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Governing Alliances: Advancing Knowledge and Controlling Opportunism

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COMMENT: GOVERNING ALLIANCES:

ADVANCING KNOWLEDGE AND CONTROLLING OPPORTUNISM

Susan R. Helper[†]

I want to do a couple of things. First, I would like to comment on Professor Rachelle Sampson's paper¹ in the context of the broad agenda for research that she has laid out and made a lot of strides in carrying forward. Then, I would also like to discuss some of the issues she has raised, but in a somewhat different context.

I will begin with my comments on Rachelle's paper. To summarize her findings: if the hazards are low, then firms should govern R & D with contracts instead of joint ventures in order to reduce bureaucratic costs. However, if they make a mistake and choose joint ventures, firms will receive fewer patents.²

When Rachelle analyzes this, she looks at the factors that would increase the hazards.³ If you have more partners, the relationship is going to be more difficult to govern. Other examples of factors that would increase the hazards would be: (1) Having multiple purposes beyond R & D, such as manufacturing, management, et cetera; (2) Having weak legal protection (in an international context, for example); and (3) The alliance's broad scope – i.e., Is the alliance trying to develop the next generation of products, or is it a minor extension?

So, the main finding is that firms that choose the joint venture when hazards are low get substantially fewer patents. I have not had the chance to study the papers thoroughly, thus, my comments are somewhat limited.

Rachelle has discussed nontraditional means of governance.⁴ I think her work here is a real contribution; these mechanisms are

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¹ See Rachelle C. Sampson, *The Role of Lawyers in Strategic Alliances*, 53 CASE W. RES. L. REV. 909 (2003).

² *Id.*

³ *Id.* at 920.

⁴ *Id.* at 913-14.

understudied, given their importance in practice. What I want to do is raise some questions about the causality. What she finds is that most firms actually do choose governance according to the prescriptions of transaction cost theory. There is a problem when it looks like firms are making mistakes. What we do not know is whether the firm is making a mistake, or whether a firm has different, and hard-to-discover objectives and constraints. One issue may be that a technically difficult project might have both a great potential for unforeseen problems, so that the firm would choose a joint venture, and a low probability of payoff, so that the firm does not receive very many patents. If these factors combine, choosing the joint venture might actually be the correct decision, and the project is just a tough one.

Rachelle makes some attempts to control for this. However, the next generation versus a minor improvement variable, while controlling for the *scope* of the project, may not capture the kind of technical difficulty to which I am referring.

A second issue is one that raises broader issues about transaction cost theory. The firms may have other goals from the collaboration besides maximizing their total patents. One issue may be that what they really want is to get rent or profits from the patents and therefore, they are willing to take a somewhat less efficient overall form of governance if it offers them better control rights. The second issue, therefore, is understanding the details of these agreements and whether contracts or joint ventures have systematically different outcomes or different abilities for firms to control the outcome of the research project.

A third issue, which is also fundamental in transaction cost analysis, is determining the attributes of a transaction. In transaction cost literature, the authors assume that the attributes of a transaction are fixed. It is either a high hazard transaction or a low hazard transaction. Once these attributes are given, agents then decide how they are going to govern it. What sometimes happens in practice, however, is that the sequence goes the other way around. There is a structure that the parties like; maybe they like joint ventures, and they choose the attributes of the transaction to go with that. Or maybe there is a party that you do not trust too much so you design an R & D project that can be governed by a contract.

Alternatively, the agents can choose the governance and the transaction attributes jointly. I suggest that concerns about appropriability as well as efficiency determine how a party structures the

transaction. I will give some examples from my own work that may be useful here.

I also want to discuss other kinds of relationship features that can mitigate this problem of opportunism, or of people taking advantage of each other. Some of this is joint work with John Paul MacDuffie, who is trained as a sociologist, and Chuck Sabel, who teaches at a law school, although he is not a lawyer. We noticed that we actually saw a great deal of collaboration among firms despite the fact that it often seems pretty risky. One of the things that both lawyers and economists share is that we are very risk averse; we pay a lot of attention to the hazards of opportunism. However, one thing that lawyers and economists do not value enough, and that business people may value more, is the opportunities for learning.

Now, I want to discuss some mechanisms that, in practice sometimes allow firms to have the best of both worlds – to both learn about new ways of doing things, and to avoid being victims of opportunism. What I want to discuss is some data from the automotive industry, and switch the context from R & D in the telecommunications industry, to part design and manufacturing in the automobile industry. I believe that there is more similarity than what meets the eye. The thing that makes both R & D and product design difficult, from the theoretical point of view, is that (a) these projects involve a lot of uncertainty and (b) large amounts of money are involved. We are talking about big plants with hundreds of engineers involved for a part development project, with very few contractual restrictions. What happens to the design expenditures if the project fails?

For example, in one case, a supplier company had invested several million dollars in a product design effort with Chrysler for a new minivan in Europe. There was an unforeseen problem, and the minivan was never introduced because it became clear from a marketing point of view that it had to have sliding doors on both sides. This particular minivan was designed without that feature. Chrysler decided to forget the project. They were not going to introduce the new minivan, and the supplier company ended up eating that million-dollar expenditure that they had already put into the project. The number of sliding doors was not a contingency that was foreseen when they designed the contracts, so there was no protection in it. Thus, product design has some surprisingly similar attributes to R & D projects, in that in both cases we are talking about a great deal of money, and we are also talking about contracts that are incomplete, and not fully specified.

Joint product developments between a supplier and a customer appear dangerous, from both a legal and economic point of view; yet, they are quite common. According to survey data I collected in 1993, you actually see almost as much joint product development done in non-vertically integrated cases as in vertically integrated cases. You can think of vertically integrated governance as having similar costs and benefits as the joint venture. In both arrangements there is a common management structure. You also have a similar set of bureaucratic structures.

Another arrangement that is problematic from a transaction-cost point of view is that of the resident engineer, which occurs when a supplier sends one of its engineers to live at the manufacturing plant of its customer. It is problematic in that it is unclear what this person's duties are. The supplier pays for the resident engineer, but often the assembler ends up directing him, telling him what to do. Again, these things are surprisingly common.

What makes this work? I want to suggest some of the mechanisms that were evolved most systematically by Japanese manufacturers, especially Toyota and Honda. We have seen a lot of emphasis in the business literature on how these mechanisms – which we call “pragmatic mechanisms” – promote learning. Total quality management, such as “just-in-time,” are systems that allow you to learn about the process, allow you to manufacture with a greater degree of efficiency.

These mechanisms also have an unforeseen effect in aligning incentives. Thus, they have a governance side as well as a problem solving side. I want to give you a couple of examples of how this works from a study that I did at Honda.

One of the very interesting things during the period, from 1992-1995, that we were working at Honda, was that two of Honda's three U.S. plants were run by lawyers. It is, perhaps, the world's only case of lawyers becoming plant managers.

What are these mechanisms? One of them is bench marking. Often there is a problem in managing where it is difficult to tell when something does not happen (for example, a quality problem was not solved), and you do not know if it was because your partner was lazy or because there were circumstances not under your partner's control. Bench marking allows you to see what the parties should be able to do. If you do this jointly, you can reduce that level of information asymmetry.

The second technique is something called the “Five Whys,” which is an incredibly useful technique. For example, start with a problem of a machine that is not working. Why is the machine not

working? The machine is not working because it overheats. Why does it overheat? We did not do any preventive maintenance on it. Why did we not do any preventative maintenance? Because the engineers are always working on some other machine. Why are they always working on the other machine? Because that machine gets dripped on by a water leak in the roof.

Instead of replacing a very expensive machine, the use of this technique leads us to fix the roof, which might be cheaper. This example is made up, but it does show how using the "Five Whys" allows you to search in ways that are totally unexpected. You focus on Machine A, and it turns out the problem has to do with the roof over Machine B. This example lays out another issue with the theories that both economists and lawyers often use: that we assume we know how to specify the problem in advance.

Economists and lawyers often use principal/agent analysis in thinking about how to organize transactions. A fundamental assumption of this analysis is that the principal knows what she wants the agent to do and just has to design a contract that gives them the incentives to do it. In contrast, the outcome in the machine example above suggests that we may not have a good idea of what we want agents to do.

Another thing that is happening when we use these pragmatic mechanisms is that we are advancing learning. However, we are also, simultaneously, controlling opportunism. One of the ways this happens is that we are making the information symmetric. For example in the case of bench marking and in the case of the "Five Whys," there is a lot of data that is generated that gets exchanged.

I want to give one example involving Honda and a mirror supplier called Donnelly. You can see from this example that these mechanisms start very slowly. How does this fit in with Rachele's argument? Is the use of these pragmatic mechanisms a substitute for more formal governance mechanisms, or is it merely complementing it? I think the dominant effect here is one of substitution. Thus, we start out very small.

Honda comes to the U.S. in the early 1980s and builds a motorcycle plant. Then, Donnelly provides mirrors for them. It is not a huge investment on either side, but they like each other. One of the things that they are doing as they go on with this venture is determining the trustworthiness of their counterparts. How does this happen? From Donnelly's point of view, Honda is an unknown Japanese manufacturer who comes over and wants to do things totally differently. Donnelly has always thought of themselves as very good at manufacturing, but Honda thinks their

plants are terrible. Much of the difference in opinion is due to a different philosophy – Donnelly produces in large batches, while Honda believes more in “Just-in-Time.” To resolve the issue, Honda comes in to Donnelly’s plant and provides an initial gift of several hundred thousand dollars’ worth of technical assistance. This helps Donnelly realize that Honda is both a competent partner and that they are also trustworthy. Simultaneously, Honda is worrying about Donnelly. Honda is trying to figure out whether the reason that Donnelly is not performing to the Honda standard is that they are either: (a) incompetent or (b) opportunistic. Gradually, through the data, such as quality data, that they generate, they are able to decide that Donnelly was a pretty good partner. We then see the investments escalating.

One of the key events occurred in 1989. Donnelly had not yet made any profit on its investment in this relationship with Honda and yet, Honda came and said, “We want you to build an automated paint line. We want you to spend five million dollars.” Donnelly had never painted anything before, but Honda had a focus group that said, “We would like the outside mirrors to match the color of our cars.”

I asked the people involved to describe the governance process used to determine whether Donnelly would make the investment. It consisted of dinner between Donnelly and the purchasing manager at Honda, Dave Nelson. The Donnelly people described it as follows: “Well, when we looked into Dave Nelson’s eyes, we decided we could trust this man.” Of course, it was not quite that simple because there was already seven years of a history, of a relationship. One of the things that Honda was also doing was helping Donnelly with its other customers: “Anything that is a distraction to Donnelly, is a problem for us.”

So, when Donnelly had a problem with its Chrysler business, Honda helped them work on it. The outcome is that Donnelly ends up with a whole set of business in exterior mirrors that they never had before. This was about twenty-five percent of their business in the late 1990s. This was not necessarily an expected outcome when they entered a relationship to build motorcycle parts in the early 1980s.

What is going on here? I had a long discussion with the lawyer, Scott Whitlock, who was the plant manager at Honda at the time. His view was that the key question was, “Do you trust your partner?” And that, sometimes, is not a legal decision – it’s a business decision, but if you do trust them, you can then imagine a

lot of other things happening and a lot of freedom for other opportunities.

What does this mean about the role of lawyers? One role is that rather than assuming the worst about one's partner and insisting on clauses in an agreement to cover every contingency, lawyers could help figure out ways that partners can monitor each other – design ways of gathering information that can be used to both advance knowledge and monitor opportunism.

Another role for lawyers is in designing public policies toward R & D. Lawyers here could think of their role as designing incentive systems that promote social welfare. In the case of R & D, there is a trade off between wanting people to work hard to discover new ideas and avoiding duplication of effort. We do not want different groups of people working hard to find out the same thing twice. Given this tradeoff, how should we design laws about intellectual property? Paradoxically, we might find that it is better, both from a social and a private perspective, to have less intellectual property protection rather than more. For example, one of the things that makes Silicon Valley successful is that people are quite willing to share information about how to solve problems, even if there is no formal alliance structure. As a result, there is much less duplication of efforts, and progress can be very fast because people are not taking time to work out all of the legal details.

