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Spreading and Shifting Costs of Lateral Control among Peers: A Structural Analysis at the Individual Level

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Abstract. This paper uses three-way and sociometric data to reconstitute individual conceptions of peer-driven intervention for the protection of common resources in a collegial organization, a Northeastern corporate law firm. Variations in partners' individual conceptions are explained in terms of management of costs of lateral control. Costs of control are mainly expressed as costs to members in terms of social capital. Management of such costs includes spreading or concentrating them among partners, shifting them to others or bearing them oneself, and using similarities among others to smooth the control process among peers. Leverage styles are identified. They tend to combine various ways of spreading and shifting such costs, and characterize three levels of seniority. Seniority appears to be a key variable for a theory of unobtrusive protection of common resources among peers.

Key words: social control, leverage, organizations, law partnership, network analysis, three-way data.

1. Introduction

Collective actors maintain institutional arrangements and protect common resources through both formal and informal control mechanisms (Black, 1984; Coleman, 1990; Ellickson, 1991; Hechter, 1984, 1987; Heckathorn, 1990; Lazega, 1995; Lindenberg, 1993; Morrill, 1995; Ostrom, 1990; Reynaud, 1989; Taylor, 1987; Wittek, 1999). Among the informal mechanisms, indirect control using leverage has been shown to be of particular interest in collegial organizations (Lazega, 1995, 2000) which have to rely to a great extent on the self-regulating capacity of its professional members (Waters, 1989). In effect, peers are reluctant to use direct command and formal regulation (Freidson, 1975), but also to bear the costs of exercising control. Previous work (Lazega, 1992b, 1995; Lazega and Vari, 1992; Lazega and Lebeaux, 1995) has shown that, as a consequence, such organizations can develop, at the collective level, a "lateral control regime", i.e., a control mechanism which helps peers avoid open confrontations, and shifts the costs of control to a set of informally specialized members. The latter are more likely

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than others to be chosen often as early monitors and sanctioners. A lateral control regime thus helps members of collegial organizations in dealing informally with the so-called second-order free-rider problem (Heckathorn, 1989; Oliver, 1980; Yamagishi, 1986) before formal and well defined damage-control procedures are used.

In this paper we pursue the study of such a lateral control regime in the same partnership, this time at the individual level. We look at how peers conceive of lateral control among themselves when mobilized for the protection of common resources. Our analysis is based on two- and three-way network data offering specific insights into such conceptions of lateral control. It draws mainly on two previous contributions by network analysts to the study of organizational politics and social control.[1] First, becoming a player in the organizational power game requires a trained capacity to perceive who the key players in the system are (i.e., people who can help in getting things done, in getting people to agree, or in getting ahead), what the relationships between them are, what the coalitions and allegiances are, and who the trustworthy people to make deals with are. Krackhardt's (1987, 1990, 1992) and Kumbasar et al.'s (1994) work on perceptions of relations, particularly on three-dimensional data ("perception cubes"), shows that perception of the structure varies according to one's position in it, and that power is also exercised in spite of (or based upon) existing "blindspots" in members' perception of the structure.

Second, to be a player in the power game also requires a trained capacity to use interdependence among others, to manipulate relationships and manage social capital. Burt's (1982, 1992) work on manipulation of relations, particularly on cooptation as a defense mechanism, describes members' manipulations of relations in terms of network "surgery": withdrawal (cutting ties) and expansion (adding new ties to one's network). In this perspective, a strategic player tries to decrease his dependence upon a constraining party (for instance, a powerful supplier of resources) by gaining some leverage over the constrainer ("embedding" the constraining party) and creating a tie over which there is more control. Such cooptation manoeuvers can also be indirect (Gargiulo, 1993).

Thus, network analysts have mainly focused on individuals interested in becoming players in the power game so as to forward their own immediate interests. Here we combine their methodological and theoretical insights on perception and manipulation of relations to look at peer-driven intervention on behalf of collective interests, i.e., at how individuals try to contribute indirectly to the protection of common resources and to the maintenance of long term institutional arrangements. Our approach to the lateral control regime is based on data providing information on how members of a collegial organization think of manipulating each other by matching early monitoring and sanctioning colleagues (called "levers") with potentially trouble-making and free-riding colleagues (called "targets").[2] Since we look at peers' conceptions of lateral control at the individual level, not at the aggregate level, we analyze differences among partners in terms of their choices of levers. Building on previous work, we focus our explanation of variations in choices of

levers – and consequently in conceptions of lateral control – on management of costs (to individuals in the firm) of control. We assume that members' conception of lateral control can be inferred from their way of managing costs in social capital. Attempting to speak to target peers on behalf of the firm and put pressure on them can be costly in relational terms: targets may accumulate resentment, partners may blame their lever – especially if he/she has personal ties to the target – for failing to achieve results. For each member, this form of management includes at least an answer to three main dilemmas: (1) Spreading the costs of control among many members or concentrating these costs on a few specialized members; (2) Shifting the costs of control by investing one's social capital in the lateral control process or playing on others' (the lever's or target's) social capital (i.e., resource dependencies); (3) Paying particular attention to various similarities among protagonists, or disregarding these similarities, when trying to "smooth" the control process by using formal dimensions of firm structure to allocate costs of control.

We first look at the extent to which members spread the costs of control among partners and provide ethnographic insights to illustrate this dimension of conceptions of control. We measure the spread by using three different indexes (Krackhardt, 1994): the extent to which members fragment their control environment (connectivity scores), perceive a hierarchy in it (hierarchy scores), and perceive control to be a team effort (graph efficiency scores). Office membership and centrality in the friendship network are shown to have a systematic effect on the extent to which these individual conceptions spread control costs among partners.

We then expand our analysis and understanding of the determinants of choices of levers by looking at the extent to which members invest their own social capital in the lateral control process or play on others' (the lever's or target's) social capital (i.e., personal relationships and the resources they give access to (Lin, 1982)). We measure this investment in two ways. First, conceptions of lateral control may vary depending on whose friends, advisors and coworkers, respondents mobilize to put pressure on the target: their own ties (as defined by themselves), the levers' ties, or the targets' ties. Second, these conceptions may also vary depending on members' amounts of social capital and status, i.e., on the position of the protagonists of the control drama in the informal structure of the firm. When choosing a lever, respondents may take into account either the lever's status or the target's status. This position is measurable by the centrality of members in different networks of relations in the firm (in our case, the coworkers, advice, friendship, and influence networks).

Finally, we look at the extent to which members pay particular attention to various similarities among protagonists, or disregard such similarities, to "smooth" the lateral control process. Similarities in formal and informal characteristics of members (Krackhardt, 1988; Lazega and Van Duijn, 1997) can be taken into account when designing lateral control strategies. For example, they can reduce "transaction costs" linked to access to the lever and to the target. As shown elsewhere at the structural level (Lazega, 1995), choices of levers are indeed determined by charac-

teristics of actors defined by formal dimensions of organizational structure, among which office membership, specialty, and seniority have the strongest effects. We use these characteristics of members at the individual level to measure the extent to which respondents match levers and targets, i.e., allocate costs of control, based on similarities which are assumed to make the protection of common interests easier.

This paper tests for such effects at the individual level. We analyze matrices individually, and look at the combination of effects for each partner. We find three core ways of managing costs of control, or "leverage styles" (patterns of preoccupations of respondents when they make leverage decisions). These styles tend to characterize three levels of seniority, which becomes a key variable for theory or practice of unobtrusive protection of common resources among peers.

The data was collected in 1991 in a New England corporate law firm comprising 36 partners. Our approach to lateral control is consistent with what we already know about modern corporate law firms. In a comparative study of such firms, Nelson (1988) shows that the invisible nature of power and influence is carefully protected in these contexts. Even in firms with relatively closed governance systems, leaders are concerned with preserving an ideology of collegiality, and tend to minimize the distinctiveness of their leadership role. They see themselves as partners, possibly as a group of first among equals, but not as officials: they often speak of the necessity of making policies that unify the partnership, that create consensus, and preserve deference to seniority. Collegiality serves both to deny the authority system and to limit its strength (Freidson, 1975). This helps maintain high levels of commitment and cohesiveness in a potentially volatile organization. When power has this "now you see it, now you don't" quality, the usually close knit character of the partnership stresses informal social relations. Individual conceptions of control in their own firm is of great interest to the members. All partners participated in the study. Fieldwork and ethnographic data are presented first, along with illustrations of the diversity in partners' conception of lateral control.

2. Fieldwork: The Firm and the Data

Fieldwork was conducted in a Northeastern law firm, (71 lawyers in three offices, comprising 36 partners and 35 associates), in 1991. All the lawyers in the firm were interviewed. In Nelson's (1988) terminology, this firm is both "traditional" and "bureaucratic".[3] Interdependence among attorneys working together on a file may be strong for a few weeks, and then weak for months. As a client-oriented, knowledge intensive organization, it tries to protect its human and social capital through the usual policies of commingling partners' assets (clients, experience, innovations) (Gilson and Mnookin, 1985) and the maintenance of an ideology of collegiality. Informal networks of collaboration, advice, and "friendship" (outside socialization) are key to the integration of the firm (Lazega, 1992a).

It is a relatively decentralized organization, which grew out of a merger, but without formal and acknowledged distinctions between profit centers. A managing

partner is elected for one year, renewable once, for more efficient day-to-day management and decision making. A weak administration provides information, but does not have many rules to enforce. The firm breaks down into two general areas of practice: the litigation area (half the lawyers of the firm) and the "corporate" area (anything other than litigation), but the firm is not formally departmentalized. Compensation is based exclusively on a seniority lockstep system without any direct link between contribution and returns. Sharing work and cross-selling among partners is done mostly on an informal basis; there is no compensation-bred competition. Given the classical stratification of such firms, work is supposed to be channelled to associates through specific partners, but this rule is only partly respected. Partners have very few means of "punishing" each other seriously. Lateral control is especially important for curbing "opportunistic behavior" in this firm, where firing a partner is very difficult. A partner can be expelled only if there is near-unanimity against him/her; analysis (Lazega, 1992b) shows that each partner tends to have one or two unconditional friends, i.e., a safety partner who protects him or her against such an extreme consequence. Therefore, despite the existence of direct financial controls, the firm does not have many formal ways of dealing with free-riding.

Three-way data on manipulation of relationships among *partners* were elicited using a slightly modified Krackhardt (1987) technique, based on the following vignette:

> Here is the list of all the partners or associates in the firm. I would like you to imagine that you are the Managing Partner. You notice that X is having personal problems. It could be anything, from alcohol to depression, or divorce. But it has repercussions on his/her performance. As a Managing Partner, it is your job to do something about it. You are looking for colleagues of his/hers among the other partners of the firm to intercede on a discreet and confidential basis, to go and talk to him/her, see what's going on, what the firm can do to help, and give unsolicited advice. You don't want to do this yourself because you want to keep it informal, and your position would be in the way. My question is: who are the persons among all the other partners whom you would you ask to approach X, and why would you delegate this task to them? What if this person were Y, or Z, etc.?

This vignette provides two types of data at the individual level: one matrix per respondent matching one or several levers for each target, and arguments justifying the choices. Here are two examples of arguments provided by the partners to justify their choice of each lever:

> To see Partner 9, I would send Partner 8 and Partner 11. They are close friends of his. If you have to make communication not threatening, you have to find someone close. You know intimately and best the person of your age in the firm. That applies at any age. Having been associates at the same time, having grown through such uniformity of experience, creates strong links. The cama-

> raderie born of that is important here. You don't want someone who shows up as an envoy of the firm. It has to follow from some everyday discussion. I could also send Partner 27. She is his wife. But I may not, it could be unfair on her to have to deal with this, assuming that she knows what's going on. If she doesn't it would make things worse. (Partner 21)
>
> If you send a friend, it can ruin the friendship and the friendship can trouble your judgment. Partner X has very close friends here. Too close to go on behalf of the firm. I would send Partner 1: they have reciprocal respect but not as close in terms of friendship. You can dispatch Partner 1 depending on the problem and level of concern. To see Partner 1 getting into your office to tell you to pull yourself together, the shock would be enough to straighten you out!. What would happen if he leaves! (Partner 13)

Additional sociometric data were also collected. Name generators are presented in Appendix A. As seen above, we are interested in the determinants of the similarity or differences in conceptions of lateral control among partners. We first look at the extent to which members spread the costs of control among their partners.

3. Spreading the Cost of Lateral Control

We use three indexes developed by Krackhardt (1994) for similar purposes: firstly, connectivity scores to measure the fragmentation of lateral control; secondly, hierarchy scores to measure the stratification of lateral control, and thirdly graph efficiency scores to measure lateral control as a team effort. Each of the 36 matrices was analyzed separately to associate each individual representation of such choices of levers with its own score on these indexes.

3.1. THE FRAGMENTATION OF LATERAL CONTROL

Partners may or may not have a picture of the network of lateral control which is made of several components or all connected. For instance, Figure 1 shows that Partner 35 thinks, with very few exceptions, that Boston targets should be taken care of by Boston levers, and Hartford targets by Hartford levers. A strongly discriminant office boundary thus fragments this structure.

For instance, to pressure Partner 1 (Boston's most senior partner), Partner 35, who is a Hartford partner would use Partner 26, saying: "He was brought up in Partner 1's world, he is his protégé. Partner 26 is also my catch-all on the litigation side". To pressure Partner 6, a Hartford prima donna partner, he would send Partner 5, Hartford most senior partner, saying: "They are both here in Hartford, both are pre-merger, they knew the founder of the firm, they have known each other for a long time". In this perception, each office represents a world of its own, dominated by a few heavyweights, but also identified by the existence of close ties among some of its members.[4] This line of argument is pushed further by partners

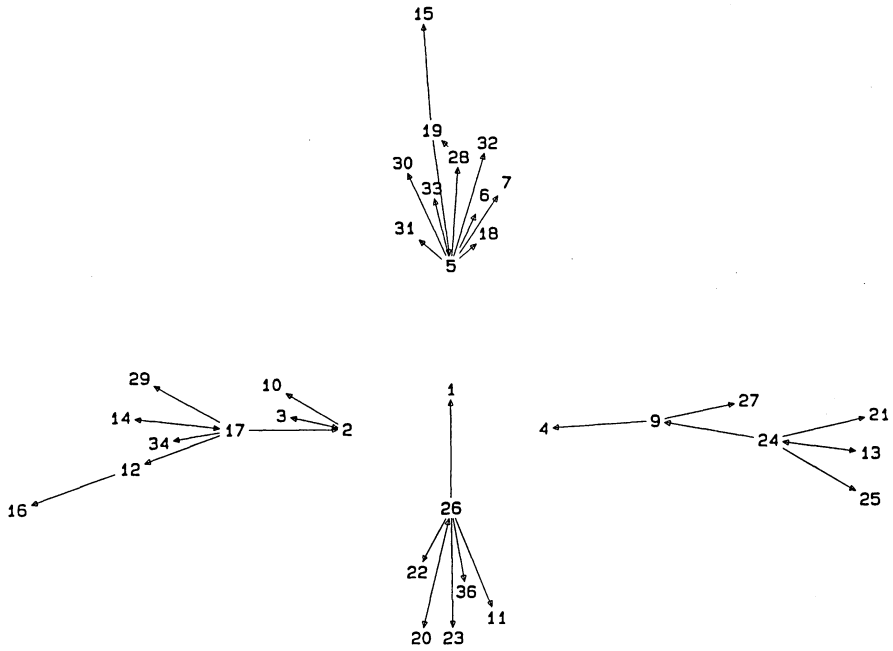

Figure 1. Partner 35's perception of leverage in the firm.

who detect groups among other partners and use them for leverage purpose. For instance:

> To talk to Partner 23, I'd send Partner 24, Partner 25, and Partner 26. They were all associates together, all are competent, well perceived by each other. I would turn them loose on each other. Then I would stick him back on the others. (Partner 4)

> To talk to Partner 4, I'd send Partner 9. They are the two most senior corporate lawyers in Boston. Bright but groupy. They drink hard, play hard, and work hard. (Partner 30)

Thus, perceptions of small groups based on different types of ties between levers and targets also influence the extent to which members spread control costs.

Fragmentation also occurs in other ways. In Partner 33's picture, it is the presence of several couples of target and lever mutually chosen to control each other that explains his low connectivity score. Partner 33 defines several worlds by choosing one heavyweight as a representative for each, and by matching, within each world, levers and targets based on personal considerations. He rarely crosses the office boundary and does not raise personal considerations about the target or the lever when crossing such boundaries. Thus, since partners tend to be closer to other partners in the same office, the leverage network created by this respondent ends up being disconnected. This fragmented view of lateral control also comes from the respect of other internal boundaries within the firm (specialty, seniority

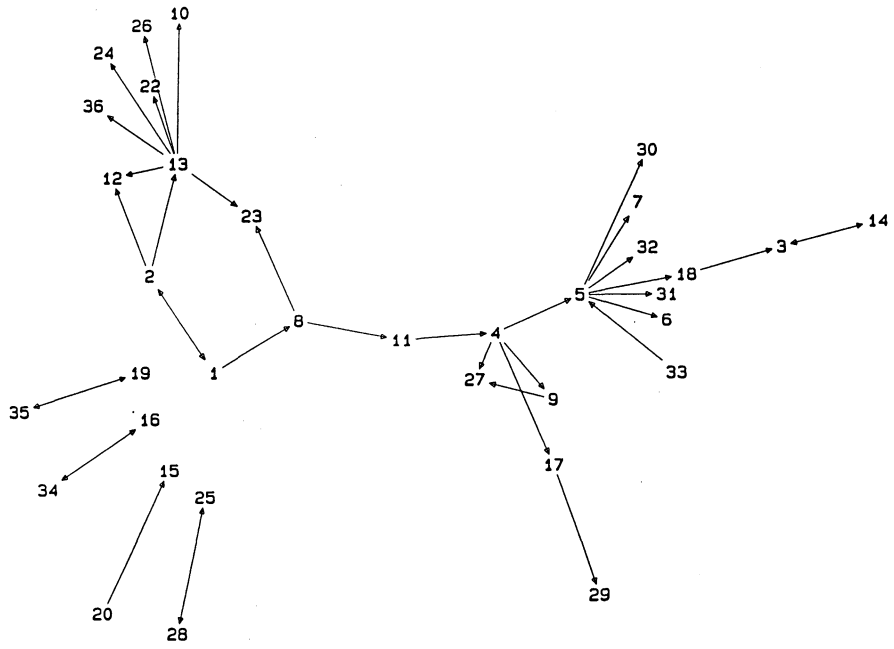

Figure 2. Partner 33's perception of leverage in the firm.

groups). An additional reason for this fragmented view is that some partners tend to choose few levers for each target. Thus low connectivity is correlated with high scores of hierarchy. We find that respondents who see a fragmented or disconnected world of influence, a structure made of many components (low connectivity scores), are new to the partnership (Partners 3, 21, 30, 31, 33, 35), or far from it (Partner 15), with three exceptions: Partners 1, 8 and 26.

3.2. THE STRATIFICATION OF LATERAL CONTROL

Respondents may or may not have a perception of the structure which is clearly stratified. This is measured by an index called hierarchy score, which refers to the extent to which a network allows cycles of influence. This can be interpreted as an indication that respondents believe that status matters for leverage. Figure 3 shows Partner 18's perception of the leverage structure. In this perception two main levers dominate: levers 20 and lever 5, the managing partner at the time of the study (Boston office) and his deputy (Hartford office). Each of them controls more than ten targets directly without being controlled by them in return. As targets, Partners 5 and 20 are chosen to control each other. This is explicit in Partner 18's arguments, such as:

> To handle Partner 6, I would send Partner 5. He is the most senior Hartford attorney. He has worked with him for many years. He has respect for him, and he would do it effectively. (...) To talk to Partner 11, I would send Partner 20,

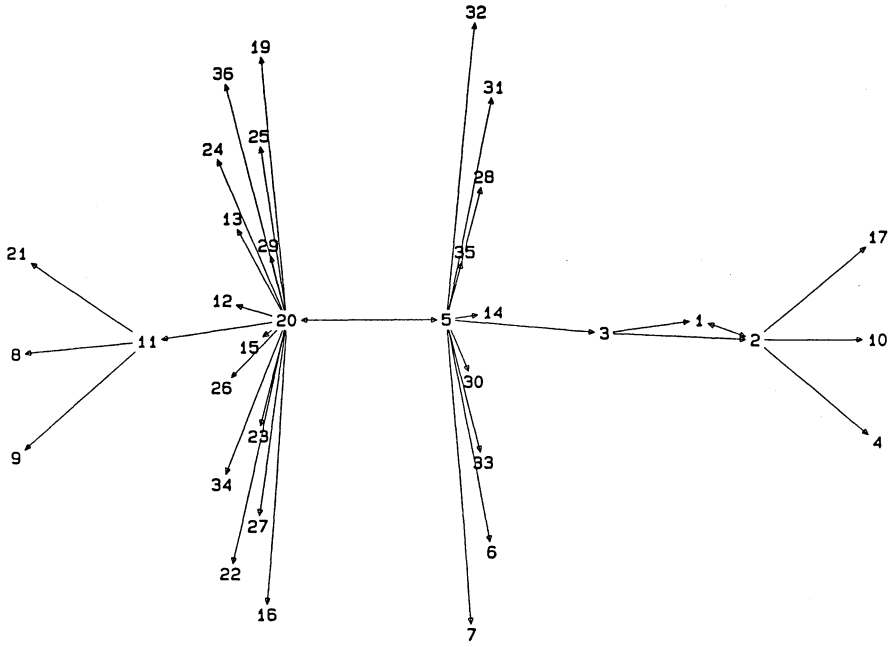

Figure 3. Partner 18's perception of leverage in the firm.

> the current managing partner. He is in the same office, less confrontational as somebody of Partner 1's seniority. And he has a good temperament for dealing with these issues: I think people like Partner 5 and Partner 20; they give the impression that it hurts them as much as it hurts the other person.

Partner 5's and Partner 20's status is recognized throughout the partnership, which is more sharply illustrated by statements concerning difficult targets, such as Partner 1:

> To talk to Partner 1? Who would dare? Who would go tell Partner 1 "You've got a problem"? I think when you are that senior and important to the firm as he is now, you can only send someone who has approximately the same age, seniority, who is not a litigator to avoid some sort of competition. I would pick Partner 3. But if you need also a litigator who understands the consequences of the problem, who knows the clients, and so on, then I would also send the Managing Partner. (Partner 13)

> To talk to Partner 6, I'd send Partner 5. Partner 6 is a prima donna. He wouldn't listen to anyone who is not a real peer, someone with as much seniority. I am not sure he actually thinks he has a peer in this firm! (Partner 30)

In other cases, different heavyweight levers are chosen.[5] Partner 32 chooses Partner 22 to control everyone else in a pure starlike structure. High hierarchy scores often means that multi-target levers are almost exclusively chosen, the rea-

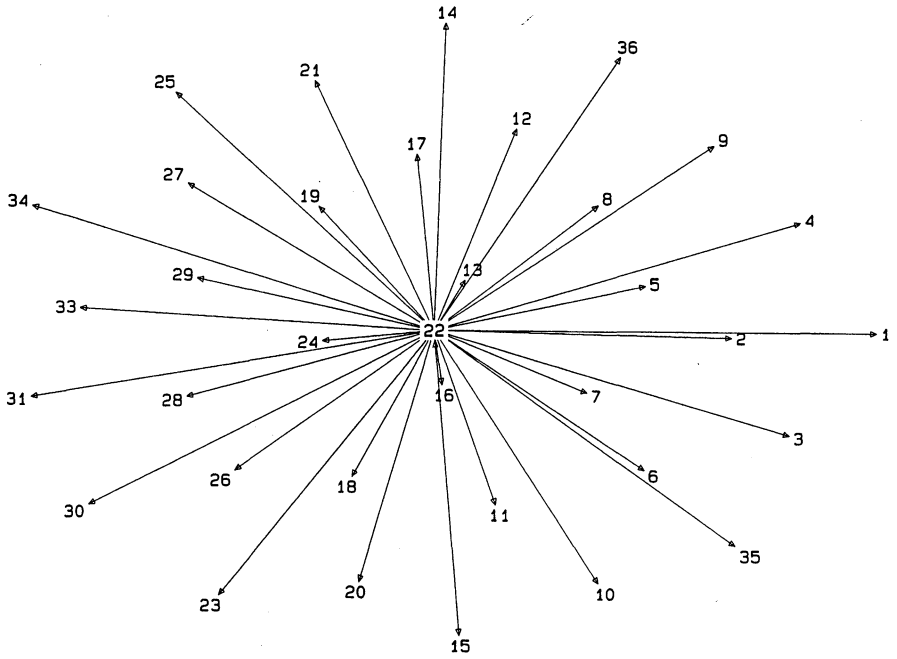

Figure 4. Partner 32's perception of leverage in the firm.

son for such a belief in status being the perceived safety of such paths of lateral control, which is obvious in Partner 32's argument:

> Partner 22 for everybody. He did it successfully once. There is the personal problem and then the firm issue. You can't put blinders on either. As a managing partner you would have to focus on the second issue. The institution comes first. He is an ex-marine, well organized and efficient, able to get it done immediately. He would not let his personal feelings influence him. He would handle the task of putting the institution first. He is very much respected by everyone in the firm. (Partner 32)

Partner 6 also chooses Partner 2 as an almost universal lever:

> To talk to all of them, I would ask Partner 2. I have a great deal of respect for him. He is a man of breadth, judgment, and compassion. He would be able to handle the situation. When I don't choose Partner 2, it means that I think that the two persons are more atuned to each other, and they understand what drives the other well enough, so that it overrides my feeling for Partner 2 as the best person. (Partner 6)

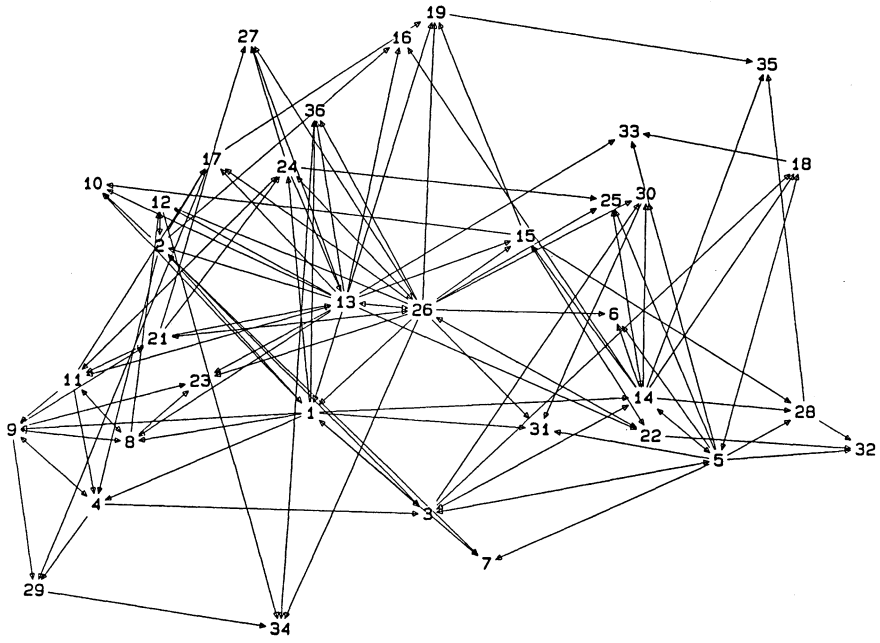

Figure 5. Partner 20's perception of leverage in the firm.

3.3. LEVERAGE AS A TEAM EFFORT

Respondents differ in the extent to which they use one or several levers for each target. This can vary from very lean paths of influence to an "overkill" strategy. It is measured by an index called graph efficiency that relates to the extent to which members use redundancy. High graph efficiency means that one uses partners sparingly to control one target. Respondents may systematically consider leverage either as a confidential or discrete effort, or as a more public team effort. In the latter case, it is mainly because they do not trust one single path of influence (for good feedback, for instance), because they have a "good guy-bad guy" conception of leverage, because they do not know what is going on in the other office (and therefore choose many senior levers), or because they want to be protective of some partners. Among such respondents, we find several firm "managers", such as Partners 5 and 20, but also partners recruited from other firms who play it safe by choosing several levers for each target (because they do not feel absolutely sure of their choice; this is the case, for example, with Partners 14, 22, and 25). Figure 5 represents Partner 20's conception of the leverage structure and shows that he chooses systematically three or four levers to be sent to deal with each target. This does not mean that, in these structures, all partners are chosen equally often as levers. Partner 20's approach to the choices of levers is explained by his own arguments:

> I am going through the list, and a pattern emerges. Some of this is clearly office-based, some of it is work-related, and in a few instances it is friendship-based. And also sometimes authority-based: the target would look to them (levers) as having authority. Some of it will have to do with age differences, but not necessarily. I give you in general people who know the best the person in trouble, to whom the target would not react negatively. Plus those who know his business. In another firm, it would sometimes be difficult to find a single person. Here you always have three or four persons you can think of.

Partner 24 reasons in the same way:

> To talk to Partner 8, I would send Partner 17. They are close friends. He would know how to get through to him without being too threatening, making him too defensive. But I would also send Partner 2, because I don't think that Partner 17 would really be able to deal with the business aspect of the situation. (Partner 24)

To summarize, partners vary in the ways they choose paths of lateral control: they differ in the extent to which they fragment the influence world, in the extent to which they stratify the control mechanism –for instance by choosing a multi-target lever at the beginning of the chain – and in the extent to which they think of leverage as an individual or as a team effort.

3.4. DETERMINANTS OF THE SPREAD OF LATERAL CONTROL COSTS

Our analyses show that partners vary in the extent to which they spread costs of lateral control. Eight variables were chosen as independent variables to explain such variations. First, a series of variables positioning the partners in the formal structure of the partnership: practice, office, and seniority. Such variables have an influence on the choices of levers at the aggregate level (Lazega, 1995, 2000). They can be assumed to have a "smoothing" effect at the individual level: in effect, as mentioned above, similarities along such lines tend to reduce the costs of exercising control by choosing levers who are close to the target geographically, who know about the target's work, and who can legitimately speak on behalf of the firm. Taking such similarities into account is expected to solve problems of access to the target. Second, three variables positioning respondents in the informal structure of the partnership, represented by centrality measures in three types of networks: indegree scores in the friendship (socializing outside), coworkers, and advice networks. Such characteristics of respondents can be assumed to have an effect at the individual level because they provide a measurement of their social capital within the firm and because accumulation of specific relational resources increase one's chances of using ("spending" or "investing") such resources for leverage purpose (Lazega and Lebeaux, 1995). At the individual level, the propensity to spread the costs of lateral control may also depend on the amount of social capital that respondents command in the first place. And third, two control variables measuring

Table I. Characteristics of partners as respondents affecting connectivity, hierarchy and graph efficiency scores in their conceptions of lateral control

Effects	Parameter estimates		
	Dependent variable		
	Connectivity scores	Hierarchy scores	Graph efficiency scores
Office	−0.14	0.56*	0.44
Specialty	0.13	−0.09	−0.02
Seniority	−0.22	−0.04	0.14
Friendship indegree	0.22	0.51*	0.46*
Advice indegree	−0.39	−0.06	−0.29
Coworkers indegree	0.32	−0.29	0.04
Hours billed 1990	0.02	0.01	−0.16
Hours collected 1990	−0.16	0.08	0.08
	$r^2 = 0.28$	$r^2 = 0.32$	$r^2 = 0.25$

* $p < 0.05$, Standardized estimates and two-tailed p-values.

the importance of partners in terms of productivity, which are key characteristics of partners as seen by each other. Table I shows the results of multiple regressions carried out with hierarchy scores, connectivity scores and graph efficiency scores as dependent variables.

Table I shows that two out of these eight characteristics of partners affect their individual scores for hierarchy and graph efficiency. None affects connectivity scores. Hierarchy scores are influenced by office membership. Partners from Hartford tend to have a conception of the leverage structure which is clearly more stratified than that of Boston partners. Hartford partners spread the cost of control less than Boston partners. They tend to believe, more than Boston partners, that some partners are or should be specialized in this type of leverage. They rely on the efficiency of multi-target levers more systematically than Boston respondents.[6]. Hierarchy scores and graph efficiency scores are also both significantly influenced by friendship indegree centrality. In other words, popular partners in the friendship network tend to have higher scores of hierarchy and graph efficiency than less popular respondents. Partners highly sought out as friends, who accumulate much social capital in that network, tend to spread the costs of control and to think of leverage as a team effort *less* than less popular partners. This may be due to the fact that members chosen often and active in the friendship network tend to feel more than others the taboo that forbids direct mixing of business operations and social life (Lazega and Pattison, 1999). They tend to rely on the influence of carefully selected, target-specific partners, whereas less central respondents tend to choose levers less sparingly, to spread the cost of control more, and to believe in the "overkill" strategy of sending many levers.

Other independent variables do not have an effect on individual respondents' scores. Thus, at the individual level, reduction in the cost of exercising control tends to vary with members' office, less so with their specialty and seniority level. Apart from indegree centrality in the friendship network, being sought out in the coworkers and advice networks does not have much effect on their conception of lateral control. In addition, being a high or low performer (during the year preceding fieldwork) does not make much difference in one's conception of lateral control as summarized by these three indexes. However it is important to notice that senior partners tend also to be the most central individuals (in their respective office) in the friendship network. In Table I regressions, the effect of seniority is partly absorbed by that of indegree centrality in the friendship network. This means that reliance – and concentration of costs of lateral control – on a few personalized and specialized levers is a strategy favored by senior partners. Less senior partners would rather spread such costs more and rely less on a division of work in the lateral control regime. Additional insights into the importance of seniority in the conceptions of lateral control are provided by our next analyses of the management of control costs by members. These analyses allow us to identify a more detailed distribution of leverage styles in this population of partners.

4. Shifting the Costs of Control

Two more dimensions of management of costs of lateral control remain to be examined: whether or not respondents invest their own social capital in the lateral control process; and whether or not respondents pay particular attention to various similarities among protagonists when trying to "smooth" the control process by using formal dimensions of firm structure to allocate costs of control. With that purpose in mind, three series of independent variables were used to look more closely at the determinants of choices of levers at the individual level. We first looked at the effect of relations between respondent, lever, and target on the choices of levers. Secondly, we looked at the effect of lever and target status on the choices of levers. Thirdly, we looked at the effect of a limited set of attributes derived from position in the formal structure. The analysis was again replicated across the 36 actors. It tested the effect of each variable on each set of partner's choices. Running one model with the 29 combined effects strained the data (the collinearity reduced the rank of the matrix). We therefore present below three models with a different set of variables in each.

Variables representing issues of cost of control in terms of investment in social capital are introduced by the question Whose friends, advisors, and coworkers, does the respondent mobilize to put pressure on the target? His/her own ties? The lever's ties? The target's ties? The value of each hypothesis can be tested by including in the regression model the following effects:

1. Respondent sees the lever as a friend.
2. Respondent sees the lever as a coworker.

3. Respondent goes to the lever for advice.
4. Lever sees the target as a friend.
5. Lever goes to the target a for advice.
6. Lever sees the target as a coworker.
7. Target goes to the lever for advice.
8. Target sees lever as a friend.
9. Target sees lever as a coworker.
10. Respondent sees target as a friend.
11. Respondent sees target as a coworker.
12. Respondent goes to the target for advice.

Variables representing variations in status understood as the amount of social capital accumulated by lever and target in each network are introduced by questions related to lever's and target's indegree centrality scores in four networks. The value of this hypothesis can thus be tested by including in the regression model the following effects:

13. Lever's indegree centrality score in advice network.
14. Target's indegree centrality score in advice network.
15. Lever's indegree centrality score in friendship network.
16. Target's indegree centrality score in friendship network.
17. Lever's indegree centrality score in coworkers network.
18. Target's indegree centrality score in coworkers network.
19. Lever's indegree centrality score in influence network.
20. Target's indegree centrality score in influence network.

Variables representing the use of similarities (and their significance – as presented above – in terms of lesser effort, increased competence, and higher legitimacy of access to resources) to smooth the control process are introduced by questions related to formal structural dimensions of the organization relevant to respondents when matching levers and targets. The value of each hypothesis can be tested by including in the regression model the following effects:

21. Lever and target are in the same office.
22. Lever and target have the same specialty.
23. Lever and target are in the same level of seniority.
24. Respondent and lever are in the same office.
25. Respondent and lever have the same specialty.
26. Respondent and lever are in the same level of seniority.
27. Respondent and target are in the same office.
28. Respondent and target have the same specialty.
29. Respondent and target are in the same level of seniority.

Multiple regression analyses using three models (including variables 1 to 12, then 13 to 20, and 21 to 29) were replicated across the 36 actors. Table II provides an example of the first model (variables 1 to 12) for Partner 14. There is only one

Table II. An example of the effects of pre-existing ties on an individual partner's choices of levers: The case of Partner 14. Multiple regression quadratic assignment procedure

Effects	Parameter estimates
1. Respondent sees the lever as a friend	0.01
2. Respondent sees the lever as a coworker	−0.05
3. Respondent goes to the lever for advice	−0.12
4. Lever sees the target as a friend	0.10
5. Lever goes to the target a for advice	0.04
6. Lever sees the target as a coworker	−0.04
7. Target goes to the lever for advice	0.14**
8. Target sees lever as a friend	0.05
9. Target sees lever as a coworker	0.00
10. Respondent sees target as a friend	−0.03
11. Respondent sees target as a coworker	−0.01
12. Respondent goes to the target for advice	−0.00

Standardized betas and one-tailed p-values. $r^2 = 0.08$. Number of usable permutations: 999.
** $p < 0.01$

significant effect in this example: Partner 14, in his conception of lateral control, is sensitive to the fact that the target seeks advice from the lever, and that such a dependence can be used to put pressure on the target. He chooses to make use of the target's social capital to monitor and sanction him/her.

Table III summarizes the distribution of strongly significant determinants for each respondent. Only strongly significant effects ($p < 0.01$) were taken into consideration for inclusion in this table and for interpretation. Consistent with Lazega (1995, 2000), four effects are of particular interest to our study of management of costs of control at the individual level. First, the fact that "target goes to lever for advice" and that "target sees lever as a friend" are important criteria: dependence of the target on the lever for resources is perceived to be a major way of reducing control costs. Many members do play on others' (target's) social capital, especially on their dependence for advice and friendship. This conception of lateral control tends to shift the costs of control to the target, i.e., the person responsible for the infraction. Second, many respondents also look for similarities between lever and target in terms of office location and in terms of level of seniority. Thus, they do tend to try to "smooth" the lateral control process by allocating the control costs to targets close to the levers geographically and in terms of experience (but not specialty), while still counting on the levers' use of the target's dependence on such resources.

Note that these conceptions do not vary strongly based on the amounts of members social capital and status in the firm , i.e., on the more or less central position of

Table III. Overall distribution of the significant effects on each respondent choices of levers analyzed separately

	Effects																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0
5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0
7	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1
9	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
10	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0
12	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	1
13	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
14	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
15	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
16	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0
17	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0
18	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0
21	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
24	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
25	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0
26	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
27	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
28	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	1
30	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
31	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
34	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0
35	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0

1 = significant at least at $p < 0.01$; else 0. To identify each effect, refer to text.

the protagonists of the control drama in the informal structure of the firm. One weak exception to this statement is the levers' centrality score in the influence network. Members whom partners tend to listen to at partnership meetings when discussing firm management issues are more likely than others to incur the costs of lateral control. Shifting to them the cost of lateral control may be seen as a legitimate move, especially since many of them tend to have administrative responsibilities in the firm. However, the lever's or the target's status as measured by their indegree scores in the coworkers, advice, and friendship networks do not weigh heavily on the choices of levers when examined at the individual level.

5. Leverage Styles: The Importance of Seniority

Different ways of managing control costs can be broadly distinguished from these analyses. They form what could be labelled "leverage styles". In these effects, the main differences that can be relied upon for that purpose are between senior, medium seniority and junior partners in their conceptions of how lateral control operates in their firm.

In these conceptions of leverage, senior partners, more than others, tend to use resource dependence and to be business oriented. They tend to concentrate rather than spread the costs of control, and to shift them to a few specialized levers or carefully selected and personally involved levers. They are relatively more sensitive to the fact that the target sees the lever as a friend, and tend to use this resource dependence. They care less than others about similarities between lever and target, especially in terms of seniority and specialty, and therefore about "smoothing" effects. Since they actually do not always know very well who the junior partners are, they rather rely on seniority of levers. This way of managing costs of control makes sense because senior partners tend to have more social capital within the firm than younger ones. They are more central in most networks and can thus afford to use their ties to "live up to their status".

Medium seniority partners, mostly in Boston, tend to think as integrators of the firm, i.e., in terms of avoiding conflicts, more than others. They do use resource dependencies, since they are sensitive to the fact that the target seeks advice from the lever. But they would rather spread the costs of control – even if this means using an "overkill" strategy – and smooth the process by stressing, more than others, similarity in terms of office, seniority and specialty. They tend, more than others, to choose as levers partners central in the influence network; since many of them are precisely central in this network, this fact suggests that they would not tend to shift the costs of control to others, but accept to invest their own social capital (scarcer than that of senior partners) for that purpose. Thus, they rely relatively less on "multi-target levers" than other partners.

Junior partners tend to be more hesitant in their choices of levers, and more careful with their own scarce social capital. They are especially sensitive to their own relationships to the lever and to the target,[7] for instance to the fact that they

consider the target to be their friend. The fact that the "lever sees the target as a friend" is often an important effect to them means that they would not shift such costs to levers unless the levers have a personal incentive to get involved. Most junior partners are in the Hartford office, which reflects a tendency to concentrate leverage in the hands of a few multi-target levers and shift the costs of lateral control to them, rather than spread the costs or invest their own social capital for that purpose. In spite of many differences in terms of commanding social capital, they seem to be closer in their conception of management of costs of control to senior rather than to medium seniority partners.

6. Summary and Conclusion

In this paper, we looked at partners' conceptions of management of costs of lateral control. We combine network analytic insights on perception and manipulation of relations to look at peer-driven intervention on behalf of the collective interest, i.e., at how partners in a corporate law firm think of managing such costs of lateral control to try to contribute indirectly to the protection of common resources and to the maintenance of long term institutional arrangements. Our approach to the lateral control regime is based on data providing information on how members of such a collegial organization think of manipulating each other by matching early monitoring and sanctioning colleagues (called "levers") with potentially trouble-making and free-riding colleagues (called "targets"). We looked at peers' conceptions of lateral control at the individual level. Costs of control are mainly expressed as costs in terms of social capital. For each member, this form of management includes at least an answer to three main dilemmas: (1) Spreading the costs of control among many members or concentrating these costs on a few specialized members; (2) Shifting the costs of control by investing one's own social capital in the lateral control process or playing on others' (the lever's or target's) social capital (i.e., resource dependencies); (3) Paying particular attention to various similarities among protagonists, or disregarding these similarities, when trying to "smooth" the control process by using formal dimensions of firm structure to allocate costs of control.

Our analyses test for such effects at the individual level. We analyze individual matrices separately, and look at the combination of effects for each partner. Results tend to emphasize differences in office membership (Hartford partners spread the cost of control less than Boston partners, and tend to shift these costs to specialized multi-target levers more than Boston levers), and differences in friendship indegree centrality (popular partners in the friendship network also tend spread less and to shift to specialized, carefully selected levers more than less popular respondents). Targets' dependencies on levers for resources tend to be important additional criteria in partners' choices of levers, as well as similarities between lever and target in terms of office location and in terms of level of seniority: the latter criteria are used by partners who try to "smooth" the lateral control process by allocating the control costs to targets close to the levers geographically and in terms of experience (but

not specialty), while still counting on the levers' use of the target's dependence on such resources. Finally, we identify three core ways of managing costs of control, or "leverage styles" (patterns of preoccupations of respondents when they make leverage decisions). These styles tend to combine various ways of spreading and shifting such costs, and characterize three levels of seniority. Seniority appears to be a key variable for a theory of unobtrusive protection of common resources among peers.

This analysis also suggests that a combined theory of management of costs of control expressed in terms of potential losses in social capital, of resource dependencies, and of symbolic recognition of identities and similarities, explains why partners share a common conception of how lateral control operates in their own collegial organization. Peers thus use various but identifiable forms of manipulations of relations among themselves to create a social order in an informal, indirect, preventive, and unobtrusive way. It remains to be seen, however, whether any generalization beyond this particular firm to other collegial firms is valid or not.

Appendix A. Sociometric Name Generators Used to Reconstitute Coworkers, Advice, Friendship, and "Listening" Networks

Here is the list of all the members of your firm.

COWORKERS NETWORK: "Because most firms like yours are also organized very informally, it is difficult to get a clear idea of how the members really work together. Think back over the past year, consider all the lawyers in your firm. Would you go through this list and check the names of those with whom you have worked with. [By "worked with" I mean that you have spent time together on at least one case, that you have been assigned to the same case, that they read or used your work product or that you have read or used their work product; this includes professional work done within the firm like Bar association work, administration, etc.]"

BASIC ADVICE NETWORK: "Think back over the past year, consider all the lawyers in your firm. To whom did you go for basic professional advice? For instance, you want to make sure that you are handling a case right, making a proper decision, and you want to consult someone whose professional opinions are in general of great value to you. By advice I do not mean simply technical advice".

FRIENDSHIP NETWORK: "Would you go through this list, and check the names of those you socialize with outside work. You know their family they know yours, for instance. I do not mean all the people you are simply on a friendly level with, or people you happen to meet at firm functions".

INFLUENCE NETWORK: "Would you go through this list, and check the names of those you consider as influential for important decisions made in the firm, on matters of firm policy for instance; this could include people you pay special attention to when they speak up at partnership meetings, for instance".

Notes

1. On this contribution, particularly in organizations, see also Blau and Alba (1982), Brass (1984), Brass and Burkhardt (1992), Burt and Ronchi (1990), Thurman (1980), White (1992), and Krackhardt and Brass (1994) for a review.
2. As in Morrill's (1995) "atomistic" organizations, partners tend to pursue non-confrontational solutions to conflicts, at least at an early stage. Unlike what happens in such "atomistic" organizations, however, conflicts in such a firm cannot be kept for long from the view of the group, and the non-confrontational method often used for early monitoring and sanctioning is precisely the use of internal "third parties" who help negotiate the problem in the infractor's office.
3. Nelson (1988: 91–92) defines "traditional management" as "characterized by (1) ad hoc and reactive policy-making with little long-range planning; (2) direct administration by leading lawyers, aided only by a part-time managing partner, with no regular monitoring of internal performance measures or financial information; and (3) informally defined and shifting work groups. Bureaucratic management is defined by (1) a specialized policy-making group that actively engages in strategic planning; (2) a developed administrative component consisting of a managing partner and a mechanism for collecting and analyzing data on the financial performance of individual lawyers and work groups; and (3) well-defined work groups (usually taking the form of departments) with recognized heads who supervise the grup and report to the central policy-making group".
4. Strong personal ties sometimes cut across office boundaries, but rarely. We have an example of this in Partner 35's choice of a Hartford partner, Partner 28, to pressure on a Boston partner, Partner 19: "He has a lot of respect for Partner 19. Partner 19 is little understood individually in this firm, especially in Boston. He is dedicated to things. Those who know him love him".
5. Most respondents who systematically choose main multi-target levers (Lazega, 1995) have high hierarchy scores (above 0.95). Partners who believe in the importance of the status of the lever are a mix of partners who do and of partners who do not have much interpersonal and informal status themselves within the firm (Partners 6, 7, 8, 9, 11, 18, 21, 24, 27, 32, 33). Partners with low hierarchy scores, who do not rely much on status (Partners 1, 5, 10, 12, 16, 22, 34) do not have much in common. It should be noticed that two of them (Partners 1 and 5) are among the most influential levers in the firm: thus, partners with very high status in the leverage network may not themselves rely on status for leverage purposes.
6. This is partly due to the past experiences of the Hartford office: "We socialized. [In our office] I'd say we used to socialize until 1980, 1981, when Henderson and Robinson left the firm. They were young partners. I think that cast a spell on the social life of the people in this office. We thought they were good friends, then we found out they had planned to leave for a long time, and they took valuable clients with them. I think we felt that our trust had been betrayed. There was a sense of betrayal because when you are partners you send your clients to another partner because he can solve their problems. This is part of the job of a senior partner: to bring in work and turn it over to young partners. They cultivated the client on a social basis knowing that they would leave, with that purpose in mind. You cannot do anything against that. You can't plan your life around distrust. Everyone is free to go where they want to. But since that time, there hasn't been an active social life among senior partners at the office here. The younger yes, not the older who have not made the effort to host parties and include younger people in social events". (Partner 7)

7. The fact that the variables describing the relationship between respondent and lever rarely have a strong main effect on the choice of levers is partly due to the nature of the question, which puts respondents in a position to worry about the common good, not in a position to promote personal interests directly.

References

Black, D. (ed.) (1984). Social control as a dependent variable. *Toward a General Theory of Social Control*. New York: Academic Press.

Blau, J. R. & Alba, R. P. (1982). Empowering nets of participation. *Administrative Science Quarterly* 27: 363–379.

Brass, D. J. (1984). Being in the right place: A structural analysis of individual influence in an organization. *Administrative Science Quarterly* 29: 518–539.

Brass, D. J. & Burkhardt, M. E. (1992). Centrality and power in organizations. In: N. Nohria & R. G. Eccles (eds), *Networks and Organizations*. Boston, MA: Harvard Business School Press.

Burt, R. S. (1982). *Toward A Structural Theory of Action*. New York: Academic Press.

Burt, R. S. (1992). *Structural Holes*. Harvard University Press.

Burt, R. S. & Ronchi, D. (1990). Contested control in a large manufacturing plant. In: J. Weesie & H. Flap, (eds), *Social Networks Through Time*. Utrecht: ISOR.

Coleman, J. S. (1990). *Foundations of Social Theory*. Cambridge: Harvard University Press.

Ellickson, R. C. (1991). *Order Without Law: How Neighbors Settle Disputes*. Cambridge: Harvard University Press.

Freidson, E. (1975). *Doctoring Together: A Study of Professional Social Control*. New York: Elsevier.

Gargiulo, M. (1993). Two-step leverage: Managing constraint in organizational politics. *Administrative Science Quarterly* 38: 1–19.

Gilson, R. J. & Mnookin, R. H. (1985). Sharing among human capitalists: An economic inquiry into the corporate law firm and how partners split profits. *Stanford Law Review* 37: 313–392.

Hechter, M. (1984). When actors comply: Monitoring costs and the production of social order. *Acta Sociologica* 27: 161–183.

Hechter, M. (1987). *Principles of Group Solidarity*. Berkeley: California University Press.

Heckathorn, D. (1989). Collective action and the second-order free-rider problem. *Rationality and Society* 1: 78–100.

Heckathorn, D. (1990). Collective sanctions and compliance norms: A formal theory of group-mediated social control. *American Sociological Review* 55: 366–384.

Krackhardt, D. (1987). Cognitive social structures. *Social Networks* 9: 109–134.

Krackhardt, D. (1988). Predicting with networks: Nonparametric multiple regression analysis of dyadic data. *Social Networks* 10: 359–381.

Krackhardt, D. (1990). Assessing the political landscape: Structure, cognition, and power in organizations. *Administrative Science Quarterly* 35: 342–369.

Krackhardt, D. (1992). In: N. Nohria & R. G. Eccles (eds), *The Strength of Strong Ties: The Importance of Philos in Organizations*.

Krackhardt, D. (1994). Graph theoretical dimensions of informal organizations. In: K. Carley and M. Prietula (eds), *Computational Organizational Theory*. Hillsdale, NJ: Lawrence Erlbaum Associates, pp. 89–111.

Krackhardt, D. & Brass, D. (1994). Intra-organizational networks: The micro side. In: S. Wasserman & J. Galaskiewicz (eds), *Advances in the Social and Behavioral Sciences from Social Network Analysis*. Beverly Hills: Sage, pp. 209–230.

Kumbasar, E., Romney, A. K. & Batchelder, W. H. (1994). Systematic biases in social perception. *American Journal of Sociology* 100: 477–505.

Lazega, E. (1992a). Analyse de réseaux d'une organisation collégiale: les avocats d'affaires. *Revue Française de Sociologie* 33: 559–589.

Lazega, E. (1992b). Bureaucratie, collégialité et professionnalisme: Etude des structures formelle et informelle des grands cabinets d'avocats d'affaires en Nouvelle Angleterre, Report to the Swiss National Foundation for Scientific Research.

Lazega, E. (1995). Protecting the common good among peers: A lateral control regime, Lasmas Preprint No. 96/1.

Lazega, E. (2000). Rule enforcement among peers: a lateral control regime. *Organization Studies*.

Lazega, E. & S. Vari (1992). Acteurs, cibles et leviers: Analyse factorielle des relations de contrôle indirect dans une firme américaine d'avocats d'affaires. *Bulletin de Méthodologie Sociologique* 37: 41–51.

Lazega, E. & Lebeaux, Marie-Odile (1995). Capital social et contrainte latérale. *Revue Française de Sociologie* 36: 759–777.

Lazega, E. & M. Van Duijn (1997). Position in formal structure, personal characteristics and choices of advisors in a law firm: A logistic regression model for dyadic network data. *Social Networks* 19: 375–397.

Lazega, E. & Pattison, Ph. (1999). Multiplexity, generalized exchange and cooperation in organizations. *Social Networks* 21: 67–90.

Lin, N. (1982). Social resources and instrumental action. In: P. V. Marsden & N. Lin (eds), *Social Structure and Network Analysis*. London: Sage.

Lindenberg, S. (1993). Club hierarchy, social metering, and context instruction: Governance structures in response to varying self-command capital. In: S. Lindenberg & H. Schreuder (eds), *Interdisciplinary Perspectives on Organization Studies*. Oxford: Oxford University Press.

Morrill, C. (1995). *The Executive Way: Conflict Management in Corporations*. Chicago: Chicago University Press.

Nelson, R. L. (1988). *Partners with Power: The Social Transformation of the Large Law Firm*. Berkeley: University of California Press.

Oliver, P. (1980). Rewards and punishments as selective incentives for collective action: Theoretical investigations. *American Journal of Sociology* 85: 356–375.

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Reynaud, J-D. (1989). *Les Règles du Jeu: L'Action Collective et la Régulation Sociale*. Paris: Armand Colin.

Taylor, M. (1987). *The Possibility of Cooperation*. Cambridge: Cambridge University Press.

Thurman, B. (1980). In the office: Networks and coalitions. *Social Networks* 2: 47–63.

Waters, M. (1989). Collegiality, bureaucratization, and professionalization: A Weberian analysis. *American Journal of Sociology* 94: 945–972.

White, H. (1992). Agency as control in formal networks. In: N. Nohria & R. G. Eccles (eds), *Networks and Organizations*. Boston, MA: Harvard Business School Press.

Wittek, R. (1999). Interdependence and informal control in organizations. Doctoral Thesis, ICS, University of Groningen. Amsterdam: Thesis Publishers.

Yamagishi, T. (1986). The provision of a sanctioning system as a public good. *Journal of Personality and Social Psychology* 51: 110–116.