

Comparative Economic Organization

The Analysis of Discrete Structural Alternatives

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PREFACE

We are pleased to publish *Comparative Economic Organization: Discrete Structural Alternatives*, by Oliver E. Williamson, as the fifty-fourth in our series of Occasional Papers, which present reflections on broad policy issues by noted scholars and policy makers. This paper examines issues that are important in determining how economic organizations react and adapt to changing circumstances and disturbances. The manner of their reaction and adaptation is the central problem facing economic organizations and may determine whether they succeed or fail. To this end, the paper unifies two areas of institutional economics that until now have been largely separate—the institutional environment and the institutions of governance. Dr. Williamson's approach combines institutional economics with aspects of contract law and organization theory.

In his analysis, the author identifies the key differences that distinguish three basic forms of economic organization: the market, hierarchy, and a combination of the other two. Each form has its own logic, which is revealed when its governance structures are explored and made explicit. He observes that each organizational form is supported and defined by a distinctive type of contract law and that each has distinctive coordinating and control mechanisms—for example, the mediating regulatory agencies of the hybrid mode. He uses transaction-cost economics to analyze how changes in the institutional environment bring about shifts in the comparative costs of governance, and he investigates changes in property rights, contract law, reputation effects, and uncertainty.

Dr. Williamson is Transamerica Professor of Business, Economics, and Law at the University of California, Berkeley, and senior research

scientist of the Institute for Policy Reform. As a leading interdisciplinary thinker on organizations, he provides a comparative analysis that will be of substantial value to all who must consider policy in the world of economic and institutional change.

Nicolás Ardito-Barletta
General Director
International Center for Economic Growth

Panama City, Panama
June 1994

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Oliver E. Williamson is Transamerica Professor of Business, Economics, and Law at the University of California, Berkeley, and senior research scientist of the Institute for Policy Reform. Educated at the Massachusetts Institute of Technology, Stanford University, and Carnegie-Mellon University, Dr. Williamson holds a Ph.D. in economics and has taught at the University of Pennsylvania, Yale University, Harvard University, the University of Kyoto, and a number of other major universities in the United States and abroad.

Dr. Williamson has been widely honored for his scholarly contributions in economics, law, and business administration. He is a member of several editorial and advisory boards and has served as a consultant in the public, private, and nonprofit sectors. He is the author or volume editor of a dozen books and a large number of articles and reviews. Among his recent books are *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting* and (edited with Sidney Winter) *The Nature of the Firm*.

OLIVER E. WILLIAMSON

Comparative Economic Organization

The Analysis of Discrete Structural Alternatives

Although microeconomic organization is formidably complex and has long resisted systematic analysis, that has been changing as new modes of analysis have become available, as recognition of the importance of institutions to economic performance has grown, and as the limits of earlier modes of analysis have become evident. Information economics, game theory, agency theory, and population ecology have all made significant advances.

This paper approaches the study of economic organization from a comparative institutional point of view in which transaction-cost economizing is featured. Comparative economic organization never examines organization forms separately but always in relation to alternatives. Transaction-cost economics places the principal burden of analysis on comparisons of transaction costs—which, broadly, are the “costs of running the economic system” (Arrow 1969, 48).

My purpose in this paper is to extend and refine the apparatus out of which transaction-cost economics works, thereby responding to some of the leading criticisms. Four objections to prior work in this area are especially pertinent. One objection is that the two stages of the new institutional economics research agenda—the institutional environment and the institutions of governance—have developed in disjunct ways. The first of these paints on a very large historical canvas and emphasizes the institutional rules of the game: customs, laws, politics (North 1986).

The latter is much more microanalytic and focuses on the comparative efficacy with which alternative generic forms of governance—markets, hybrids, hierarchies—economize on transaction costs. Can this disjunction problem be overcome?

Second, transaction-cost economics has been criticized because it deals with polar forms—markets and hierarchies—to the neglect of intermediate or hybrid forms. Although that objection has been relieved by recent treatments of long-term contracting in which bilateral dependency conditions are supported by a variety of specialized governance features (hostages, arbitration, take-or-pay procurement clauses, tied sales, reciprocity, regulation, etc.), the abstract attributes that characterize alternative modes of governance have remained obscure. What are the key attributes and how do they vary among forms?

This is responsive to the third objection—namely, that efforts to operationalize transaction-cost economics have given disproportionate attention to the abstract description of transactions as compared with the abstract description of governance. The dimensionalization of both is needed.

Finally, there is the embeddedness problem: transaction-cost economics purports to have general application but has been developed almost entirely with reference to Western capitalist economies (Hamilton and Biggart 1988). Is a unified treatment of Western and non-Western, capitalist and noncapitalist economies really feasible?

This paper attempts to address these objections by posing the problem of organization as one of discrete structural analysis, to which I now turn.

Discrete Structural Analysis

The term discrete structural analysis was introduced into the study of comparative economic organization by Simon (1978, 6–7), who observed that

As economics expands beyond its central core of price theory, and its central concern with quantities of commodities and money, we observe in it . . . [a] shift from a highly quantitative analysis, in which equilibration at the margin plays a central role, to a much

more qualitative institutional analysis, in which discrete structural alternatives are compared. . . .

Such analyses can often be carried out without elaborate mathematical apparatus or marginal calculation. In general, much cruder and simpler arguments will suffice to demonstrate an inequality between two quantities than are required to show the conditions under which these quantities are equated at the margin.

But what exactly is discrete structural analysis? Is it employed only because “there is at present no [satisfactory] way of characterizing organizations in terms of continuous variation over a spectrum” (Ward 1967, 38)? Or is there a deeper rationale?

Of the variety of factors that support discrete structural analysis, I focus here on the following:

1. Firms are not merely extensions of markets but employ different means.
2. Discrete contract law differences provide crucial support for and serve to define each generic form of governance.
3. Marginal analysis is typically concerned with second-order refinements to the neglect of first-order economizing.

Different means. Although the study of economic organization deals principally with markets and market mechanisms, it is haunted by a troublesome fact: a great deal of economic activity takes place within firms (Barnard 1938; Chandler 1962, 1977). Conceivably, however, no novel economizing issues are posed within firms, because technology is largely determinative—the firm is mainly defined by economies of scale and scope and is merely an instrument for transforming inputs into outputs according to the laws of technology—and because market mechanisms carry over into firms. I have taken exception with the technology view elsewhere (Williamson 1975). Consider therefore the latter.

In parallel with von Clausewitz’s (1832) views on war, I maintain that hierarchy is not merely a contractual act but is also a contractual instrument, a continuation of market relations by other means. The

challenge to comparative contractual analysis is to discern and explicate the different means. As developed in the following sections, each viable form of governance—market, hybrid, and hierarchy—is defined by a syndrome of attributes that bear a supporting relation to one another. Many hypothetical forms of organization never arise, or quickly die out because they combine inconsistent features.

Contract law. The mapping of contract law onto economic organization has been examined elsewhere (Williamson 1979, 1985). Although some of that is repeated here, there are two significant differences. First, I advance the hypothesis that each generic form of governance—market, hybrid, and hierarchy—needs to be supported by a different form of contract law. Second, the form of contract law that supports hierarchy is that of forbearance.

Classical contract law. Classical contract law applies to the ideal transaction in law and economics—“sharp in by clear agreement; sharp out by clear performance” (Macneil 1974, 738)—in which the identity of the parties is irrelevant. “Thick” markets are ones in which individual buyers and sellers bear no dependency relation to each other. Instead, each party can go its own way at negligible cost to another. If contracts are renewed period by period, that is only because current suppliers are continuously meeting bids in the spot market. Such transactions are monetized in extreme degree; contract law is interpreted in a very legalistic way: more formal terms supersede less formal should disputes arise between formal and less formal features (for example, written agreements versus oral amendments), and hard bargaining, to which the rules of contract law are strictly applied, characterizes these transactions. Classical contract law is congruent with and supports the autonomous market form of organization (Macneil 1974, 1978).

Neoclassical contract law and excuse doctrine. Neoclassical contract law and excuse doctrine (which relieves parties from strict enforcement) apply to contracts in which the parties to the transaction maintain autonomy but are bilaterally dependent to a nontrivial degree. Identity plainly matters if premature termination or persistent maladaptation would place burdens on one or both parties. Perceptive parties

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of both Parties to act promptly and in good faith to determine the action required to cure or adjust for the inequity and effectively to implement such action. Upon written claim of inequity served by one Party upon the other, the Parties shall act jointly to reach an agreement concerning the claimed inequity within sixty (60) days of the date of such written claim. An adjusted base coal price that differs from market price by more than ten percent (10%) shall constitute a hardship. The Party claiming inequity shall include in its claim such information and data as may be reasonably necessary to substantiate the claim and shall freely and without delay furnish such other information and data as the other Party reasonably may deem relevant and necessary. If the Parties cannot reach agreement within sixty (60) days the matter shall be submitted to arbitration.

By contrast with a classical contract, this contract (1) contemplates unanticipated disturbances for which adaptation is needed, (2) provides a tolerance zone (of ± 10 percent) within which misalignments will be absorbed, (3) requires information disclosure and substantiation if adaptation is proposed, and (4) provides for arbitration in the event voluntary agreement fails.

The forum to which this neoclassical contract refers disputes is (initially, at least) that of arbitration rather than the courts. Fuller (1963, 11–12) described the procedural differences between arbitration and litigation:

There are open to the arbitrator . . . quick methods of education not open to the courts. An arbitrator will frequently interrupt the examination of witnesses with a request that the parties educate him to the point where he can understand the testimony being received. This education can proceed informally, with frequent interruptions by the arbitrator, and by informed persons on either side, when a point needs clarification. Sometimes there will be arguments across the table, occasionally even within each of the separate camps. The end result will usually be a clarification that will enable everyone to proceed more intelligently with the case.

Such adaptability notwithstanding, neoclassical contracts are not indefinitely elastic. As disturbances become highly consequential, neo-

classical contracts experience real strain, because the autonomous ownership status of the parties continuously poses an incentive to defect. The general proposition here is that when the "lawful" gains to be had by insistence upon literal enforcement exceed the discounted value of continuing the exchange relationship, defection from the spirit of the contract can be anticipated.

When, in effect, arbitration gives way to litigation, accommodation can no longer be presumed. Instead, the contract reverts to a much more legalistic regime—although, even here, neoclassical contract law averts truly punitive consequences by permitting appeal to exceptions that qualify under some form of excuse doctrine. The legal system's commitment to the keeping of promises under neoclassical contract law is modest, as Macneil (1974, 731) explained:

Contract remedies are generally among the weakest of those the legal system can deliver. But a host of doctrines and techniques lies in the way even of those remedies: impossibility, frustration, mistake, manipulative interpretation, jury discretion, consideration, illegality, duress, undue influence, unconscionability, capacity, forfeiture and penalty rules, doctrines of substantial performance, severability, bankruptcy laws, statutes of frauds, to name some; almost any contract doctrine can and does serve to make the commitment of the legal system to promise keeping less than complete.

From an economic point of view, the tradeoff that needs to be faced in excusing contract performance is between stronger incentives and reduced opportunism. If the state realization in question was unforeseen and unforeseeable (different in degree and/or especially in kind from the range of normal business experience), if strict enforcement would have truly punitive consequences, and especially if the resulting "injustice" is supported by (lawful) opportunism, then excuse can be seen mainly as a way of mitigating opportunism, ideally without adverse impact on incentives. If, however, excuse is granted routinely whenever adversity occurs, then incentives to think through contracts, choose technologies judiciously, share risks efficiently, and avert adversity will be impaired. Excuse doctrine should therefore be

used sparingly—which it evidently is (Farnsworth 1968, 885; Buxbaum 1985).

The relief afforded by excuse doctrine notwithstanding, neoclassical contracts deal with consequential disturbances only at great cost: arbitration is costly to administer and its adaptive range is limited. As consequential disturbances and, especially, highly consequential disturbances become more frequent, the hybrid mode supported by arbitration and excuse doctrine incurs added costs and comes under added strain. Even more elastic and adaptive arrangements warrant consideration.

Forbearance contract law. Internal organization—hierarchy—qualifies as a still more elastic and adaptive mode of organization. What type of contract law applies to internal organization? How does this have a bearing on contract performance?

Describing the firm as a ‘‘nexus of contracts’’ (Alchian and Demsetz 1972; Jensen and Meckling 1976; Fama 1980) suggests that the firm is no different from the market in contractual respects. Alchian and Demsetz (1972, 777) originally took the position that the relation between a shopper and his grocer and that between an employer and employee was identical in contractual respects:

The single consumer can assign his grocer to the task of obtaining whatever the customer can induce the grocer to provide at a price acceptable to both parties. That is precisely all that an employer can do to an employee. To speak of managing, directing, or assigning workers to various tasks is a deceptive way of noting that the employer continually is involved in renegotiation of contracts on terms that must be acceptable to both parties. . . . Long-term contracts between employer and employee are not the essence of the organization we call a firm.

That it has been instructive to view the firm as a nexus of contracts is evident from the numerous insights that this literature has generated. But to regard the corporation only as a nexus of contracts misses much of what is truly distinctive about this mode of governance. Bilateral adaptation effected through fiat is a distinguishing feature of internal

organization. But wherein do the fiat differences between market and hierarchy arise? If, moreover, hierarchy enjoys an “advantage” with respect to fiat, why can’t the market replicate this?

One explanation is that fiat has its origins in the employment contract (Coase 1952; Barnard 1938; Simon 1951; Masten 1988). Although there is a good deal to be said for that explanation, I propose a separate and complementary explanation: the implicit contract law of internal organization is that of forbearance. Thus, whereas courts routinely grant standing to firms should there be disputes over prices, the damages to be ascribed to delays, failures of quality, and the like, courts will refuse to hear disputes between one internal division and another over identical technical issues. Access to the courts being denied, the parties must resolve their differences internally. Accordingly, hierarchy is its own court of ultimate appeal.

What is known as the “business judgment rule” holds that “absent bad faith or some other corrupt motive, directors are normally not liable to the corporation for mistakes of judgment, whether those mistakes are classified as mistakes of fact or mistakes of law” (Gilson 1986, 741). Not only does that rule serve as “a quasi-jurisdictional barrier to prevent courts from exercising regulatory powers over the activities of corporate managers” (Manne 1967, 271), but “the courts’ abdication of regulatory authority through the business judgment rule may well be the most significant common law contribution to corporate governance” (Gilson 1986, 741). The business judgment rule, which applies to the relation between shareholders and directors, can be interpreted as a particular manifestation of forbearance doctrine, which applies to the management of the firm more generally. To review alleged mistakes of judgment or to adjudicate internal disputes would sorely test the competence of courts and would undermine the efficacy of hierarchy.

Accordingly, the reason why the market is unable to replicate the firm with respect to fiat is that market transactions are defined by contract law of an altogether different kind. There is a logic to classical market contracting and there is a logic to forbearance law, and the choice of one regime precludes the other. Whether a transaction is organized as make or buy—internal procurement or market procurement, respectively—thus matters greatly in dispute resolution respects: the courts

will hear disputes of the one kind and will refuse to be drawn into the resolution of disputes of the other. Internal disputes between one division and another regarding the appropriate transfer prices, the damages to be ascribed to delays, failures of quality, and the like are thus denied a court hearing.

To be sure, not all disputes within firms are technical. Personnel disputes are more complicated. Issues of worker safety, dignity, the limits of the "zone of acceptance," and the like sometimes pose societal spillover costs that are undervalued in the firm's private net benefit calculus. Underprovision of human and worker rights could ensue if the courts refused to consider issues of these kinds. Also, executive compensation agreements can sometimes be written in ways that make it difficult to draw a sharp line between personnel and technical issues. Even with personnel disputes, however, there is a presumption that such differences will be resolved internally. For example, unions may refuse to bring individual grievances to arbitration (Cox 1958, 24):

Giving the union control over all claims arising under the collective agreement comports so much better with the functional nature of a collective bargaining agreement. . . . Allowing an individual to carry a claim to arbitration whenever he is dissatisfied with the adjustment worked out by the company and the union . . . discourages the kind of day-to-day cooperation between company and union which is normally the mark of sound industrial relations—a relationship in which grievances are treated as problems to be solved and contracts are only guideposts in a dynamic human relationship. When . . . the individual's claim endangers group interests, the union's function is to resolve the competition by reaching an accommodation or striking a balance.

As compared with markets, internal incentives in hierarchies are flat or low-powered, which is to say that changes in effort expended have little or no immediate effect on compensation. That is mainly because the high-powered incentives of markets are unavoidably compromised by internal organization (Williamson 1985, Chapter 6; 1988). Also, however, hierarchy uses flat incentives because these elicit greater

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especially crucial—it is the central economic problem. But as Frank Knight (1941, 252) insisted, the elimination of waste is also important:

Men in general, and within limits, wish to behave economically, to make their activities and their organization “efficient” rather than wasteful. This fact does deserve the utmost emphasis; and an adequate definition of the science of economics . . . might well make it explicit that the main relevance of the discussion is found in its relation to social policy, assumed to be directed toward the end indicated, of increasing economic efficiency, of reducing waste.

Relatedly, but independently, Oskar Lange (1938, 109) held that “the real danger of socialism is that of the bureaucratization of economic life, and not the impossibility of coping with the problem of allocation of resources.” Inasmuch, however, as Lange (1938, 109) believed that this argument belonged “in the field of sociology,” he concluded that it “must be dispensed with here.” Subsequent informed observers of socialism followed this lead, whereupon the problems of bureaucracy were, until recently, given scant attention. Instead, the study of socialism was preoccupied with technical features—marginal cost pricing, activity analysis, and the like—with respect to which a broadly sanguine consensus took shape (Bergson 1948; Montias 1976; Koopmans 1977).

The natural interpretation of the organizational concerns expressed by Knight and Lange—or, at least, the interpretation that I propose here—is that economics was too preoccupied with issues of allocative efficiency, in which marginal analysis was featured, to the neglect of organizational efficiency, in which discrete structural alternatives were brought under scrutiny. Partly that is because the mathematics for dealing with clusters of attributes is only now beginning to be developed (Topkis 1978; Milgrom and Roberts 1990; Holmstrom and Milgrom 1991). Even more basic, however, is the propensity to focus exclusively on market mechanisms to the neglect of discrete structural alternatives. The argument, for example, that all systems of honest trade are variants on the reputation effect mechanisms of markets (Milgrom, North, and Weingast 1990, 16) ignores the possibility that some ways of infusing