ² | 50.74 | 247.72 | 39.52 |
| Rho | 0.187 | .400 | 0.168 |
| Pseudo Rho ² | 0.163 | 0.033 | 0.172 |

Finally, the interaction effect of RELPROP and XPARTNRS (RELXPART) provides the most stringent test of the effects of bilateral exchange and number of network partners on relationship switching. The interaction term, RELXPART_m is negative and significant. This suggests that the effect of a small network on the probability of sticking is not dependent on the level of bilateral exchange. Rather, the effect of a small network is positive at any level of bilateral exchange. In contrast to this pattern of results, the transaction cost economic model suggests that small numbers bargaining should lead to the dissolution of the relationship, especially in the presence of high levels of asset specificity (Williamson 1985). Finally, the interaction term for contractors (RELXPART_c) was not statistically significant, which also rebuts transaction cost economic predictions. Taken together, the results for RELPROP, XPARTNRS, and RELXPART align with predictions from the embeddedness approach, even in the presence of key controls and in an

Table 3.1c Random Effects Panel Probit Estimates of the Probability of Switching (1) versus Sticking (0) with an Exchange Partner: Better Dress Apparel Manufacturers and Contractors, 1985–1994

| | Models | | | |
|------------------------|-------------------|-------------------|-------------------|-------------------|
| | 7 | 8 | 9 | 10 |
| Independent Variables | | | | |
| RELPROP _{MC} | -1.46** (.131) | | -1.22** (.146) | -1.20** (.146) |
| RELPROP _{CM} | -1.23** (.084) | | -1.24** (.126) | -1.24** (.126) |
| XPARTNRS _{MC} | | .009** (.001) | .010** (.001) | .010** (.001) |
| XPARTNRS _{CM} | | .125** (.008) | .050 (.011) | .052** (.011) |
| RELXPART _{MC} | | | -.012* (.006) | -.013* (.006) |
| RELXPART _{CM} | | | .038 (.021) | .0350 (.021) |
| Control Variables | | | | |
| LOGRELYR | | | .133 (0.081) | |
| RELYRS | .226** (.075) | -.158* (.068) | | .223** (.076) |
| RELYRS ² | -.030** (.008) | .004 (.006) | | -.030** (.008) |
| MKTUNCER | .059 (.052) | .110* (.045) | .057 (.051) | .0564 (.052) |
| LAGEXIT | .001 (.001) | .001* (.000) | .001** (.001) | .0008 (.001) |
| LAGENTRY | 0.00 (.000) | 0.00 (.000) | 0.00 (.000) | -0.00 (.000) |
| MKTGRWH | .023 (.013) | .034** (.011) | .030* (.014) | .0215 (.013) |
| ORGAGE _M | -.001 (.018) | .035* (.016) | .015 (.018) | .0206 (.018) |
| ORGAGE _C | .013 (.015) | .056** (.013) | .035* (.015) | .0386* (.015) |
| LOGSALES _M | -.060** (.020) | -.169** (.024) | -.155** (.028) | -.156** (.029) |
| LOGSALES _C | -.140** (.022) | -.135** (.017) | -.169** (.025) | -.170** (.024) |

*: p<0.05; **: p<0.01. All tests two-sided. Subscripts explained in text.

Continued on next page

Table 3.1c (Continued)

| | 7 |
|-------------------------|-------------------|
| GENRLIST | -.053 (.076) |
| PRE1989 | .0470 (.063) |
| LEFTRUNC | -.217** (.075) |
| CONSTANT | -1.23 (3.06) |
| # of cases | 7369 |
| Chi ² | 12.61 |
| Rho | 0.181 |
| Pseudo Rho ² | 0.1802 |

*: p<0.05; **: p<0.01. All tests two-sided. Subsc

industry that is unlikely to be biased in
The implications of these findings are
role in the structuration of business t
and networks.

Conclu

Recently two questions have be
organization and economic developm
that increase or decrease the structura
question concerns the extension of th
question (i.e., the make or buy decis
networks (i.e., the stick or switch decis
that affect the propensity of organizati
when transactions are finite and discre
contractor relations in the New York
frameworks were used to analyze th
decisions: transaction cost economics
Consistent with the embeddedness app
exchange and a limited number of
propensity to stick with an exchange p
because the transaction costs econom

Probit Estimates of the Probability of
with an Exchange Partner: Better Dress
tors, 1985-1994

| Models | | |
|---------|---------|---------|
| 8 | 9 | 10 |
| | -1.22** | -1.20** |
| | (.146) | (.146) |
| | -1.24** | -1.24** |
| | (.126) | (.126) |
| .009** | .010** | .010** |
| (.001) | (.001) | (.001) |
| .125** | .050 | .052** |
| (.008) | (.011) | (.011) |
| | -.012* | -.013* |
| | (.006) | (.006) |
| | .038 | .0350 |
| | (.021) | (.021) |
| | .133 | |
| | (.081) | |
| -.158* | | .223** |
| (.068) | | (.076) |
| .004 | | -.030** |
| (.006) | | (.008) |
| .110* | .057 | .0564 |
| (.045) | (.051) | (.052) |
| .001* | .001** | .0008 |
| (.000) | (.001) | (.001) |
| 0.00 | 0.00 | -0.00 |
| (.000) | (.000) | (.000) |
| .034** | .030* | .0215 |
| (.011) | (.014) | (.013) |
| .035* | .015 | .0206 |
| (.016) | (.018) | (.018) |
| .056** | .035* | .0386* |
| (.013) | (.015) | (.015) |
| -.169** | -.155** | -.156** |
| (.024) | (.028) | (.029) |
| -.135** | -.169** | -.170** |
| (.017) | (.025) | (.024) |

scripts explained in text.

Continued on next page

Table 3.1c (Continued)

| | Models | | | |
|-------------------------|-------------------|-------------------|-------------------|-------------------|
| | 7 | 8 | 9 | 10 |
| GENRLIST | -.053 (.076) | .016 (.064) | -.018 (.075) | -.019 (.075) |
| PRE1989 | .0470 (.063) | .014 (.055) | .051 (.062) | .0070 (.063) |
| LEFTRUNC | -.217** (.075) | -.327** (.069) | -.254** (.075) | -.196** (.074) |
| CONSTANT | -1.23 (3.06) | -3.94 (2.70) | -0.138 (3.06) | 0.019 (3.05) |
| # of cases | 7369 | 7369 | 7369 | 7369 |
| Chi ² | 12.61 | 0.21 | 8.95 | 8.00 |
| Rho | 0.181 | 0.032 | 0.156 | 0.152 |
| Pseudo Rho ² | 0.1802 | 0.059 | 0.190 | 0.191 |

*: p<0.05; **: p<0.01. All tests two-sided. Subscripts explained in text.

industry that is unlikely to be biased in favor of the embeddedness thesis. The implications of these findings are that social structure plays a unique role in the structuration of business ties and in the boundary of markets and networks.

Conclusion

Recently two questions have become important to the study of organization and economic development. The first concerns the factors that increase or decrease the structuration of economic ties. The second question concerns the extension of the markets and hierarchies boundary question (i.e., the make or buy decision) to the level of markets and networks (i.e., the stick or switch decision). This study examined the factors that affect the propensity of organizations to stick with exchange partners when transactions are finite and discrete in the context of manufacturer-contractor relations in the New York apparel industry. Two theoretical frameworks were used to analyze the dynamics of stick and switch decisions: transaction cost economics and the embeddedness approach. Consistent with the embeddedness approach, increasing levels of bilateral exchange and a limited number of exchange partners increased the propensity to stick with an exchange partner. These results are interesting because the transaction costs economics framework suggests that high

levels of bilateral exchange and/or a limited number of exchange partners should increase the propensity to switch—since these factors increase asset specificity and create small numbers bargaining situations respectively. Moreover, support for the embeddedness approach suggests that actors' motives and interests are not hard-wired but are variable and predictably emerge from social structure. Future work in economic sociology and the embeddedness approach that examines how social structure influences rationality and motivates the search for Pareto-improvements and the use of reciprocity in critical exchange relationships seems fruitful, particularly in regard to the question of the boundaries of markets and networks.

Acknowledgement

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Notes

1. Interest in structuration is widespread in the social sciences: the right to make or break ties is a first principle of law (Macneil 1978) channels is a subfield of marketing (Iacobucci and Hopkins 1992); client—auditor attachments is a sub-discipline of accounting (Levinthal and Fichman 1988); and in management (Harrison 1994) and public policy stable interpersonal and intercorporate ties are considered essential to economic development.
2. Asset specificity supposedly takes on importance only “in conjunction with bounded rationality/opportunism and in the presence of uncertainty” (Williamson 1985: 56). While this qualification is consequential, it applies to isolated cases only. First, bounded rationality and uncertainty are ubiquitous in real-world transacting (Simon 1991). Second, Williamson (1996: 51) has noted that “...all forms of organization are subject to the hazards of opportunism.” Thus, their existence is assumed in my description of the effect of asset-specificity on dissolution.
3. Four types of specific assets have been identified. Site-specific assets are immobile once placed at a site and affect transport and inventory costs. Physical assets are specific to a design and lose value in other applications. Dedicated assets are investments by a supplier in the good of a buyer for the sole prospect of selling a product to a buyer. Human assets are intangible and include tacit know-how and learning-by-doing. In the apparel industry, four types of specific assets can develop, although site specific investments in technology or people are unlikely to be immobile once placed at a site. I do not attempt to distinguish between types of specific assets but simply note that one or all may develop in line with the theory's predictions (see Lazerson's [1995] discussion of asset-specificity in the apparel industry).
4. See Walker and Weber (1987), Lazerson (1991), Freeland (1996), and Masten decisions that examine the role of asset specificity.
5. Williamson (1985: 50) uses a 2x2 to categorize Actor's Motivation (self-interest vs. cooperation). Embeddedness does not fit neatly and interests are not purely selfish and selfless and purely rational (e.g., agency theory), boundedly rational (e.g., team theory), social structure within which actors are rational for rationality (expert rationality) to Williamson's typology. The fit for ontological categorization of economic exchange (Uzzi 1997a).
6. These causal mechanisms are buttressed that close personal ties or identification which increases altruistic behavior—an important psychological processes that are set in motion.
7. Economic based accounts observe the functioning of the economic system (an explanation of the origins of trust or as a constraint on business conduct that exists because of business conduct that exists because of business conduct). These arguments are difficult to reconcile and opportunism however and leave uncertainty in trust is operative, latent, or eclipsed by aversion.
8. On this point, see Ghoshal and Moran (1996) on economics. While their sophisticated argument concludes is, “...even though one can systematically influence an individual's opportunistic behavior and another individual's expectancy from this behavior on the individual's attitude toward opportunistic behavior” (Ghoshal and Moran 1996: 100). The paradigmatic example of A. O. Smith, General Motors is difficult to believe that this business relationship years if either General Motors or A. O. Smith appear either that General Motors did not learn” (Coase 1991: 70–72).

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4. See Walker and Weber (1987), Lazerson (1995), Pisano (1990), Coase (1991), Smitka (1991), Freeland (1996), and Masten (1996) for empirical analyses of make or buy decisions that examine the role of asset-specificity.
5. Williamson (1985: 50) uses a 2x2 to classify exchange theories on two dimensions: Actor's Motivation (self-interest vs. cooperative) and Actor's Rationality (Bounded vs. Pure). Embeddedness does not fit neatly into this scheme because actor's motivations and interests are not purely selfish and boundedly rational (e.g., TCE), nor purely selfish and purely rational (e.g., agency and game theory), nor purely cooperative and boundedly rational (e.g., team theory). Rather they are emergent properties of the social structure within which actors are embedded. Embeddedness would add a new row for rationality (expert rationality) and a new column for motives (emergent rationality) to Williamson's typology. Thus, Williamson's typology appears best suited for ontological categorization of economic rather than sociological theories of exchange (Uzzi 1997a).
6. These causal mechanisms are buttressed by ample social science research which shows that close personal ties or identification with a distinctive group heightens empathy, which increases altruistic behavior—an outcome which is itself sustained by social and psychological processes that are set in motion by embedded ties (Batson 1990).
7. Economic based accounts observe that some level of trust is important for the functioning of the economic system (Arrow 1974). These accounts leave out an explanation of the origins of trust or assert that it follows from some generalized norm of business conduct that exists because it rationally benefits everyone in the system. These arguments are difficult to reconcile with the standard assumptions of free-riding and opportunism however and leave unanswered the key question of discerning when trust is operative, latent, or eclipsed by avarice.
8. On this point, see Ghoshal and Moran's (1996) critique of transaction costs economics. While their sophisticated argument is not quickly summarized, a main conclusion is, “...even though one contextual variable (i.e., asset specificity) may systematically influence an individual's perceived valance of (or scope for) opportunistic behavior and another variable (i.e., sanctions) may moderate the individual's expectancy from this behavior, context is believed not to have any effect on the individual's attitude toward opportunism that is independent from its effect on opportunistic behavior” (Ghoshal and Moran 1996: 19–20). Ronald Coase the creator of transaction costs economics, makes a similar critique. He cites as evidence the paradigmatic example of A. O. Smith, GM's supplier of asset-specific auto frames. “It is difficult to believe that this business relationship could have continued for over fifty years if either General Motors or A. O. Smith had acted opportunistically...It would appear either that General Motors did not do so or that A. O. Smith was a slow learner” (Coase 1991: 70–72).