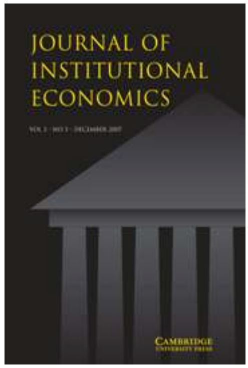

An Interview with Oliver Williamson

Journal of Institutional Economics / Volume 3 / Issue 03 / December 2007, pp 373 - 386
DOI: 10.1017/S1744137407000768, Published online: 09 October 2007

Journal of Institutional Economics (2007), 3: 3, 373–386 Printed in the United Kingdom
 doi:10.1017/S1744137407000768

An Interview with Oliver Williamson

This interview was conducted in Hatfield in England, near to the campus of the University of Hertfordshire, on 20 October 2006. The interviewers were Geoffrey Hodgson of the University of Hertfordshire and David Gindis of the University of Lyon II. The transcript was edited extensively and the final text was approved by Professor Williamson.

GH: In several recent essays you have reflected on the achievements of transaction cost economics. What in your view is the current state of play with the various types of theory of the firm, including transaction cost, property rights, and competence-based approaches?

OW: I regard the economics of organizations as a pluralist enterprise: there are lots of different ways of approaching this subject and we are a long way from of having an adequate understanding of complex economic organization. I think it useful to have many candidate approaches and see what headway these can make, individually and collectively, to move beyond the older view of the firm as a production function or black box. We need to open the box and examine the mechanisms inside to get a better understanding of what is going on and why. Among other things, better theories will lead to better informed public policy.

My Ph.D. training at the Graduate School of Industrial Administration at Carnegie Tech had a huge influence on me in this respect. It was a very interdisciplinary place, especially as it combined economics and organization theory. Also instructive was the year that I spent with the Antitrust Division of the US Department of Justice in Washington DC in 1966–67. Rather than be assigned to the economics division, which was mainly thought of as a litigation support group, my assignment was to fill a new position as Special Economic Assistant to the Head of Division.

Rather than provide litigation support for ongoing cases, I focused instead on the analysis of prospective cases. Also, I felt less constrained to view the neoclassical theory of the firm as an all-purpose construction. Too often, a black box theory of the firm made a tenuous and, sometimes, convoluted connection with key issues.

Vertical integration issues came up in this connection, including the design of the vertical integration guidelines. I was privileged to be a

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part of that discussion. Although there were good and informative articles on the topic, few helpfully informed the kind of decisions that the Division was trying to make with reference to the admissibility of vertical integration.

With the benefit of this background, I organized a seminar at the University of Pennsylvania to go through the vertical integration and vertical market restrictions literature 'exhaustively' in the hope that if there was other work out there that would better suit the needs. Some was, but in general I was disappointed.

Much of the literature was applied welfare economics and appealed to hypothetical ideals rather than to real world choices and their consequences for an ongoing firm. I resolved to see if I could combine economics and organization theory to re-examine these issues in a more productive way. The paper that resulted was 'The Vertical Integration of Production' [1971], which was my first effort to bring transaction costs and information economics together. Once done it was clear that this type of analysis was not restricted to vertical integration.

As this work rolled out, qualifications and new applications began to take place. Other related contemporary work included Armen Alchian and Harold Demsetz [1972] on technological nonseparability, Jacob Marschak and Roy Radner [1972] team theory, and ideas on mechanism design by Leonid Hurwicz [1973] and others. Property rights theories were also taking shape, and agency theory would also appear. Later on the competence-based analytical work on the firm got under way. An 'economics of organization' was in the air. What to make of this cornucopia of theories and which to choose?

My recommendation is that all would-be theories of firm and market organization be examined with respect to the four precepts of pragmatic methodology: first, keep it simple; second, get it right; third, make it plausible; fourth, make predictions and engage in empirical testing to see how the theory corresponds with real world experience. Taking all these precepts together, I would describe the exercise as one of operationalization. All would-be theorists should work through these steps and display their hand. Of these four, prediction and empirical testing constitute the cutting edge.

The possibility of joining several of the approaches to the theory of the firm together in a complementary package is something that we should entertain. However, we do not want to jump prematurely to a composite theory of the firm with a lot of interesting pieces until the relations between them have been worked out adequately. I think that all the approaches that have been mentioned, and others, have merit. They have good people working on them and raising interesting issues. The operationalization of each, however, is vital.

Interestingly, economics seems to be emerging from an era dominated by overarching theories when economists did not feel the need to drawn into particulars. But now the situation is rather different. The action, often, is in the details.

For example, concerning the firm, I am of the view that it is crucial to understand the mechanisms through which different boards of directors work. Here as elsewhere the object is to use the lens of contract to work through the issues in a modest, slow, molecular and definitive way.

I think that TCE is a productive research approach but not to the exclusion of others. If other ways make better contact and are more informative, then they should be tried.

DG: You are the foremost contributor to operationalization of tranaction cost economics. In your critical discussion of the competence-based approach in the *Strategic Management Journal* [Williamson, 1999], you considered that the competence approach was insufficiently operational (at least because the governance approach had a head start). Do you think that there has been any notable progress in this approach in recent years? For instance, what is your view of work on empirical testing of predictions based on competence perspectives? I am thinking of a paper by Laura Poppo and Todd Zenger [1998] where they test several theories, including transaction cost and competence approaches. They test predictions of vertical integration, disintegration and so forth, and they find different conclusions. Sometimes they corroborate transaction cost economics, in other cases they do not.

OW: There are many good people working on the competence approach, Poppo and Zenger included. But I would have more confidence in this approach if I knew what the basic unit of analysis was, the dimensions with respect to which the unit of analysis varies, the logic out of which competence works, and the predictions that the theory makes. As things stand I am confident that there has been headway, but I am not aware of something that I would call a predictive theory of economic organizations, which has a central hypothesis in which the key features have been operationalized. As with early uses of transaction costs, there are too many degrees of freedom and too much *ex post* rationalization.

GH: Your 1975 book famously compares markets with hierarchies. However, you have written more recently of a continuum between markets and hierarchies. What are the implications of this for the boundaries of the firm? First, if all firms and markets are on a continuum, then does this mean that a firm has no boundaries? Second, how do you define the ends of the continuum, and what in particular defines a firm?

OW: Transaction cost economics appeals to Herbert Simon's insight that alternative modes of organization differ in discrete structural ways. The obvious way to start was with polar modes: markets and hierarchies. The critical question then was what are the key attributes for describing governance structures and what are the clusters of attributes that describe markets and hierarchies and are responsible for their performance differences. But that is just a start. As I and others got working on contract it was clear that there were intermediate modes of contracting – hybrid modes of organizations that work off of credible commitments, and these provide another cluster. Japanese outsourcing involves hybrid modes of contracting. Some people talk about a swollen middle but they do not name the characteristics that are associated with this. I think that the expression 'swollen middle' is ill advised.

One of the tasks that I have enjoyed working on is the defining characteristics of hybrid modes. We need a theory that informs us of the attributes of these and other clusters, how these convert to differential performance attributes, and how these line up with transactions. Transaction cost economics does not exhaust the issues but it makes a serious effort to nail down those features and develop a predictive theory.

What defines a firm at the end of the continuum? I take the defining characteristics of governance structures to be incentive intensity, administrative control, and the contract law regime. Firms combine relatively low powered incentives with a lot of control instruments and use hierarchy rather than courts to settle disputes. Markets are polar opposites, and hybrids are located in between.

Innovation poses special challenges. Transaction cost economics can speak to some of these but it does not have a well-rounded explanation. You can interpret some of these features in terms of the need to act rapidly in real time in a high velocity environment, where rivals are numerous and all are aspiring to win the prize at the end of the race. Incidentally, in circumstances where timeliness is of the essence, one has to suspend equilibrium-type views of organizations.

Overall, I see the firm as a mode of contracting that uses unified ownership and an authority relation to promote coordinated adaptation, which includes real time adaptation to disturbances, real time development of convergent expectations, has weaker and longer term career incentives, and has its own dispute settlement mechanisms. Entrepreneurial firms are a special challenge. In terms of theoretical analysis, another generation of economists is going to have to come up with the answers.

Each viable mode of organization involves a syndrome of attributes. When attributes are combined in an appropriate way, the organization that comes out is recognizably a firm, a hybrid, or a market.

The last point that I would like to make here is that it is less informative to think of governance structures in a stand-alone way than in a comparative manner. Continuously thinking comparatively and deriving predictions that permit testing of a comparative institutional kind explains the empirical interest in this area of research.

GH: Several people have raised the question of what kind of 'glue' holds an organization together. What makes the firm an entity, and what makes such entities more cohesive towards the hierarchy end of the continuum than at the other end?

OW: The notion of glue is intriguing. Is there a definition of glue?

GH: It is just a metaphor, suggesting something that holds social entities together in a more durable way than in occasional social structures that may quickly disappear.

OW: I'm sure that the ideas of socialization and of culture are important here. There is cultural socialization within society and within the firm. There are shared insights and experiences and understandings. There is an informal as well as a formal aspect to organization that goes back to Chester Barnard in 1938. I don't think that our knowledge of informal organization has been as complete and as systematic as it could and should be. In that connection I am a firm believer that the economics of organization should learn from organization theory.

If the glue is important we need to know more about it and when and why it matters more and when less. Let's try to understand it by explicating how exactly the glue manifests itself, when is it especially important, what's the downside associated with it, when are the benefits most important and what form do they take. I do not deny that it might be an important part of the understanding of organization, but I think that the people that introduce terms and insist on their importance and say that they are not currently or adequately reflected in transaction cost economics of other theories have an obligation to work out the mechanisms in such a fashion that can be understood.

DG: The question of glue is raised in the theory of the firm. Oliver Hart introduced it in his 1995 book.

OW: Oliver Hart may have borrowed the term. I don't recall that he develops it. He is an excellent economist, but he is not an organization theorist.

DG: Raghuram Rajan and Luigi Zingales [Zingales, 2000; Rajan and Zingales, 2001] have also been talking about this issue. Again in your 1999 paper you raised the concept of atmosphere, which in 1975 was originally intended to convey the idea that the firm as a whole is more than the sum of the parts. As far as I can tell, these notions have not played a role in transaction cost economics. Can you tell us more about atmosphere and how you feel it plays the role of conveying this idea of the firm as a whole as more than the sum of its parts, and if there could be other issues that could enter the picture.

OW: It struck me when I was writing about markets and hierarchies and the role of informal organization that you should not try to quantify everything. If you do, then you may transform the relationship from one of mutual give and take into one of adversarialness. Some things that are better left in an informal way to which both parties can relate and infer from the relationship. An amount of added responsibility and judgement would implied. At that time I was also interested in some of Albert Hirschman's [1970] ideas on loyalty. I was trying to understand what were the important features. Maybe atmosphere was related to some of them. I actually attended a conference and wrote a paper in which I tried to explicate atmosphere. On the one hand it seemed an important concept and on the other it was hard to give a specific content. I actually invited one of my Yale colleagues who embraced the concept to work on this with me jointly but he declined. Although I let it drift away, that does not mean that I don't think that it is important. I haven't been able to persuade any of my students to take it up and work it through. In immediate terms it seems a dead end. I am still intrigued by the concept of atmosphere but it is not something that I am currently active or plan to be active in.

GH: You have a famous phrase with a Biblical ring: 'in the beginning there were markets' [Williamson, 1975: 20]. I know that you are not an economic historian. It is clear that this statement is rhetorical and it is part of your analytic scheme. But I would be interested to hear your view on the question of when historically did markets became prominent: when did they first emerge? I would ask a similarly historical question on the origins of the firm. Could you give some ballpark suggestions?

OW: I just don't think that these are questions that I am well-suited to answer. I've read what anthropologists and others have had to say, but not in an exhaustive and definitive way. It is not something that I've tried to pin down in terms of years.

GH: Let me put these questions slightly differently. There is a recent piece in the *Journal of Economic Perspectives* by Peter Temin on the Roman Empire. He argues (against Karl Polanyi and others) that Rome was actually a market society. It did not have very well developed capital markets but they did exist, and there were organized markets for many other commodities that extended their reach over the whole Empire. This view would be consistent with other economic historians who see developed market organizations first emerging within ancient civilizations. Would you be constant with that view? Or would you say the earlier beginnings of inter-communal trade, going back tens of thousands of years, amount to the emergence of markets?

OW: Well you could think of markets as being at the beginning of time when people met at the edge the forest and exchanged nuts for berries. The benefits of exchange were quick to be realized, and such exchanges preceded large hierarchical structures. But the main reason for the statement of mine you quote is that you've got to start the analysis somewhere. You could start with the neoclassical theory markets and market failures and interpret hierarchies as a response to market failures. But a sociologist might start with hierarchies and hierarchical failures and interpret markets as a response to hierarchical failures. I think, however, that the literature on markets and market failures is in a lot better shape than the theory of hierarchies and hierarchical failure. In that event, viewing hierarchies as a solution to market failures is a more natural way to go. But if the literatures on both sides develop equally and symmetrically, then it is a toss-up.

GH: I want to raise another point that interested me in your early work. You repeated in a couple of places, as far as I am aware. Again it seems worthy of development and I would like to have your views about it. In the transaction cost approach, a governance structure survives or not according to its transaction cost efficiency. My question is: *how* are transaction costs reduced within governance structures? Is it largely by design and the efforts of managers? Do people become aware internally of the level of transaction costs and try to reduce them, so that they can survive against competing structures? Or does the process of competition lower transaction costs by evolutionary selection: managers are less aware of transaction costs and those firms that happen to have higher transaction costs do not survive? Or could it be a combination of these mechanisms? This raises the question of the role of evolutionary ideas in helping us to understand this process. Is there a place in your argument for an evolutionary theory, particularly in helping to explain how transaction cost reductions occur in different governance structures?

OW: I think that both of these processes are operative. I was intrigued as a student by Armen Alchian's 1950 paper on economic natural selection. There were many people around Carnegie that were interested in it too. It became part of the discussion that took place within the behavioural theory of the firm. Dick Nelson was a visitor and was interested in these issues. One of the attractions of economic natural selection is that it relieved the need to appeal to 'maximization', so it fitted into Carnegie views about bounded rationality. But nobody subscribed to natural selection in an unqualified way.

Much of my interest has been with dealing with contractual problems. Consulting firms have picked up some of the ideas from transaction cost economics in this regard, particularly with its understanding of the reasons for outsourcing. I made a visit to the Ford Motor Company early on to talk with their procurement people and lawyers. I was astonished that within fifteen minutes that we could understand each other, sometimes using different words. I could see that the company was re-thinking procurement and trying to get itself out of rigid boxes that they had put themselves into years before.

On another occasion I was advising an oil company about exchange agreements. There was a long list of antitrust offences of which the petroleum companies were purportedly guilty, and one of these was exchange agreements. So I asked the oil company managers for their explanation for these exchange agreements. They said well they're efficient. I said tell me about it. They said that if we have surplus in one area and you have surplus in another and if both of us have needs in each other's territories, then a bilateral exchange agreement reduces our transportation costs. I responded that there is another way of doing this. Why don't you just report your deficits and surpluses to a central authority? They didn't like that question at all.

I left it at that for a long time but came back to the issue after I started working on credible commitments, when I was able to see that there was a possible transaction cost rationale behind it, provided that certain preconditions were satisfied. This entailed looking at the micro analytics of the transaction. Once we can get to the underlying features, a deeper understanding of such puzzling practices often results.

GH: Your answer suggests that to a large degree one can appraise transaction costs internally in a firm and derive adaptive strategies for the firm in this way. Similarly, could we compare different modes of organization in terms of their capacities to reduce transaction costs?

OW: I think that you can do a lot of this comparatively. Trying to take absolute measures is difficult partly because the reference criterion is obscure. Reference to a hypothetical ideal of zero transaction costs means what? Unbounded rationality? Three-way common knowledge? Zero measurement costs? Comparing governance structure A with governance structure B with respect to the adaptive needs of transaction T does not require absolute measures and is often informative.

GH: There is a view that firms are not very adaptable. They tend to get locked into groupthink and fixed mindsets. When presented with problems they are not particularly capable of dealing with the solutions. What matters in these circumstances are the competitive forces that bear down upon them. This would mean that for industry evolution, competitive selection is more important than individual firm adaptation, as Michael Hannan and John Freeman [1989] have argued.

OW: This is true. One of the reasons why I think of the firm as the organization form of last resort is that the firm is beset with bureaucratic costs that probably deepen over time. There are times when transactions can be taken out of the markets and placed in the firm in the confident expectation that cost savings will appear. But that does not mean that these cost savings are going to be there indefinitely. One of the reasons is that bureaucratic costs build up. Another possibility is that circumstances change and markets are now better than they were, yet people managing transactions in organizations are happy to continue their business in their usual mode, until something comes along to shake the beast. It might be in the form of new management; it might be the competition that dictates the change.

DG: I am sure that you are aware in recent years there has been growing interest in the entity theory of the corporation. I am thinking of works of people like Margaret Blair [2004] and Henry Hansmann [Hansmann, Kraakman, and Squire, 2006]. This idea is more associated with scholarship in corporate law but it has been used increasingly in the economics of the firm. In your account of the origins, evolution and attributes of the modern corporation, especially in your 1981 paper, you base the story of the evolution of the modern corporation on informed internal organizational choices. You completely exclude the legal entity status, such as the legal doctrine of partnership or of the corporation. How would you go about including the evolution of legal doctrine, especially the evolution of the conception of legal entity status of the corporation into the transaction cost accounts? Is this clearly a case of combining an institutional arrangement and institutional environment?

OW: It relates to the question of rules of the game in which organizations play. I do feel that the rules of the game are important and they can be facilitating or they can be constraining. Once the rules of the game are in place, they too are resistant to undoing. I have tried to put these issues in perspective in my treatment of the New Institutional Economics. But I view myself as a consumer of these ideas rather than a producer. If there are contributions that are especially important, and people can demonstrate where they have prospective influence in ways that differ from a unchanging playing field approach, then I am interested in knowing the claimed consequences. I don't think that the rules of the game is a research project for which I have the necessary background, but yes these two can be and should be combined..

GH: This flows on from David's last question about entity theories and the firm, and the legal theories of Hansmann, Blair and others. My question is about private ordering, which you emphasize a lot. There is a debate, involving Itai Sened [1997] and others, about the role of private ordering in giving rise to elemental institutions. Clearly there is a tradition in economics going back to Adam Smith that recognizes the importance of privately ordered arrangements, but on the other hand there are arguments concerning the role of the state as an adjudicator or an enforcer of contracts, and a sustainer of a system of law. Where do you see yourself in regard to these positions? Would you wish to continue to put the emphasis on private ordering to the exclusion of the necessary role of the state, or would you see some role for the state in the process of enforcing contracts and property rights?

OW: In my paper on the New Institutional Economics in the *Journal of Economic Literature* in 2000 I set out a framework with several levels including a cultural level and a rules of the game level. The analytical action is in the play of the game, but it is conditioned by the environment in which the players participate, including both the informal and formal structures. I am persuaded that the framework within which you play has a huge influence. In this respect, developments in political theory over the past fifteen years have been important and in a lot of respects link more with transaction cost economics than with earlier traditions that do not join politics and economics. Positive political theory does deal with the rules of the game in an interactive fashion and in some respects draws on transaction cost types of reasoning. I think that we are a long ways from having a deep understanding of the game but I do think that taking the good ideas and providing operational content to the rules of the game is an enormously important research project to undertake. I regard myself as an interested reader and consumer. Contract enforcement by the state is important, but its importance varies among transactions.

DG: In the introduction to the 1990 book *The Firm as a Nexus of Treaties*, you stress that the term 'nexus of treaties' is somewhat broader than the interesting but controversial new term 'nexus of contracts' because the term contract often carries unwanted legal meanings. But as far as I can tell the term nexus of treaties has not been developed further, neither by yourself nor your co-editors. Furthermore, you state that the substitution of the term treaties for contracts brings private ordering forcefully on to the floor. However on reading your recent papers, all private ordering is linked to contracts [Williamson, 2002a, 2002b]. So in the end what is the difference between the two, and how does nexus of contracts link to private ordering as opposed to nexus of treaties?

OW: Well some things work and some things don't fly. Treaty is a less legalistic term than contract. Treaties has its advantages but perhaps it is too open-ended. Some of this relates to critiques by the legal realists who had serious concerns with thinking about and teaching about contracts in a strictly legalistic way. Karl Llewellyn contested the idea of contract as legal rules by introducing the idea of contract as framework. The notion of a nexus of treaties is in the spirit of Llewellyn. I think the whole idea of there being a hybrid form of organization with implicit contracts is more in the spirit of Llewellyn. There has been a lot of progress in thinking about contracts that isn't so constrained by the legal rules of tradition.

DG: Coming back to some points mentioned earlier, I refer again to your 1999 paper, and in particular one of its later sections, which is particularly interesting, entitled 'Beyond Piecemeal'. You make two important points in that section, first that examining transactions as if they are independent will not do if there are considerable contractual interactions between them, and second that there is a troublesome argument of aggregation that must be addressed. You also say that transaction cost economics can gain from investigating holistic consequences. We know that aggregation has always been a thorny issue in economics. How would you react to these issues today?

OW: Aggregation involves scaling up and I think that transaction cost economics actually does in a primitive way permit scaling up, moving across a series of transactions thereby to describe the boundary of the firm. There are other theories of the corporation that recognize that scaling up is a problem, including the nexus of contracts approach of Michael Jensen and William Meckling [1976]. But they are mainly addressing the finance of the firm. They start with an entrepreneurial firm 100% owned by the entrepreneur, and then consider selling off fractions, tracing the consequences. Their stated ambition is to deal with a modern corporation rather than this toy set up and they were confident that they could develop this in a later paper. That was 1976 and it is now its 2006 and we still haven't seen that later paper. It is not easy to do. If you take the Sanford Grossman, Oliver Hart and John Moore approach [Grossman and Hart, 1986; Hart and Moore, 1990], they deal with transactions and ownership but do not address scaling up.

The possibility that there are strong interaction effects among transactions conflicts with the basic idea that transactions take place between separable stages of production. Within stages, interactions are strong. Between stages, interactions are weak. This relates to Simon's treatment [1962] of decomposing systems into subsystems. Now maybe in practice we sometimes get that wrong. If we have failed to pick up on strong interactions, we will treat some non-separable transactions as though they were separable, which then leads to organizational error. Obviously that is something that we want to avoid. So if there are subtle but real interactions that are properly taken into account, we want to be advised of these. After these are pointed out we have to redefine transactions so as to deal with the realities of non-separability.

My view is that the basic transaction cost economics works, provided that we have defined everything including transactions more or less appropriately. As, however, you get beyond the boundaries of the simple kind of firm, such as the corporation with multi-plant operations on a worldwide scale, then we need a theory that pulls this all together in a coherent way. It's pretty ambitious but I have been encouraged that a number of my students have found ways to deal with contracting for international make-or-buy transactions as these vary across nation states that employ different rules of the game. There is reason to believe that the basic framework is conceptually robust and that it can be expanded to incorporate added complications. But if there is a better framework for looking at economic organization, so be it.

DG: This is a question that you have probably heard several times before. Today large firms increasingly outsource a lot of activity. This is true in the automobile industry for example. Most of these activities that are outsourced still do involve high transaction specificity, frequency and uncertainty. However, transaction cost economics predicts vertical integration in cases of higher specificity, frequency and uncertainty. So how would you explain the outcome of vertical disintegration, which seems to be the opposite prediction of transaction cost economics? Does this mean that there are other factors or attributes of the transactions or the environment that are influencing these decisions? Does this mean in some sense that transaction cost economics is a historically contingent theory, one working well for older Chandlerian firms and much less well for newer organizations that are more networked and flexible? Has the nature of the firm changed?

OW: I'm sure that the nature of the firm is continuously changing. When I was visiting Japanese manufacturing firms with my Japanese host in the early 1980s we were interested in better understanding outsourcing decisions and how Japanese economic organizations differed and worked. There were any number of candidate theories that people were pushing and books on the Japanese miracle were selling with popular titles. I am satisfied that differences in the rules of the game were important. Transaction cost economics predictions about specificity, uncertainty, and frequency assume that other things are equal. Toyota and other Japanese firms are working in a specific social, political, legal and economic environment that is not universally observed around the world.

So part of the answer is that the Japanese institutional environment supported the practice of outsourcing. But I also think that many of the business decisions in Detroit had been wrong-headed. Too much engineering, so you get too much integration as at River Rouge, and not enough comparative contractual economics. Competition from the Japanese helped to change that.

I was also however impressed that Toyota outsourced in a hard-headed way. Suppliers that produced quality product on schedule according to the terms of the agreement reinforced their likelihood of getting their contract renewed and maybe more. Suppliers that underperformed were subject to penalties, terminations, or drastic reductions in business.

Additionally I was impressed that the Japanese created supplier associations. In part these associations served as a credible commitment. Maybe they had other purposes, but that is the transaction cost interpretation. Toyota and its suppliers realized that they were in this together and that they had shared interests in preserving ongoing relations. But note that while the idea of credible commitments is a user-friendly concept, it should be employed in a hard-headed way. It is reserved for those transactions for which continuity matters.

Transaction cost economics relates to that in a fairly inclusive fashion. And I think that it can be extended to include changes in information technologies. So I don't see where the breakdown is, but I don't hold that transaction cost economics is the only interpretation.

GH: Oliver, have you got any thing that you would like to add, perhaps in terms of a summary statement?

OW: The summary statement that I would like to add would be that the economics of organizations has been and is an exciting research arena. Participating in this has been satisfying to me and others and I think that the new generation of scholars can recognize that their predecessors have made headway. But there are also limitations and big challenges ahead. So let's push the boundaries.

GH: I wish to thank you for participating in this interview and for your inspiring contribution to this area of research.

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