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The Economic Analysis of Institutions and Organisations - in General and with Respect to Country Studies

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Institutional questions have become increasingly prominent in the evaluation of nearly every area of structural policy. The present article shows how formal economic analysis may be brought to bear on the problem of understanding institutions. It begins by reviewing the recent history of thought on the economics of organisations. It then outlines the fundamentals of transactions cost economics, a branch of economic theory which views organisations as a response to competitive pressures to align different ways of channelling or "governing" a transaction -- these governance forms include market, hybrid or hierarchy -- with the transactions requirements of different economic sectors. The paper then demonstrates the applicability of this theory, which represents a significant departure from the neo-classical theory of the firm, in such diverse areas as intermediate product markets, corporate finance and governance, the modern corporation, regulation and deregulation and the failure of socialism. Finally, applications to country studies -- including the characteristics of structural policy that foster "high performance" economies -- are presented.

* * * * * *

Les aspects institutionnels occupent une place de plus en plus importante dans l'évaluation de presque tous les domaines de la politique structurelle. Le présent article montre comment une analyse économique en bonne et due forme peut s'appliquer au problème de la compréhension des institutions. Après un passage en revue de l'évolution récente de la pensée en matière d'économie des entreprises, sont énoncés les principes de l'économie des coûts de transaction, branche de la théorie économique qui considère les entreprises comme une réponse aux pressions concurrentielles visant à adapter différents moyens d'acheminer ou de "gouverner" une transaction -- par exemple, par le marché, des systèmes hybrides ou la hiérarchie -- aux besoins des différents secteurs de l'économie. L'auteur montre ensuite l'applicabilité de cette théorie, qui s'écarte sensiblement de la théorie néo-classique de l'entreprise, dans des domaines aussi divers que les marchés de produits intermédiaires, les finances et la gestion des entreprises, l'entreprise moderne, la réglementation et la déréglementation et l'échec du socialisme. Enfin sont présentées des applications de cette théorie aux études nationales -- notamment les caractéristiques de la politique structurelle qui favorisent les "hautes performances" économiques.

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The Economic Analysis of Institutions and Organisations -- In General and With Respect to Country Studies

Oliver E. Williamson (1)

I. Introduction

Whereas economics once aspired to work out of an "institution free core," there is now growing agreement that institutions matter and that they are amenable to analysis delineating the logic of economic organisation and giving rise to refutable implications. Although the New Institutional Economics is in many ways complementary to neo-classical economics, they differ in terms of behavioural assumptions, the way the conceptualise firms, markets, and hybrid forms of organisation. First, the economic rationale of organisations, under the new institutional economics, is held to be that of economising on transactions cost, which is very different from the neo-classical and game-theoretic focus on monopolising and strategising. Second, discrete structural analysis often supplants marginal analysis and both transactions and governance structures are described in much greater microanalytic detail than is characteristic of orthodoxy.

Section II of this paper provides background, including sketches of the property rights, behavioural theory, and agency theory approaches to economic organisation. The transaction cost economics approach to economic organisation is then developed in Section III. Selected applications are developed in Section IV. Some of the ramifications for country studies are set out in Section V. Concluding remarks and a glossary of transaction cost economics terms follow.

II. Some Background

A. Pre-1970

Dissatisfaction in the 1960s with orthodox microeconomics and the public policy applications thereof gave rise to a number of "reactions". One of the fields in which this dissatisfaction was most sharply felt was that of Industrial Organisation. Thus Victor Fuchs introduced the 25th Anniversary National Bureau of Economic Research volume on *Policy Issues and Research Opportunities in Industrial Organisation* with the query "Whither industrial organisation?", to which he responded "all is not well with this once flourishing field" (1972, p. xv).

Ronald Coase attributed this malaise to excessive to excessive focus on allegedly monopolistic practices, a focus that was more or less imposed by the limited institutional repertoire of the prevailing economic theories (1972, p. 62) (2). As Coase remarked, "if an economist finds something -- a business practice of one sort or another -- that he does not understand, he looks for a monopoly explanation. And as in this field we are very ignorant, the number of ununderstandable practices tends to be large, and the reliance on a monopoly

explanation, frequent" (Coase, 1972, p. 67). Given a hammer (price theory), all of the world was perceived to be a series of nails (monopoly problems). The job of the industrial organisation economist was to pound these monopoly problems into place.

B. Some new strands

The economics of property rights and the behavioural theory of the firm had already begun to take shape in the 1960s. Agency theory appeared in the 1970s.

i) Property rights

The economics of property rights -- as developed especially by Ronald Coase (1959, 1960), Armen Alchian (1961), and Harold Demsetz (1967) -- was an early and influential dissenting voice from orthodoxy. An evolutionary, as opposed to a technological, approach to economic organisation was advanced. Here, new property rights were created and enforced as the economic needs arose, if and as these were cost effective. Eirik Furubotn and Svetozar Pejovich define property rights as follows: "By general agreement, the right of ownership of an asset consists of three elements: (a) the right to use the asset...; (b) the right to appropriate the returns from the asset...; and (c) the right to change the asset's form and/or substance" (1974, p. 4). A strong version of the property rights approach to economic organisation was set out by Coase as follows (1959, p. 14): "A private enterprise system cannot function unless property rights are created in resources, and when this is done, someone wishing to use a resource has to pay the owner to obtain it. Chaos disappears; and so does the government except that a legal system to define property rights and to arbitrate disputes is, of course, necessary.

As it turns out, these claims overstate the case for the property rights approach. For one thing, the legal system is a costly and often faulty way to arbitrate disputes; thus, alternative "governance" structures (for example, hierarchy) mediating relationships between two or more parties to a transaction are often a more cost-effective way to organise that transaction than explicit contracting with court-mediated dispute resolution. To be sure, as discussed in Section III, below, reliance on the courts for purposes of "ultimate appeal" continues to play an important role in contract law.

Coase's pathbreaking paper on *"The Problem of Social Cost"* (1960), which is widely credited with putting the law and economics movement in motion, advanced the then controversial argument that, whatever the assignment of property rights, efficiency would be realised and "externalities" would vanish if transaction costs could be presumed to be zero. One shortcoming of this result, however, is its reliance on the fiction of zero transaction costs; if transactions costs are non-zero, it does matter, for efficiency purposes, whether property rights get assigned one way rather than another. As it turns out, moreover, a proper delineation of the optimal allocation of property rights requires considerable knowledge of the microanalytic particulars of a transaction.

Demsetz's influential article on property rights opens with the observation that economists usually take property rights as a datum and merely

inquire into the prices and quantities of the goods and services to be traded (1967, p. 347). Demsetz urged that the analysis should be moved back one stage and advanced the argument that "If the main allocative function of property rights is the internalisation of beneficial and harmful [spillover] effects, then the emergence of property rights can be understood best by their association with the emergence of new or different beneficial or harmful effects" (1967, p. 350). Specifically, Demsetz held that "property rights develop to internalise externalities when the gains of internalisation became larger than the costs of internalisation" (1967, p. 350). For Demsetz, the costs of internalisation are positive because there are transaction costs associated with bargaining to an efficient result. Demsetz subsequently used this approach to explain the emergence of property rights on the Labrador Peninsula, after the fur trade became established (1967, pp. 351-353), and in the modern corporation (1967, pp. 358-359).

Property rights do indeed play a crucial role in the economics of institutions, as described in this paper. However, the private enterprise system is more complicated and needs a good deal more support than a pure property rights prescription would suggest. At a minimum, property right interpretations of complex organisations, such as the modern corporation, need to be augmented by examining the phenomena in question in comparative contracting terms. This is not to deny that the creation of limited liability and the unrestricted alienability of shares (i.e. the innovations in property law that constitute part of the legal basis of the modern corporation) were important property rights reforms over the partnership form. The organisation, financing, ownership and control of the modern corporation are usefully understood, however, as solutions to efficient contracting problems.

ii) The behavioural theory of the firm

The behavioural theory of the firm took shape during the late 1950s and early 1960s. The book by James March and Herbert Simon on *Organisations* (1958) provided much of the organisational underpinning. A combined economics and organisations approach was thereafter applied to the theory of the firm by Richard Cyert and James March in their book titled *The Behavioural Theory of the Firm* (1963). Here, bounded rationality, according to which economic agents are "intendedly rational, but only limitedly so" (Simon, 1957a, p. xxiv), is the key behavioural assumption. Bounded rationality precludes optimising behaviour of the sort routinely ascribed to economic agents by orthodoxy. But if not optimising, then what? The behavioural theory of the firm substitutes satisficing for maximising, introduces the idea of organisational slack, and views the firm not as a unity but as a coalition.

Satisficing holds that economic agents are engaged in the search for a course of action that is "good enough," where the threshold standards for what is acceptable are themselves a product of experience and are reflected in the aspiration level of the agent. Organisational slack, which serves as a buffer against adversity, is a related concept. Slack accumulates when times are good and is squeezed out as adversity sets in. The idea that business firms are relentlessly taut is thus disputed. Furthermore, while orthodoxy regards the firm as a unitary actor, the behavioural theory maintains that the various parts of the firm form coalitions. Because the overall purpose of the enterprise is obscure, hard to communicate, and/or difficult to embrace and operationalise by each of the constituent parts, the various members of the

coalition (marketing, manufacturing, finance, etc.) mainly relate to the firm in terms of their functional specialties. What Simon refers to as "identification" (1947, 1991) plays a major role here and gives rise to advocacy and subgoal pursuit within the enterprise. Inasmuch, however, as the members of such firms are merely attempting to cope, rather than behave strategically, internal opportunism is not implied. Instead, simple self-interest is all that is involved.

Boundedly rational firms rely extensively on decision rules to effect adaptations to changing circumstances. Search is triggered when behaviour according to the rules does not yield an acceptable outcome. This search is of a simple (trial and error) rather than complicated (Bayesian) learning kind. Search is assumed to be locally concentrated in the neighboured of the problem. Such firms are sometimes described as fire departments because they are preoccupied with "putting out fires." More ambitious programmes of economising, not to say strategising, are not features of the satisficing firm (Cyert and March, 1963).

The principal analytic tool used to implement the behavioural theory of the firm is that of computer simulation. That facilitates the detailed analysis of internal decision making, but the behavioural theory has not had obvious applications to such mundane questions as whether to make-or-buy, the costs and benefits of centralisation, issues of corporate governance, or public policy (e.g. antitrust). Only a few industrial organisation specialists have been persuaded to reshape their research agenda along behavioural lines. Evolutionary economics (Nelson and Winter, 1982) is very strongly influenced, however, by the behavioural perspective. It is also noteworthy that the Cyert and March concept of the firm as a coalition predated and is closely associated with the proposition that the firm is a "nexus of contracts" (Alchian and Demsetz, 1972; Jensen and Meckling, 1976). Although the proposition that economic agents are only boundedly rational has made gradual headway against "maximisation," satisficing has yet to demonstrate that it is a productive research orientation (Aumann, 1985, p. 30).

iii) Agency theory

The standard agency theory set-up entails incentive alignment between a principal and an agent in a situation characterised by differential information (where the agent normally has access to better information than the principal) and differential risk aversion (where the agent is ordinarily assumed to be more risk averse). Thus let the output of the agent be $X = X(e, \theta)$, where e refers to the effort by the agent and θ is the state realisation. The principal, who is assumed to be risk neutral, is able to observe output only, while the agent knows the state realisation and chooses how much effort to expend. The principal's problem is to devise a cost-effective sharing rule in which provision is simultaneously made for the incentive of the agent to be productive (which favours a high sharing rate) and the premium that must be paid to the agent to compensate for added risk (which favours a low sharing rate). As previously indicated, all of the relevant contracting action is concentrated in the *ex ante* incentive alignment stage of contracting.

Agency theory has been instructive for examining a variety of labour contracting issues (of which the compensation of a travelling sales force is an example) and has been very influential in accounting (Baiman, 1982). However,

despite efforts to generalise it (Holmstrom and Milgrom, 1991), it remains a very limited model upon which to base a theory of complex organisation (Rosen, 1988; Hart, 1989, 1991). Its most important shortcoming is its reliance on the implausible assumption of comprehensive contracting, according to which there are no *ex post* surprises and, hence, no attendant needs to adapt to surprises. Relatedly, its assumption that contracts are costlessly enforceable in unrealistic. Even the public observability of outcomes can be questioned (Sappington, 1991, p. 49).

The preoccupation with effort effects (shirking) to the neglect of other forms of managerial discretion -- in which power, status, job security, and the like are featured -- is also highly restrictive. As Oliver Hart remarks (1991, pp. 13-14, emphasis in original): "A traditional incentive scheme works well if the only agency problem comes from the fact that management dislikes working hard. However, it is much less effective if the manager obtains large control rents from running the firm (control rents which he cannot be charged for adequately *ex ante*, either because he has limited wealth or because he is risk-averse and the rents are uncertain); these control rents may represent the utility he gets from his job or from presiding over a large and perhaps growing empire, or they may represent the monetary and non-monetary perks which the manager can obtain by virtue of his position of power. The reason incentive schemes may be less effective under these conditions is that a very large incentive payment may be required to induce management to give up these control rents. It may be cheaper for investors to resort to alternative mechanisms which force management to yield control or to curb its empire-building tendencies." The move from incentive instruments to forcing instruments is therefore proposed (Hart, 1991). That introduces *ex post* governance considerations.

III. Transaction Cost Economics

Some of the very same factors that inspired property rights economics also motivate transaction cost economics. Thus transaction cost economics expressly takes exception with the firm-as-production function tradition, according to which the "natural" activities and boundaries of firms and markets are largely determined by technology and "unnatural" activities and boundaries are explained by monopoly. Transaction cost economics supplants the monopoly presumption by alternative presumption that economic organisation has the main purpose and effect of economising on transaction costs. Furthermore, as described below, the "institutional environment" branch of the New Institutional Economics makes prominent provision for property rights, both in general and as this relates to the efficacy of alternative modes of contracting.

But there are also real differences between property rights economics and the new institutional economics. As compared with the property rights approach, transaction cost economics is more explicit about its behavioural assumptions, expressly makes provision for contract law (as well as property law), uses a more microanalytic unit of analysis (the transaction), is less preoccupied with externalities, and is continuously engaged in the study of comparative contracting. A combined law, economics, and organisations perspective is employed. The object is to discern and explain the powers and

limits of alternative generic forms of organisation. For example, whereas bureaucracy was routinely ignored or was addressed as a monopoly-bureau problem (Niskanen, 1971) under a property rights set-up, transaction cost economics views bureaucracy and its attendant failures as the hierarchical counterpart for the more familiar condition of markets and "market failure."

Like agency theory, transaction cost economics is concerned with incentive alignment and the credible commitment properties of contracting. But whereas agency theory works out of a comprehensive contracting set-up, transaction cost economics insists that all complex contracts are unavoidably incomplete. Contractual incompleteness does not, however, imply myopia. Instead, transaction cost economics examines "incomplete contracting in its entirety," according to which parties look ahead, have a general understanding of the generic hazards to which they are likely to be exposed, and factor these hazards into the original deal. A contract is therefore described as a triple, in which price, hazards, and safeguards are all determined simultaneously.

Because all of the relevant action cannot be concentrated on the *ex ante* incentive alignment under a boundedly rational contracting set-up, a significant fraction of the contracting action is unavoidably pushed into the *ex post* governance stage of contracting. The resulting first-order economising problem is this: align transactions, which differ in their attributes, with governance structures, which differ in their costs and competencies, in a (mainly) transaction cost economising way. The preoccupation with efficient risk bearing, which is characteristic of the agency theory and information economics approaches, is dealt with as a second-order refinement.

The foregoing is a brief summary of the transaction cost economics approach and its relation to the property rights and agency theory literatures. My purpose in the remainder of this section is to discuss this approach, broadly in the spirit of the following amended prescription: "Modern institutional economics should study man as he is, acting [with the support and] within the constraints of real institutions" (Coase, 1984, p. 231). This discussion is organised into three parts: (a) behavioural assumptions including bounded rationality and opportunism; (b) institutional constraints such as the institutional environment, contract laws and socialisation; and (c) governance.

A. Behavioural assumptions

Modern institutional economics purportedly deals with "man as he is." Any theory of organisation must be based on fairly precise notions concerning the following kinds of questions: What are the abstract attributes of institutional man? How does institutional man differ from economic man (or, for that matter, from sociological man)? Herbert Simon observes in this connection that (1985, p. 303): "Nothing is more fundamental in setting our research agenda and informing our research methods than our view of the nature of the human beings whose behaviour we are studying. It makes a difference, a very large difference, to our research strategy whether we are studying the nearly omniscient Homo economicus of rational choice theory or the boundedly rational Homo psychologicus of cognitive psychology."

Transaction cost economics concurs. A parsimonious description of institutional man will include both a cognitive assumption (for which bounded

rationality is nominated) and a self-interestedness assumption (for which opportunism is the candidate). Inasmuch, moreover, as man is a "social animal," and since differences in socialisation influence the efficacy of governance, that too needs to be recognised. The first two are treated here. Socialisation is developed in conjunction with the constraints.

i) Bounded rationality

Herbert Simon has defined bounded rationality as behaviour that is "intendedly rational, but only limitedly so" (1957a, p. xxiv). The intended rationality part of this definition is in the "rational spirit" tradition that Kenneth Arrow associates with economics (1974, p. 16). But the rational spirit approach can be and frequently is given to unbounded rationality excesses. That vitiates the study of institutions: "It is only because individual human beings are limited in knowledge, foresight, skill, and time that organisations are useful investments for the achievement of human purpose" (Simon, 1957b, p. 199). Contrary, however, to the usual view, bounded rationality need not be regarded as alien to economics. Satisficing aside, bounded rationality actually enlarges the study of economics to include economising on yet another scarce resource: limited cognitive competence.

Bounded rationality can take many forms, of which myopia is one. Transaction cost economics, however, disputes that myopia is characteristic of commercial transactions. The main ramification of bounded rationality, for purposes of studying economic organisation, is that all complex contracts are unavoidably incomplete. Gaps, errors, omissions, etc. therefore appear in all complex contracts, especially in those of a long term kind. Transaction cost economics joins incompleteness with the rebuttable presumption that parties to recurrent trades are broadly perceptive of the nature of the contracting relation of which they are a part. Accordingly, the study of contract is characterised as one of "incomplete contracting in its entirety."

Such a concept of contract can be contested. Transaction cost economics asks that each rival theory of contract reveal its hand. What predictions does it make? What do the data support? As discussed below, the incomplete contracting in its entirety approach yields numerous predictions and is broadly supported by the data.

ii) Opportunism

Self-interestedness can take a variety of forms. One possibility is simple self-interestedness. Although economic actors, according to this conception, continuously consult their own net benefits and choose accordingly, they will also self-enforce all promises. That has the following ramification: autonomous contracting will everywhere be efficient. That is because a general clause to which each party consents that asks each candidly to disclose all relevant information and behave in a co-operative fashion during contract execution and at contract renewal intervals will be self-enforcing. Technology aside, internal organisation would be unnecessary for governance purposes. That is massively contradicted by the data.

Opportunism refers to self-interestedness with guile, whereupon economic agents will sometimes say one thing and do another (if they think that they can get away with it). They will not reliably tell the truth, the whole truth, and

nothing but the truth if it suits their purposes to behave otherwise. Conditions of adverse selection and moral hazard are subsumed by opportunism. But so are conditions of outright lying, cheating, and stealing. To treat opportunism as a special or technical condition, which is what the terms "adverse selection" and "moral hazard" would seem to imply, rather than as a pervasive human condition, needlessly truncates the study of economic behaviour. Not only is a much wider class of economic phenomena more transparently implicated if the troublesome condition is referred to as opportunism, but failure to prominently identify opportunism as a pervasive condition has discouraged the tough-minded assessment of communitarian theories of economic organisation. That utopian forms of economic organisation have often been uncritically received is at least partly explained by the failure to insist that all forms of organisation come to terms with opportunism. The economic theory of socialism, according to which the managers in Lange-Lerner firms were assumed to be mere instruments, is an example. If managers reliably implemented Lange-Lerner rules, which they will if prices are given, the rules are known, and managers are not opportunistic, then allocative efficiency is assured. As discussed in IV.E below, however, the study of the economic theory of socialism proceeds very differently once the hazards of bureaucracy (which are a manifestation of opportunism and introduces organisational considerations) are taken seriously.

Note also that my insistence that opportunism be accorded coequal status with bounded rationality does not imply that most economic agents are opportunistic most of the time. There is nevertheless a need to protect a (well-socialised) majority against the predatory tendencies of a determined minority. H.L.A. Hart's remarks are pertinent (1961, p. 193; emphasis in original): "Neither understanding of long-term interest, nor the strength of goodness of will...are shared by all men alike. All are tempted at times to prefer their own immediate interests.... 'Sanctions' are...required not as the normal motive for obedience, but as a guarantee that those who voluntarily obey shall not be sacrificed by those who would not."

In summary, whereas it was once customary to focus on "market failures" and to discuss these in technical terms, it becomes clear under more explicit behavioural assumptions that such a focus is untenable if the core source of failure is the human condition rather than technology. Once that is granted, then all forms of organisation are subject to failure and the only way to proceed is comparatively (Coase, 1964). That has taken a very long time to register.

B. Constraints

i) The institutional environment

Douglass North describes institutions as "the humanly devised constraints that structure political, economic, and social interactions. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)" (1991, p. 97). Elsewhere he argues that "institutions consist of a set of constraints on behaviour in the form of rules and regulations; a set of procedures to detect deviations from the rules and regulations; and, finally, a set of moral, ethical behavioural norms which define the contours and that

constrain the way in which the rules and regulations are specified and enforcement is carried out" (North, 1984, p. 8). In a similar vein, Allan Schmid defines institutions as "sets of ordered relationships among people which define their rights, exposures to the rights of others, privileges, and responsibilities" (1972, p. 893); Daniel Bromley contends that institutions fall into two classes: (1) conventions; and (2) rules or entitlements (1989, p. 41); and Andrew Schotter defines institutions as "regularities in behaviour which are agreed to by all members of a society and which specify behaviour in specific recurrent situations" (1981, p. 9). Much of "Modern institutional economics focuses on the institution of property, and on the system of norms governing the acquisition or transfer of property rights" (Furubotn and Richter, 1991, p. 3).

Notwithstanding this apparent preoccupation with defining rights and rules, the New Institutional Economics actually operates at two levels. The distinction made by Lance Davis and Douglass North between the institutional environment and the institutional arrangements is pertinent (1971, pp. 6-7; emphasis in original): "The institutional environment is the set of fundamental political, social and legal ground rules that establishes the basis for production, exchange and distribution. Rules governing elections, property rights, and the right of contract are examples.... An institutional arrangement is an arrangement between economic units that governs the ways in which these units can co-operate and/or compete. It...[can] provide a structure within which its members can co-operate...or [it can] provide a mechanism that can effect a change in laws or property rights.

Transaction cost economics relates to this two-level approach by treating the institutional environment as a set of shift parameters, changes in which shift the comparative costs of governance. Thus although the main analytical action is concentrated on the governance of contractual relations (the institutional arrangements), provision for the context (institutional environment) within which transactions are embedded is expressly made. Both parts of the Davis and North program are engaged in this way.

These matters are developed further below. What deserves emphasis here is the crucial importance of contract law regimes. Although these play a negligible role in most prior treatments of the institutional environment, differences in contract law regimes are crucial to the transaction cost economics approach to economic organisation.

ii) Contract laws

Here, the basic hypothesis is that each generic mode of governance -- of which there are several -- is supported and defined by a distinctive form of contract law. Hence, there is a corresponding need to examine contract laws (plural) rather than contract law (singular). Although that idea was implicit in Karl Llewellyn (1931) and has since been developed by Ian Macneil (1974; 1978), among others, it has not received the systematic development that it deserves.

The three generic forms of governance within the private sector are market, hybrid, and hierarchy (3). What Macneil (1974) refers to as classical and neo-classical contract law regimes apply to markets and hybrids, respectively, while the contract law of hierarchy is that of forbearance.

Classical contract law supports the ideal transaction in law and economics -- "sharp in by clear agreement; sharp out by clear performance" (Macneil, 1974, p. 738) -- and is a strict legal rules regime. More formal terms therefore supersede less formal should disputes arise between formal and informal features (e.g. written agreements versus oral amendments). The parties to such transactions are not merely autonomous but their identity is irrelevant. Because the continuity of an exchange relation adds negligibly to value, each party consults its own preferences and goes its own way. There being little purpose served by mutual adjustment and accommodation, disputes are settled principally in monetary terms -- either directly or within the adversarial setting of the courtroom.

The neo-classical contract law regime proceeds very differently. For those transactions where continuity is the source of added value, which is to say that parties bear a bilateral dependency relation to each other -- whence parties are not faceless but identity matters, the legal rules approach to contract gives way to the concept of "contract as framework." This more elastic approach treats the contract as "a framework highly adjustable, a framework which almost never accurately indicates real working relations, but which provides a rough indication around which such relations vary, an occasional guide in cases of doubt, and a norm of ultimate appeal when the relations cease in fact to work" (Llewellyn, 1931, p. 737). Indeed, if direct efforts between the parties fail, neo-classical disputes are commonly presented to specialised forums (of which arbitration is one), the purpose of which is to promote continuity, by reaching an objective reconciliation of the issues, rather than terminate the contract with the award of money damages (Fuller, 1963). As compared with legalistic court ordering, bilateral (self-help) and trilateral (third party) supports for contract have superior properties for filling gaps, correcting errors, treating omissions, and otherwise relieving strain.

In effect, neo-classical contract law relies more on the spirit (framework) rather than the letter (legal rules) in an effort to see contracts through to completion. The autonomous contracting status of the two parties nevertheless places neo-classical contract law under progressively greater strain as the disturbances to which the contract is subject become more highly consequential. Albeit adjustable, the neo-classical contract is not indefinitely elastic. At some stage the immediate gains from defection exceed the discounted gains from continuation, whence accommodation can no longer be presumed. If push comes to shove and there is need to make "ultimate appeal" to the courts, the contract reverts to more legalistic status.

The contract law of internal organisation is more obscure. Some describe it as that of the employment relation (Coase, 1937; Barnard, 1938; Simon, 1951; Masten, 1988). Although there is much to be said for that formulation, transaction cost economics maintains that the implicit contract law of internal organisation is that of forbearance. But for forbearance, the efficacy of fiat would be seriously degraded. Consider, for example, the external and internal procurement of an identical component. 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 routinely 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 disputes internally -- which is to say hierarchically. Accordingly, hierarchy is its own court of ultimate appeal.

The underlying rationale for forbearance law is twofold: (1) parties to an internal dispute have deep knowledge -- both about the circumstances surrounding a dispute as well as the efficiency properties of alternative solutions -- that can be communicated to the court only at great cost; and (2) permitting internal disputes to be appealed to the court would reduce the efficacy and integrity of hierarchy. If fiat were merely advisory, in that internal disputes over net receipts could be pursued in the courts, the firm would be little more than an "inside contracting" system (Williamson, 1985, pp. 218-222). The application of forbearance doctrine to internal organisation means that parties to an internal exchange can work out their differences themselves or appeal unresolved disputes to the hierarchy for a decision. But this exhausts their alternatives. Since "legalistic" arguments fail, greater reliance on instrumental reasoning results.

iii) Socialisation

Differences between societies (over time and over space) in educational and socialisation have an impact on both bounded rationality and opportunism. Embeddedness attributes of at least five kinds have a bearing on the latter: culture, politics, regulation, professionalisation, and networks. Only a sketch of the first three is attempted here. And even these are treated in a truncated way. They are taken as exogenous, whereas a complete analysis would inquire into their origins.

Culture applies to very large groups, sometimes an entire society, and involves very low levels of intentionality (that is, it is largely based on tacitly understood rules and norms). Culture serves to define expectations. A supportive culture is one in which the integrity of contract is buttressed by an expectation that the spirit of an agreement will be respected and by societal sanctions in the event of defection. The degree of trading confidence in Japan, for example, is said to be much higher than in Great Britain (Dore, 1983). By contrast, the villages in southern Italy described by Edward Banfield (1958) are characterised by very low trading-trust outside of the family (4).

For the purposes of economic organisation, culture's main role to serve as a check on opportunism. Social conditioning into a culture that condones lying and hypocrisy limits the efficacy of contract in three respects. First, social sanctions against strategic behaviour (such as contrived breach) are weak. Second, court enforcement is problematic -- since bribery is widespread (5). Third, individuals feel slight remorse when they behave in opportunistic ways. Given the added hazards, transactions will tend to be of a more generic kind in societies where cultural checks on opportunism are weak, *ceteris paribus*.

Consider politics. The argument here is that legislative and judicial autonomy serve credibility purposes. As Harold Berman observes, credibility will be enhanced if a monarch who has made the law "may not make it arbitrarily, and until he has remade it -- lawfully -- he is bound by it" (Berman, 1983, p. 9). Self-denying ordinances and, even more, inertia that has been crafted into the political process have commitment benefits (North and Weingast, 1989).

Finally, consider regulation. As Victor Goldberg (1976) and Lynne Zucker (1986) have explained, regulation can serve to infuse trading confidence into otherwise problematic trading relations. The creation and administration of a regulatory agency are both very intentional acts -- although that is not to say that regulation does not have a (spontaneous) life of its own (Bernstein, 1955). Both parties to a transaction -- the regulated firm and its customers -- will be prepared to make investments in specialised assets on better terms than they would in the absence of such regulation, provided that the regulation in question is "appropriate."

C. Governance

R.C.O. Matthews treats the economics of institutions and the economics of transaction costs as a "single approach" (1986, p. 907). The transaction cost economics approach to the study of institutions is predominantly concerned with the governance of contractual relations. Governance may be defined as the institutional framework -- broadly consisting of markets, hierarchies and hybrids -- through which a transaction is channelled. In dealing with governance, this section successively examines the unit of analysis, the main purposes served, the key attributes of governance, discriminating alignment, incomplete contracting in its entirety, and comparative statics. Some of the chief puzzles of economic organisation -- including the impossibility of selective intervention, managerial discretion, and the Iron Law of Oligarchy -- are briefly examined in the process.

i) Unit of analysis

Various units of organisational analysis have been proposed. Michael Jensen's treatment of positive agency theory uses the individual as the unit of analysis (1983, p. 327). Simon proposes that a much more microanalytic unit, the decision premise, be made the unit of analysis (1957a, p. xii). Transaction cost economics adopts John R. Commons's (1934) suggestion that the transaction, which is a less microanalytic unit than the decision premise, be made the basic unit of analysis. A transaction may be said to occur when a good or service is traded across a technologically separable interface. By definition, the organisation of technologically separable activities is not technologically determined but is a matter to which the comparative analysis of alternative forms of governance may usefully be brought to bear.

Whatever unit of analysis is adopted, an immediate need is to identify the principal dimensions with respect to which the unit of analysis differs. The three attributes of transactions on which transaction cost economics concentrates attention are the frequency with which transactions recur, the uncertainty to which transactions are subject, and the degree of asset specificity on which they rely -- especially the last. Asset specificity refers to the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value. This has a relation to the notion of sunk cost, but the full ramifications of asset specificity become evident only in the context of incomplete contracting. These went unrecognised in the pre-transaction cost era (Williamson, 1975, 1979; Klein, Crawford and Alchian, 1978) (6).

Without purporting to be exhaustive, asset specificity distinctions of five kinds have been made:

1) Site specificity, as where successive stations are located in a cheek-by-jowl relation to each other so as to economise on inventory and transportation expenses;

2) Physical asset specificity, such as specialised dies that are required to produce a component;

3) Human asset specificity that arises in a learning-by-doing fashion;

4) Dedicated assets, which are discrete investments in general purpose plant that are made at the behest of a particular customer; and

5) Brand name capital.

Inasmuch, moreover, as the organisational ramifications of each type of specificity differ, additional predicative content arises in this way.

ii) The main case

Given that our understanding of economic organisations -- which are both diverse and complex -- is very primitive, the pressing need is to discern and to explain the key underlying regularities. Ideally, "superficially disconnected and diverse phenomena [will turn out] to be manifestations of a more fundamental and relatively simple structure" (Friedman, 1953, p. 33). Variations of a theme will obtain if, "whenever the capacity of recognising an abstract rule which the arrangement of these attributes follows has been acquired in one field, the same master mould will apply when the sign for those abstract attributes are evoked by altogether different elements" (Hayek, 1967, p. 50). Candidate themes for explaining organisational diversity include monopolising, efficient risk bearing, the attenuation of free riding, and adventitiousness. Subsumed under monopoly are both older explanations involving barriers to entry and price discrimination (Posner, 1969) and more recent strategising explanations (Shapiro, 1989).

Transaction cost economics proposes a different main case candidate: economic organisation has the main purpose and effect of economising on transaction costs. According to this hypothesis, governance structures are aligned with transactions in such a way as to effect a transaction cost economising result. Note that this economising statement refers to the institutional arrangements (or governance branch) of the New Institutional Economics. The same efficiency hypothesis is much more problematic when applied to the institutional environment branch: "economic history is overwhelmingly a story of economies that failed to produce a set of economic rules of the game (with enforcement) that induce sustained economic growth" (North, 1991, p. 98). Still, "The central issue of economic history and of economic development is to account for the evolution of political and economic institutions that create an economic environment that induces increasing productivity" (North, 1991, p. 98).

I submit that <u>successful</u> institutional environments are ones where credible commitments are prominently featured in the socio-political structures of the society. Moreover, although it can take a very long time for bankrupt policies of the state to be discovered and reforms to be effected, nation states are not immune to comparative assessments and selection pressures. Accordingly, although the efficacy of selection is weakened when applied at the

level of the institutional environment, pressures to reconfigure the institutional environment along economising lines are nonetheless real.

Indeed, the institutional environment success stories that North relates are those where one or a few nations discovered and/or were induced to adopt credible commitments in support of property and contract (North, 1991). As developed further in Section V, below, a generalised economising orientation informs the analysis of cross-sectional and intertemporal differences in the institutional environment. My purpose here, however, is to examine the ways in which the economising approach has been used to investigate and interpret the institutions of governance.

Economising/adaptation as the main case

As previously indicated, transaction cost economics asserts that economic organisation has the main purpose and effect of economising on transaction costs. The main case is not, however, the only case -- which is to say that main case frameworks do not purport to be exhaustive. Sometimes other purposes, of which monopolising is one, will crowd out the main case. Sometimes provision for several purposes will need to be made simultaneously and tradeoffs will need to be faced. A pressing need, however, in the study of organisation is to ascertain key features. Flexible theories which explain everything (hence nothing) need to give way to focused theories between which a contest can be run and comparative assessments made. All rival theories of organisation that purport to have broad significance should be asked to state the main case out of which they operate.

First and second order effects are usefully distinguished in this connection. The main case deals with first order effects. Transaction cost economics maintains that waste and maladaptation are first order effects. Efficient risk bearing, by contrast, is treated as a second order refinement. Agency theory is preoccupied with the latter.

Although the importance of adaptation is widely neglected, Friedrich Hayek insistently argued that "economic problems arise always and only in consequence of change" and that this truth was obscured by those who held that "technological knowledge" is of foremost importance (Hayek, 1945, p. 523). He disputed the latter and urged that "the economic problem of society is mainly one of rapid adaptation in the particular circumstances of time and place" (Hayek, 1945, p. 524). Of special importance to Hayek was the proposition that the price system, as compared with central planning, is an extraordinarily efficient mechanism for communicating information and inducing change (Hayek, 1945, pp. 524-527).

Interestingly, Chester Barnard (1938) also held that the main concern of organisation was that of adaptation to changing circumstances, but his concern was with adaptation within internal organisation. Confronted with a continuously fluctuating environment, the "survival of an organisation depends upon the maintenance of an equilibrium of complex character.... [This] calls for readjustment of processes internal to the organisation....[whence] the centre of our interest is the processes by which [adaptation] is accomplished" (Barnard, 1938, p. 6).

Thus, both Hayek and Barnard hold that the central problem of economic organisation is adaptation. But whereas Hayek locates this adaptive capacity

in the market, it was the adaptive capacity of internal organisation on which Barnard focused attention. If the "marvel of the market" (Hayek) is matched by the "marvel of internal organisation" (Barnard), then wherein does one outperform the other? The marvel to which Hayek referred had spontaneous origins: "The price system is...one of those formations which man has learned to use...after he stumbled on it without understanding it" (Hayek, 1945, p. 528). The importance of such spontaneous co-operation notwithstanding, it was Barnard's experience that intended co-operation was important and undervalued. The latter was defined as "that kind of co-operation among men that is conscious, deliberate, purposeful" (Barnard, 1938, p. 4) and was realised through formal organisation, especially hierarchy.

I submit that adaptability is the central problem of economic organisation and that, because Hayek and Barnard refer to adaptations of different kinds, both of which are needed in a high-performance system, they are both correct. The adaptations to which Hayek refers are those for which prices serve as sufficient statistics. Changes in the demand or supply of a commodity are reflected in price changes, in response to which "individual participants...[are] able to take the right action" (Hayek, 1945, p. 527). I will refer to adaptations of this kind as adaptation (A), where (A) denotes autonomy. This is the neo-classical ideal in which consumers and producers respond independently to parametric price changes so as to maximise their utility and profits, respectively.

That would entirely suffice if all disturbances were of this kind. Some disturbances, however, require co-ordinated responses, lest the individual parts operate at cross-purposes or otherwise suboptimise. Failures of co-ordination may arise because autonomous parties read and react to signals differently, even though their purpose is to achieve a timely and compatible combined response. The "nonconvergent expectations" to which Harold Malmgren (1961) referred is an illustration. Although, in principle, convergent expectations could be realised by asking one party to read and interpret the signals for all, the lead party may behave strategically -- by distorting information or disclosing it in an incomplete and selective fashion.

More generally, parties that bear a long-term bilateral dependency relation to one another must recognise that incomplete contracts sometimes require gap-filling and they occasionally get out of alignment. Although it is always in the collective interest of autonomous parties to fill gaps, correct errors, and effect efficient realignments, it is also the case that the distribution of the resulting gains is indeterminate. Self-interested bargaining predictably obtains. Such bargaining is itself costly. The main costs, however, are that transactions are maladapted in relation to the environment during the bargaining interval. Also, the prospect of *ex post* bargaining invites *ex ante* propositioning of an inefficient kind (Grossman and Hart, 1986).

Recourse to a different mechanism is suggested as the needs for co-ordinated investments and for uncontested (or less contested) co-ordinated realignments increase in frequency and consequentiality. Adaptations of these co-ordinated kinds will be referred to as adaptation (C), where (C) denotes co-operation. The conscious, deliberate, and purposeful efforts to craft adaptive internal co-ordinating mechanisms were those on which Barnard focused. Independent adaptations here would at best realise imperfect realignments and could operate at cross-purposes. Lest the aforementioned costs and delays

associated with strategic bargaining be incurred, the contractual relation is reconfigured by supplanting autonomy by hierarchy. The authority relation (fiat) has adaptive advantages over autonomy for transactions of a bilaterally (or multilaterally) dependent kind.

Extensions

Extensions and qualifications to this main case treatment include: (1) real time responsiveness; and (2) enlarging the context to make allowance for revenue and production costs, as well as governance costs. Note with respect to the first of these that the adaptations referred to above are those that apply to an established good or service and are of a recurrent kind. Other adaptations of a more idiosyncratic kind arise in industries that are in early stages of development, especially if a competitive race between rival firms is in progress.

Timing can be crucial if a party expects to be a "player" when events are fast-moving or if learning-by-doing is essential. Although transaction-cost economics can relate to some of the pertinent issues, such as those posed by tacit knowledge (Polanyi, 1962) and the limits of imitation (Williamson, 1975, pp. 31-32, 203-207), additional apparatus is needed to deal with the full set of issues that arise when responsiveness in real time, rather than equilibrium contracting, is the central concern. Awaiting such developments, the apparatus set out in III.D, below, should not be applied uncritically.

For example, joint ventures are sometimes described as hybrids. If, however, many joint ventures are temporary forms of organisation that support quick responsiveness, and if that is their primary purpose, then both successful and unsuccessful joint ventures will commonly be terminated when contracts expire. Successful joint ventures will be terminated because success will often mean that each of the parties, who had chosen not to merge but, instead, to combine their respective strengths in a selective and timely way, will have learned enough to go it alone. Unsuccessful joint ventures will be terminated because the opportunity to participate will have passed them by. Joint ventures that are designed to give a respite should be distinguished from the types of hybrid modes analysed here, which are of an equilibrium kind.

The need to distinguish continuing from temporary supply does not, however, mean that transaction-cost economising principles do not apply to each. To the contrary, although the particulars differ, I would urge that the same general transaction-cost economising framework has application (Williamson, 1985). The quasi-firms described by Robert Eccles (1981), for example, can be interpreted as the efficient solution to a particular type of recurrent contracting problem. But the details do matter.

Also, although transaction cost economising is important, has been neglected, and needs to be taken into account, it nevertheless covers only part the larger organisational problem in which revenues, production costs, and transaction costs are all taken into account. Otherwise, why would anyone introduce a special purpose technology, which gives rise to bilateral dependency and complicates contracting, unless added revenues and/or reduced production costs could be projected? Put differently, asset specificity is never desired for its own sake but only because it is judged to be cost effective: the added transaction costs which attend bilateral dependency are

more than offset by revenue gains and/or production cost savings (at least if the appropriate governance structure is selected).

Thus although it simplifies greatly to focus on the transaction cost economising choice of governance structure under the assumption that revenues and production costs are constant, that is not entirely satisfactory. For one thing, as already indicated, cost effectiveness needs to be established. Secondly, the optimal value of asset specificity varies with the choice of governance structure. To assume, as the heuristic model in III.D does, that the same value of asset specificity will apply to market, hybrid, and hierarchy alike is not, therefore, entirely satisfactory. It is nevertheless gratifying that the main implications obtain under a more general formulation in which revenues, production costs, and transaction costs are all taken into account simultaneously (Riordan and Williamson, 1985).

iii) Dimensionalising governance

A deep puzzle of economic organisation is why can't a large firm do everything that a collection of small firms can do and more? Thus suppose that one firm is procuring a good or service from another and that things go well most of the time. Now and then, however, the transaction gets out of alignment. Deciding upon an efficient realignment and agreeing on a distribution of the added benefits are costly. Might those costs be avoided through merger?

Suppose that the purchaser proposes to acquire the supplier, and thereafter promises to follow a policy of "selective intervention" -- where by selective intervention I mean that the acquired firm will behave exactly as it had in the pre-merger interval, save on those occasions when the transaction gets out of alignment and, disputes aside, could be realigned in a cost-effective way. On those occasions, but only on those occasions, the preferences of the acquiring firm will be determinative, whence the acquired firm will comply in an uncontested manner. If acquisitions could be administered in this way, then large firms would always do as well (through replication) and would sometimes do better (through selective intervention) (7). Wherein do replication and selective intervention break down?

Implicit to the selective intervention scenario is the assumption that promises to behave responsibly are self-enforcing. Superiors will intervene only for good cause, which is to say that they will not behave strategically. Also, subordinates promise not to contest or otherwise frustrate authority. As it turns out, both promises lack credibility (Williamson, 1985, Chapter 6), whereupon selective intervention is a fiction. One consequence is that the high-powered incentives of markets are unavoidably degraded when transactions are moved out of markets into internal organisation, *ceteris paribus*.

These three features -- adaptability of type A, adaptability of type C, and differential incentive intensity -- do not exhaust the important differences between market and hierarchy. Also important are the differential reliance on administrative controls and, as developed above, the different contract law regimes to which each is subject. Suffice it to observe here that (1) hierarchy is buttressed by the differential efficacy of administrative controls within firms, as compared with between firms, and (2) incentive intensity within firms is sometimes deliberately suppressed. Note in this

connection that incentive intensity is not an objective but is merely an instrument. If added incentive intensity gets in the way of bilateral adaptability, then weaker incentive intensity supported by added administrative controls (monitoring and career rewards and penalties) can be optimal (Holmstrom, 1989).

Based on the foregoing, markets and hierarchies are polar opposites in incentive intensity, administrative control, adaptability (types A and C), and contract law respects. As developed elsewhere (Williamson, 1991b), the hybrid mode of organisation is located between markets and hierarchies in all five attribute respects. Denoting strong, semi-strong, and weak by ++, +, and 0, respectively, the instruments, adaptive attributes, and contract law features that distinguish markets, hybrids, and hierarchies are summarised in Table 1.

D. Implications and data

Transaction cost economics advances the following hypothesis: transactions, which differ in their attributes, are aligned with governance structures, which differ in their costs and competencies, in a transaction cost economising way. Two simple models which display these alignment features are sketched first, after which some of the data are examined and the "handing-on" process is briefly described.

i) A stochastic set-up

Suppose that disturbances are distinguished in terms of the type of response -- autonomous or bilateral -- that is needed to effect an adaptation. Suppose further that the type of adaptation depends on the degree of asset specificity. Let asset specificity be denoted by k_j and suppose that it can take on any of three values: $k_1 = 0$ (generic investment), $k_2 > 0$ (semispecific investment), or $k_3 >> 0$ (highly specific investment). Assume that adjustments to disturbances can be any of four kinds: I, strictly autonomous; II, mainly autonomous; III, mainly co-ordinated; or IV, strictly co-ordinated. Let p_{ij} be the probability that an adaptation of type i = I, II, ..., IV will be required if asset specificity condition k_j (j = 1, 2, 3) obtains and let the matrix $[p_{ij}]$ be given by:

$[p_{ij}]$:

	k_1	k_2	k_3
I	1.00	.25	.10
II	.00	.25	.10
III	.00	.25	.40
IV	.00	.25	.40

Note that, the k_1 column excepted, positive probability is associated with every element in the matrix. What added asset specificity does is shift the distribution of required responses in favour of greater co-operativeness.

Assume that each adaptation, if costlessly and successfully implemented, would yield identical expected cost savings. For the reasons given above, however, the efficacy with which different modes adapt to disturbances of different kinds varies. Let e_{im} be the efficacy with which mode m (m = M, X, H) is able to implement adaptations of type i (i = I, II, ..., IV) and assume that the matrix e_{im} is given by

$[e_{im}]$:

	M	X	H
I	1.0	0.9	0.7
II	0.7	0.9	0.4
III	0.2	0.5	0.5
IV	-0.2	0.0	0.5

where 1.0 is the ideal degree of adaptiveness and 0.0 is equivalent (in terms of efficacy) to no adaptation.

The efficacy assumptions embedded in this last matrix warrant remark:

1) Only the entry eIM has a value of 1.0. This condition -- market adaptation to a disturbance for which strictly autonomous adaptation is appropriate -- corresponds to the ideal transaction in law and economics (classical market contracting);

2) The efficacy of the market falls off as bilateral dependency builds up, becoming negative (worse than no adaptation at all) for the strictly co-operative case (IV). This last reflects the conflictual nature of market exchange for transactions of the bilaterally dependent kind;

3) The hybrid mode is almost as good as the market for strictly autonomous adaptations, is better than the market in all other adaptation categories, and is as good or better than hierarchy in all categories save that for which strict co-ordination is indicated;

4) Hierarchy is burdened by bureaucracy and never scores high in efficacy for any category of adaptation. What matters, however, is comparative efficacy. The hierarchy comes into its own (comparatively) where adaptations of a strictly co-operative kind are needed; and

5) The efficacy of hierarchy is lowest for disturbances requiring a mainly autonomous adaptation. As compared with strictly autonomous

disturbances, where bureaucratic costs are held in check by an objective market standard, ready recourse to the market is compromised by the need for some co-ordination. Because, however, the gains from co-ordination are not great, efforts to co-ordinate are problematic. If efforts to adapt autonomously are protested (my costs are greater because you moved without consulting me) while failures to adapt quickly are costly, the hierarchy is caught between the proverbial rock and a hard place.

Let C_{jm} be the expected maladaptation costs of using mode m to effect adaptations if asset specificity is of type k_j. Since inefficacy is given by 1 - e_{im}, the expected maladaptation costs are $C_{jm} = \Sigma um(p_{ij}(1 - e_{im})$. That matrix is given by

		M	X	H
	k_1	**.000**	.100	.300
$[C_{jm}]$:	k_2	.575	**.425**	.475
	k_3	.830	.620	**.490**

The lowest values in each row are realised by matching market, hybrid, and hierarchy with asset specificity conditions k_1, k_2, and k_3, respectively. These costs are consonant with the reduced-form relations shown in Figure 1. Thus if $ß \geq 0$ is the irreducible set-up costs of economic participation, then the bureaucratic cost intercepts associated with zero asset specificity (k_1) for market, hybrid, and hierarchy will be given by ß plus .000, .100, and .300, respectively. Also, the implied relations between the slopes associated with each mode in the matrix (expressed as a function of asset specificity) are that the market slope exceeds the hybrid slope which in turn exceeds that of hierarchy. These slope and intercept relations are shown in Figure 1. Efficient supply implies operating on the envelope, whence if k* is the optimal value of k, the rule for efficient supply is as follows: I, use markets for $k^* < k_1$; II, use hybrids for $k_1 < k^* < k_2$; and III, use hierarchy for $k^* > k_2$.

This simple, discrete structural set-up can be used to join the two parts of the New Institutional Economics research agenda -- the institutional environment and the institutions of governance -- which have progressed in mainly independent ways (8). The problems and the analytical needs of each being different, that is understandable. But it is not a wholly satisfactory state of affairs. The obvious way of joining these two is to recognise that the institutions of governance are designed in the context of and with reference to the institutional environment. Accordingly, changes in the institutional environment should elicit changes in the institutions of governance.

In this framework, then, the institutional environment can be viewed as a set of shift parameters. If changes in the institutional environment, of both intertemporal and cross-national kinds, induce systematic changes in the costs of governance, then large numbers of additional refutable implications potentially obtain. Note, however, the caveat: unless the effects of a change in a shift parameter are concentrated disproportionately on one (or at most two) of the three generic forms of governance, no change in the equilibrium distribution of transactions among governance structures can be predicted.

As it turns out, changes in a number of basic environmental features -- including property rights, contract law, reputation effects, and uncertainty -- can be examined productively in this primitive framework (Williamson, 1991b). I submit, moreover, that this research strategy applies more generally and that country studies could and arguably should be extended to include a wider set of shift parameters that are pertinent to the governance of contractual relations. This last is discussed further in Section V, below.

ii) The simple contractual schema

Assume that a good or service can be supplied by either of two alternative technologies. One is a general purpose technology, the other a special purpose technology. The special purpose technology requires greater investment in transaction-specific durable assets and is more efficient for servicing steady-state demands.

Whereas classical market contracting suffices for transactions of the $k = 0$ kind, unassisted market governance poses hazards whenever transaction-specific assets are placed at risk. Parties therefore have an incentive to devise safeguards to protect investments in transactions of the latter kind. Let s denote the magnitude of any such safeguards. An $s = 0$ condition is one in which no safeguards are provided; a decision to provide safeguards is reflected by an $s > 0$ result.

Figure 2 displays the three contracting outcomes corresponding to such a description. Associated with each node is a price. So as to facilitate comparisons between nodes, assume that suppliers (1) are risk neutral, (2) are prepared to supply under either technology, and (3) will accept any safeguard condition whatsoever so long as an expected breakeven result can be projected. Thus, node A is the general purpose technology ($k = 0$) supply relation for which a breakeven price of p_1 is projected. The node B contract is supported by transaction-specific assets ($k > 0$) for which no safeguard is offered ($s = 0$). The expected breakeven price here is p. The node C contract also employs the special purpose technology. But since the buyer at this node provides the supplier with a safeguard, ($s > 0$), the breakeven price, p, at node C is less than p (9).

The protective safeguards to which I refer normally take on one or more of three forms. The first is to realign incentives, which commonly involves some type of severance payment or penalty for premature termination. Albeit important and the central focus of much of the formal contracting literature, that is a very limited response. A second response is to supplant court ordering by private ordering. Not only is allowance expressly made for contractual incompleteness (10), but a different forum for dispute resolution

(of which arbitration is an example) is commonly provided. Third, the transactions may be embedded in a more complex trading network. The object here is to better assure continuity purposes and facilitate adaptations. Expanding a trading relation from unilateral to bilateral exchange -- through the concerted use, for example, of reciprocity -- thereby to effect an equilibration of trading hazards is one illustration. Recourse to collective decision-making under some form of combined ownership is another.

This simple contracting schema applies to a wide variety of contracting issues. It facilitates comparative institutional analysis by emphasising that technology (k), contractual governance/safeguards (s) and price (p) are fully interactive and are determined simultaneously. By way of summary, the nodes A, B, and C in the contractual schema set out in Figure 2 have the following properties:

1) Transactions that are efficiently supported by general purpose assets ($k = 0$) are located at node A and do not need protective governance structures. Discrete market contracting suffices. The world of competition obtains.

2) Transactions that involve significant investments of a transaction-specific kind ($k > 0$) are ones for which the parties are effectively engaged in bilateral trade.

3) Transactions located at node B enjoy no safeguards ($s = 0$), on which account the projected breakeven supply price is great ($p > p$). Such transactions are apt to be unstable contractually. They may revert to node A (in which event the special purpose technology would be replaced by the general purpose ($k = 0$) technology) or be relocated to node C (by introducing contractual safeguards that would encourage use of the $k > 0$ technology).

4) Transactions located at node C incorporate safeguards ($s > 0$) and thus are protected against expropriation hazards.

5) Inasmuch as price and governance are linked, parties to a contract should not expect to have their cake (low price) and eat it too (no safeguard). More generally, it is important to study <u>contracting in its entirety</u>. Both the *ex ante* terms and the manner in which contracts are thereafter executed vary with the investment characteristics and the associated governance structures within which transactions are embedded.

iii) The data

It is beyond the scope of this paper to review the empirical studies that have been done to test transaction cost economics hypotheses. My earlier examination of the empirical work revealed, however, that the data were broadly corroborative (Williamson, 1985, Chapter 5). Paul Joskow's subsequent and more extensive examination of asset specificity and the structure of vertical relationships bears that out (Joskow, 1988). Howard Shelanski's still more recent and more extensive survey (which examines 90 empirical papers out of a population of approximately 200, the number of which continues to grow) is likewise corroborative (Shelanski, 1992).

Indeed, the inroads made by transaction cost economics are due both to: (1) the logic of contractual relations, which explains economic organisation in a deeper and more nuanced way than does the logic of technology and monopolisation; and to (2) the facts that (a) transaction cost economics makes contact with so many diverse phenomena that are variations on a few key themes; and (b) the discriminating alignment hypothesis is borne out by the data. To be sure, it could be argued that transaction cost economics has an "unfair advantage." Because economising is obviously so very basic, viable organisations will almost certainly respect economising principles.

Obvious though that may be now, it was not always so (11). The preoccupation of orthodox price theory with price and output simply made no provision for the costs and consequences of governance (Arrow, 1963). As Arrow observes, economising on transaction costs is a very different exercise (1987, p. 734): "the New Institutional Economics...does not consist primarily of giving new answers to the traditional question of economics...resource allocation and the degree of utilisation. Rather it consists of answering new questions, why economic institutions have emerged the way they did and not otherwise; it merges into economic history, but brings sharper nanoeconomic...reasoning to bear."

Indeed, the New Institutional Economics "suggests a whole agenda of microeconomic empirical work that must be carried out" (Simon, 1991, p. 37). Until, however, "that work has been carried out,...the new institutional economics are acts of faith, or perhaps of piety" (Simon, 1991, p. 37). Relevant to this last is the fact that empirical work in transaction cost economics has been steadily taking shape -- which explains Joskow's conclusion that the growing body of empirical work in transaction cost economics is in many ways in "much better shape than much of the empirical work in industrial organisation generally" (1991, p. 47) (12).

To be sure, there is much to be done, hence there is no basis for complacency. Of the roughly 200 empirical studies -- of which some are focused case studies (e.g., Williamson, 1976), and some are focused industry studies (e.g. Stuckey, 1983) -- most are regressions in which asset specificity (and sometimes uncertainty and frequency) appear as independent variables. The "test" is whether contracting/organisation form reflects transaction cost economising principles (as compared with a null hypothesis of zero effects). Applications include vertical integration, vertical market restrictions, long-term contracting (both domestic and international), marketing (especially distribution channels), the organisation of R&D, corporate governance and corporate finance, labour organisation, evolution of the corporate form, regulation and deregulation, family firms, and gender in the workplace. If as previously remarked, any issue that can be posed directly or indirectly as a contracting problem can be usefully addressed in transaction cost economising terms, then additional applications are awaiting.

iv) Selection and handing-on

Transaction cost economics relies on weak form selection, according to which the fitter, but not necessarily the fittest (in some absolute sense), survive (Simon, 1983, p. 69). To be sure, opportunities to strike bargains of a mutually beneficial kind are presented by any lapse in efficiency, even in

bureaucratic systems operating under central planning. There are several deterrents, however, to the realisation of efficiency gains under a centrally planned economy. For one thing, those who discern potential efficiency correctives may be unable by themselves to implement them. If property rights are nonmarketable and if others must be brought in, then sharing is entailed. The gains may be dissipated. Secondly, even if implemented, the bureaucrats who recognise and make the needed changes are rarely able to appropriate a significant fraction of the gains. Thirdly, inefficiency is often the source of on-the-job consumption and is a manifestation of bureaucratic power. If efficiency gains accrue to others and if bureaucrats lose power in the process, then it is unrealistic to expect bureaucrats to orchestrate their own demise. Fourth, and pertinent to all of the above, bureaucratic systems are commonly insulated against challenge by rival systems.

These bureaucratic disabilities do not vanish if planning is supplanted by competitive market organisation. Nontrivial changes in entry, take-over, and appropriability nonetheless attend a discrete structural shift out of central planning into a decentralised, marketable property rights regime. Not only does the side-by-side competition of new entrants threaten slack and inefficiency, but technological and organisational innovations are the source of immediate gains, much of which gains accrue to the innovator-entrepreneurs. Supranormal profits always signal opportunities, moreover, and hence invite their own demise. Imitation, new entry, and inventing around give rise to "handing-on," where the process of handing-on always works "through a fall in price of the product to the new level of costs" (Schumpeter, 1947, p. 155) whenever rivals are alert to new opportunities and are not prevented by purposive restrictions from adopting them.

Whereas transaction cost economics assumes that weak form selection and handing-on work reasonably well (13), for which there is considerable supporting evidence (Chandler, 1977; Mokyr, 1989), Paul Milgrom and John Roberts contend that "having to rely on competition or other external forces to bring about efficiency...critically weaken[s] the [transaction cost] theory because its range of potential application...[is] severely narrowed" (1992, p. 39). Accordingly, "efficiency alone may not be a strong enough criterion to give very specific predictions or clear explanations" (Milgrom and Roberts, 1992, p. 39; emphasis added). Then again it may be. Here as elsewhere, it takes a theory to beat a theory (Kuhn, 1970). What are the alternative main case candidates on which Milgrom and Roberts rely to give rival predictions and better explanations (14)? What do the data support? Should it turn out that transaction cost economics merely advances but does not complete the New Institutional Economics research agenda, that is progress nonetheless. Be that as it may, transaction cost economics maintains that economising arguments go through more assuredly and more reliably when competitive forces are unleashed than when they are severely restrained by overweening bureaucratisation.

IV. Applications

Applications of transaction cost economics to intermediate product markets, capital markets, the modern corporation, regulation, and socialism are briefly described in this section. Applications to country studies -- under the general rubric of organisational hazards -- are sketched in Section V.

A. Intermediate product markets

i) Economising

General

The proposition that asset specificity had significant implications for vertical integration was first advanced in 1971. A comparative institutional orientation was employed to assess when and for what reasons market procurement gives way to internal organisation (15). Given the impossibility of comprehensive contracting (by reason of bounded rationality) and the need to adapt a supply relation through time (in response to disturbances), the main comparative institutional alternatives to be evaluated were between a sequence of incomplete short-term contracts and vertical integration. Problems with short-term contracts were projected "if either (1) efficient supply requires investment in special-purpose, long-life equipment, or (2) the winner of the original contract acquires a cost advantage, say by reason of 'first mover' advantages (such as unique location or learning, including the acquisition of undisclosed or proprietary technical and managerial procedures and task-specific labour skills)" (Williamson, 1971, p. 116).

As set out in Section III, above, transaction cost economics maintains that governance structures will be aligned to the attributes of transactions, chief among which attributes is asset specificity. As shown, moreover, in Figure 1, market governance is the least cost form of organisation if asset specificity is slight (namely, for values of $k^* < k_1$). Increases in asset specificity lead to added bilateral dependency. Less legalistic forms of contracting are thereupon warranted. Hybrid contracting, of which franchising is an example, obtains for intermediate levels of asset specificity (those for which $k_1 < k^* < k_2$). The corresponding contract law regime is that of contract as framework. Incentive intensity and administrative supports are at intermediate levels under the hybrid regime.

Unified ownership (vertical integration) is the organisational form of last resort, to be adopted when all else fails. Try markets, try hybrids, resort to hierarchies only when market mediated modes predictably (and actually) experience breakdown. That obtains for high levels of asset specificity ($k^* > k_2$). Because of the high level of bilateral dependency, the need for co-ordinated adaptations are great. The pertinent contract law regime for internal transactions is forbearance law.

One advantage of hierarchy over the hybrid with respect to bilateral adaptation is that internal contracts can be more incomplete. More importantly, adaptations to consequential disturbances are less costly within firms because (1) proposals to adapt require less documentation; (2) resolving internal disputes by fiat rather than arbitration saves resources and facilitates timely adaptation; (3) information that is deeply impacted can more easily be accessed and more accurately assessed; (4) internal dispute resolution enjoys the support of informal organisation (Barnard, 1938; Scott, 1987); and (5) internal organisation has access to additional incentive instruments -- including especially career reward and joint profit sharing -- that promote a team orientation. Furthermore, highly consequential

disturbances that would occasion breakdown or costly litigation under the hybrid mode can be accommodated more easily. The advantages of hierarchy over hybrid in adaptation C respects are not, however, realised without cost. Weaker incentive intensity (greater bureaucratic costs) attend the move from hybrid to hierarchy, *ceteris paribus*.

Franchising

Franchising is an interesting example of a hybrid mode of organisation. As compared with hierarchy, the franchisee has greater autonomy and stronger incentives. As compared with the market, the franchisee has less autonomy (is subject to greater controls) and weaker incentives. For what class of activity is this type of hybrid form well suited?

Sales of final goods and services that experience local disturbances often require timely and effective adaptation at the local level, in which event local autonomy is favoured. Absent other complications, outright sale of the good or service to a local distributor is the obvious way to deal with these. Since franchising compromises full autonomy in favour of quasi-autonomy, as a consequence of which there is a loss of incentive intensity and added control costs, franchising is warranted only if there are offsetting benefits. What are these?

The sale of branded goods or services that are subject to quality debasement at the local level and for which only a fraction of the costs are borne by the local supplier is an obvious concern. More generally, systems benefits or costs that differ from local benefits and costs are factors that warrant systems level involvement. Ideally, a division of labour would obtain such that all autonomous disturbances are dealt with by the franchisee and all co-ordinated decisions (on quality, advertising, pricing, design, etc.) are made at the franchiser level. In the degree, however, to which local activities have systems consequences, system oversight and control may need to be exercised over the parts. A compromise mode thus takes shape, thereby to deliver mixed (A/C) adaptation effects in a (comparatively) cost-effective way (16).

Reputation effect arguments are sometimes invoked in the effort to avoid recourse to compromise modes of organisation. David Kreps (1990) develops the reputation effect argument in three stages: repeated contracting between an unchanging buyer and seller; repeated contracting between a series of buyers and an unchanging seller; and repeated contracting between a series of buyers and a succession of sellers. Paul Milgrom, Douglass North, and Barry Weingast (1989) push beyond the Kreps formulation to consider many buyers and many sellers in many periods.

All of these formulations emphasise the efficacy of reputation effects and Milgrom *et al.* claim that their model is applicable to <u>any</u> system of organisation that attempts to promote "Honest trade...in the face of self-interested behaviour" (1989, p. 16). But that is mistaken. That claim is warranted only if exchanges are constrained to take place between autonomous traders, which is an arbitrary restriction.

To be sure, internal organisation experiences both incentive deficits and bureaucratic cost excesses as compared with a "reputation effect ideal."

If, however, market reputation effects are also prone to breakdown, then the choice between forms must be established comparatively. As it turns out, reputation effects are given to numerous breakdowns (Williams, 1989; Kreps, 1990; Williamson, 1991c). Accordingly, the question of efficacy needs to be addressed in terms of the characteristics of the transactions and of the distributors to whom the goods and services in question are being supplied.

These issues go beyond the scope of this survey. Suffice it to observe here that: (1) would-be automatic reputation effect mechanisms do not operate faultlessly; (2) the limitations of such mechanisms are more severe for complex and/or non-standard products and services (the attributes of which are not transparent and are not easily communicated); and (3) the limitations are also more severe if customers are naive and/or unsophisticated (final product markets, as against intermediate product markets, are ones in which a considerable asymmetry of knowledge and competence obtains between buyers and sellers).

ii) Merger guidelines

Consider the relation of antitrust to intermediate product market organisation. As repeatedly emphasised, the main case does not purport to be the only case. The possibility that economic organisation is designed to promote monopoly purposes, in addition to or instead of economising, is not foreclosed. Public policy towards mergers and cartels is therefore pertinent.

As indicated in Section II.A, above, it was once customary to dismiss economies or, even worse, to regard economies as a source of unfair competitive advantage, in assessing mergers. That has changed as an appreciation for the benefits of economies has registered. At a minimum, economies need to be counted favourably in assessing the welfare consequences of mergers. If, moreover, monopoly power tends to be eroded as the handing-on process described by Schumpeter progresses, then immediate monopoly margins are less consequential.

Although sometimes the main effects of horizontal mergers can be evaluated in conventional technological (scale and scope economies) and market power terms (Williamson, 1968), transaction cost features may also be pertinent. To be sure, transaction costs are more commonly associated with vertical mergers where the contracting alternatives are more transparent. But horizontal mergers pose contractual issues as well. For one thing, a horizontal merger can be thought of as an alternative to a cartel agreement. If the latter is unlawful, then the former is surely problematic. A horizontal merger may also, however, be a substitute for a joint venture. If serious problems with governing a joint venture (for example, in R&D) are projected, a merger may be a more (transaction) cost effective way to accomplish the combined purposes.

The possible transaction cost benefits of vertical integration notwithstanding, potential anticompetitive costs need to be recognised for this class of merger activity as well. Vertical integration can increase barriers to entry and facilitate collusion where high concentration and significant hurdles to entry are combined. Also, vertical integration is sometimes used as a device to evade taxes. Consider each.

Entry barriers

Vertical integration of a firm can create entry barriers by making it more difficult for non-integrated rival firms (17) that are otherwise qualified to compete to remain effective competitors. Impediments include greater difficulty of contracting, complications due to scale economies, and increased cost of capital.

The ease with which a rival firm at one stage of an industry (stage I) can contract for its requirements (18) in another stage (stage II) depends upon whether non-integrated capacity at stage II is large (or can easily be increased). If ample non-integrated stage II capacity is not in place and will not appear without special effort, then the prospective stage I rival firm must contemplate simultaneous entry at both stages. The acquisition by merger of previously non-integrated stage II capacity can thus force an otherwise qualified stage I rival to choose between integrated entry and no entry at all. Whether integrated entry is significantly deterred will then depend upon cost of capital and scale economies. To its credit, the U.S. Justice Department now observes that the need for additional capital, by itself, does not constitute a barrier to entry into the primary market (here, stage I), as long as the necessary funds are available at a cost commensurate with the level of risk in the secondary market (19). But the Department also recognises that integrated entry into an unfamiliar stage is apt to carry a risk premium. That is because lenders may "doubt that would-be entrants to the primary market have the necessary skills and knowledge to succeed in the secondary market and, therefore, in the primary market" (20). The Guidelines note that this problem is exacerbated when a high percentage of the capital assets in the secondary market are long-lived and specialised to that market, and are therefore difficult to recover in the event of failure.

The Department also acknowledges that scale economies could create an entry barrier if a firm is forced to enter at two stages simultaneously because another firm has vertically integrated into the secondary market. It posits a situation in which the capacities of minimum-efficient-scale plants in the primary and secondary markets differ significantly. For example, if the capacity of a minimum-efficient-scale plant in the secondary market exceeded the requirements for such a plant in the primary market, entrants would have to choose between inefficient operation at the secondary level and a larger scale than necessary at the primary level. Either effect, the Department concludes, could cause a significant increase in the entering firm's operating costs (21). But the Department adds in a footnote that "this problem would not exist if a significant outside market exists at the secondary level. In that case, entrants could enter with the appropriately scaled plants at both levels, and sell or buy in the market as necessary" (22).

Collusion

Vertical integration is most likely to facilitate collusion in conjunction with forward integration into retail distribution. Thus, the Department's concern is that collusion in the upstream market is most likely to result because of the integrated firm's ability to monitor price (23). This is troublesome if vertical integration into retail distribution is extensive and the upstream market is concentrated -- where 1800 HHI is the level above which concentration is believed to pose a collusion concern (24).

Rate regulation

Acquisition of a supplier by a regulated utility might permit the utility to evade rate regulation, because "[a]fter the merger, the utility would be selling to itself and might be able arbitrarily to inflate the prices of internal transactions" (25). These practices should be difficult for regulators to monitor. Thus, although the Department is sensitive to "genuine economies of integration," it will "consider challenging mergers that create substantial opportunities for such abuses" (26).

By contrast with the original Vertical Merger Guidelines, which were very restrictive and reflected the then-prevailing inhospitality tradition, the revised Guidelines are much more permissive and reflect transaction cost principles of efficient contracting and organisation. The presumption that a vertical merger poses antitrust problems only if the acquired firm is operating in a concentrated market is grounded on the proposition that in markets where concentration is low or moderate, nonintegrated rivals will be able easily to contract for their requirements and hence will not be disadvantaged. The Vertical Merger Guidelines are thus in accord with recent economic scholarship on contracting and strategic behaviour that indicates that efforts by established firms to discipline actual competition and discourage potential competition are troublesome only in highly concentrated industries where entry is difficult (27).

More generally, the recent Guidelines place emphasis on the ease of contracting, which is to say that transaction cost considerations are effectively assigned a key role (28). This is especially evident in the discussion of the cost of capital examined above (29). The recent Guidelines also make the sophisticated point that investments in the secondary market are risky in the degree to which "capital assets in the secondary market are long-lived and specialized to the market" (30). This point is also in accord with transaction cost economics reasoning and is developed further in IV.B, below.

The still more recent Vertical Restraints Guidelines of the U.S. Department of Justice reflect similar arguments. These Guidelines operate on the premise that vertical restraints are presumptively lawful unless market power concerns are posed. Among the benefits enumerated by the Department of Justice are included the following (31): vertical restraints may lower distribution costs, facilitate the entry of new producers into a market, insure the provision of pre-sale demonstration and other informational services, allow a supplier to protect its investment in services to dealers, and permit firms to allocate risks or costs in an efficient manner. Vertical restraints can also improve product quality and safety and reduce transactions costs in numerous circumstances.

Inasmuch, however, as vertical restraints can sometimes facilitate collusion and have entry excluding effects, allowance for these needs to be made. A market structure screen is thus applied, according to which "the use of vertical restraints by very small firms (having market shares of under 10 per cent), by firms operating in unconcentrated markets, or by firms operating in markets that are not 'covered extensively' by restraints (i.e. a significant share of capacity or sales is not subject to restraint) will be

presumed legal" (32). Within the subset of cases where the market structure is held to be problematic, a further test is applied: Is it easy to enter the market for supplying or distributing the product under restraint (33)?

The contrast with pre-transaction cost reasoning, under which vertical restraints were held to be presumptively unlawful (34), is quite remarkable. The inhospitality tradition has been reversed.

B. Corporate finance and corporate governance

i) General

Whereas most prior studies of corporate finance have worked out of a composite-capital set-up, transaction cost economics maintains that different investment projects need to be distinguished by their asset attributes. Also, rather than regard debt and equity as merely "financial instruments," they are regarded instead as different governance structures (35). This is consonant with a unified approach to the study of contract referred to above. The discriminating use of debt and equity thus turns out to be yet another illustration of the proposition that many apparently disparate phenomena are variations on the very same underlying transaction-cost economising theme (36).

As developed below, the parallels between corporate finance and vertical integration are striking. Thus the (corporate finance) decision to use debt or equity to support individual investment projects is closely akin to the (vertical integration) decision to make or buy individual components or subassemblies. Not only is the "market mode" (debt; outside procurement) favoured if asset specificity is slight, but the costs of the market mode go up relatively as the contractual hazards increase. Also, the disabilities of internal organisation (equity; internal supply) turn critically in both instances to the earlier described impossibility of selective intervention. It will simplify the argument to assume that there are only two forms of finance and that projects must either be financed entirely by debt or by equity (but not both). To motivate the argument, assume initially that there is only one form of finance, debt, and assume that projects are arrayed, from least to most, in terms of their asset specificity. Thus suppose that a firm is seeking to finance the following: general-purpose, mobile equipment; a general-purpose office building located in a population centre; a general-purpose plant located in a manufacturing centre; distribution facilities located somewhat more remotely; special-purpose equipment; market and product development expenses; and the like.

Suppose further that debt is a governance structure that works almost entirely out of rules. Specifically, assume that debt financing requires the debtor to observe the following: (1) stipulated interest payments will be made at regular intervals; (2) the business will continuously meet certain liquidity tests; (3) sinking funds will be set up and principal repaid at the loan-expiration date; and (4) in the event of default, the debt-holders will exercise pre-emptive claims against the assets in question. If everything goes well, interest and principal will be paid on schedule. But debt is unforgiving if things go poorly. Failure to make scheduled payments promptly results in liquidation (37). The various debt-holders will then realise differential recovery in the degree to which the assets in question are redeployable.

Since the value of a pre-emptive claim declines as the degree of asset specificity deepens, the terms of debt financing will be adjusted adversely. Confronted with the prospect that specialized investments will be financed on adverse terms, the firm might respond by sacrificing some of the specialized investment features in favour of greater redeployability. But this entails tradeoffs: production costs may increase or quality decrease as a result. Might it be possible to avoid these by inventing a new governance structure to which suppliers of finance would attach added confidence? In the degree to which this is feasible, value-enhancing investments in specific assets could thereby be preserved.

Suppose, *arguendo*, that a financial instrument called equity is invented and assume that equity has the following governance properties: (1) it bears a residual-claimant status to the firm in both earnings and asset-liquidation respects; (2) it contracts for the duration of the life of the firm; and (3) a board of directors is created and awarded to equity that (a) is elected by the pro-rata votes of those who hold tradeable shares, (b) has the power to replace the management, (c) decides on management compensation, (d) has access to internal performance measures on a timely basis, (e) can authorise audits in depth for special follow-up purposes, (f) is apprised of important investment and operating proposals before they are implemented, and (g) in other respects bears a decision-review and monitoring relation to the firm's management.

The board of directors thus "evolves" as a way by which to reduce the cost of capital for projects that involve limited redeployability. Not only do the added controls to which equity has access have better assurance properties, but equity is more forgiving than debt. Efforts are therefore made to work things out and preserve the values of a going concern when maladaptation occurs. Thus whereas the governance structure associated with debt is of a very market-like kind, that associated with equity is much more intrusive and is akin to administration. The correspondence to which I referred earlier between outside procurement/debt and vertical integration/equity therefore obtains.

Again, let k be an index of asset specificity and let the cost of debt and equity capital, expressed as a function of asset specificity, be $D(k)$ and $E(k)$, respectively. A switch-over will obtain as asset specificity increases if $D(0) < E(0)$ but $D' > E' > 0$.

That $D(0) < E(0)$ is because debt is a comparatively simple governance structure. Being a rule-governed relation, the set-up costs of debt are relatively low. By contrast, equity finance, which is a much more complex governance relation that contemplates intrusive involvement in the oversight of a project, has higher set-up costs. Allowing, as it does, greater discretion, it compromises incentive intensity and invites politicking.

Although the costs of both debt and equity finance increase as asset specificity deepens, debt financing rises more rapidly. That is because a rule-governed regime will sometimes force liquidation or otherwise cause the firm to compromise value-enhancing decisions that a more adaptable regime (into which added controls have been introduced), of which equity governance is one, could implement. Accordingly, $D' > E' > 0$. The upshot is that whereas highly redeployable assets will be financed with debt, equity is favoured as assets become highly nonredeployable. Let k be the value of k for which $E(k) = D(k)$.

The optimal choice of all-or-none finance thus is to use debt finance for all projects for which $k < k$ and equity finance for all $k > k$. Equity finance is thus reserved for projects where the needs for nuanced governance are great.

By contrast with the earlier literature, which began with an equity-financed firm and sought a special rationale for debt, the transaction cost economics approach postulates that debt (the market form) is the natural financial instrument. Equity (the administrative form) appears as the financial instrument of last resort.

Applications of the argument include leasing (which is well-suited to durable, easily redeployable assets) and to leveraged buyouts. Suppose, with reference to the latter, that a firm is originally financed along lines that are consistent with the debt and equity financing principles set out above. Suppose further that the firm is successful and grows through retained earnings. The initial debt-equity ratio thus progressively falls. And suppose finally that many of the assets in this now-expanded enterprise are of a kind that could have been financed by debt.

Added value, in such a firm, can be realised by substituting debt for equity. This argument applies, however, selectively. It only applies to firms where the efficient mix of debt and equity has gotten seriously out of alignment. These will be firms that combine (1) a very high ratio of equity to debt with (2) a very high ratio of redeployable to nonredeployable assets. Interestingly, many of the large leveraged buyouts in the 1980s displayed precisely these qualities (38).

Note, moreover, that there is no necessary inconsistency in initially taking a corporation private (in the above-described way) and subsequently going public. Two factors support such a two-stage program. For one thing, those who take the corporation private can be presumed to have deep knowledge of the merits of the transaction. Outsiders, by contrast, may need to have a performance record to be convinced of the merits. Public ownership, on terms that reflect full valuation, thus awaits an examination of the data. Secondly, the prospect that added rewards will be realised at the going public stage if the company performs well in the period between going private and its return to (albeit reconfigured) public status is a source of added incentive to the management. Harnessing incentive intensity is a leading purpose of the transaction.

The transaction cost approach to economic organisation also has ramifications for whether the incumbent management will participate much or little in the refinancing and restructuring of the corporation. Should they be owners or should they be displaced instead? The argument is this: since employment continuity is the source of added value wherever firm-specific human capital is great, a management buyout is favoured by high human-asset specificity, *ceteris paribus*. Thus whereas a substitution of debt for equity is warranted in any firm where redeployable physical assets are equity financed, an informed choice between continuing and removing incumbent managers requires that the human assets of the managers be assessed. The buyout transaction is therefore influenced by the condition of <u>both</u> physical and human-asset specificity.

It should not go unnoticed that the argument is not working entirely out of a project-financing framework. If the object is to price assets that have

good redeployability in the aggregate, then firms that are operating in mature (but not declining), competitively organised industries would appear to be good candidates. Something akin to composite-asset considerations thus arise. The recent treatment of asset sales and debt capacity by Andrei Shleifer and Robert Vishny (1991) is broadly consonant. My interpretation of their treatment of how to deal with firms that have gotten into "financial trouble" is set out in Figure 3.

As shown in Figure 3, firms in financial trouble can deal with it either through financial restructuring or through asset sales. I interpret the former as the process of bringing debt and equity into better alignment with the characteristics of the assets. Asset sales involve divestiture. Here assets may remain in the same industry (same-use) or move to a different industry (different-use). The latter is possible if the physical assets are generic ($k_p = 0$), while specialized assets will presumably remain within the same industry ($k_p > 0$). Same-use physical assets undergo a further split.

Such assets can be purchased either by a buyer already in the industry (possibly by the management of the divested division, who organise a leveraged buyout) or by a new entrant to the industry. The former implies that human asset specificity is significant ($k_h > 0$), while if $k_h = 0$, then the human assets needed to operate the industry-specific physical assets are not great.

ii) Corporate governance comparisons: the United States, Germany and Japan

The banks in Germany and Japan are much more extensively involved in corporate governance than in the United States. What explains these differences? Both legal restraints (Roe, 1990) and path dependency (Harley, 1991) are contributing factors.

The laws separating banking and commerce are much more restrictive and/or enforced in more restrictive ways in the United States as compared with Japan and Germany. A long history of "popular mistrust of large financial institutions" in the United States is reflected in a series of legislative restrictions on banking (chief among which are the Glass-Steagall Act of 1933 and the Bank Holding Company Act of 1956) and on the enforcement attitude of the Securities and Exchange Commission. William O. Douglas expressed the prevailing sentiment when, as chairman of the SEC, he stated that the "banker [should and will be] restricted to...underwriting or selling. Insofar as management [and] formulation of industrial policies [are concerned]...the banker will be superseded" (Roe, 1990, p. 11).

Family-controlled zaibatsu groupings served to concentrate ownership and exercise corporate control in pre-World War II Japan. The zaibatsu were dissolved under the U.S. occupation, but "these reforms seem to have had little impact....[By the mid-sixties the zaibatsu groupings had been reincarnated in the shape of the financial keiretsu" (Berglof and Perotti, 1991, p. 4). Contrary to the intentions of the U.S. occupation administration, the Japanese organised around the restrictions.

Thus, although individual banks in Japan are permitted to hold stocks in non-financial companies only up to a maximum of 5 per cent, combinations of banks can and do own more: "Financial institutions as a whole (including insurance companies) own about 40 per cent of the total stock outstanding of

listed companies" (Aoki, 1990, p. 14). What is additionally interesting, moreover, is that banks behave collectively: one "main bank" is assigned to each company. Masahiko Aoki describes the relation as follows (1990, p. 14):

The main bank plays the role of manager of a loan consortium when a group of banks extends major long-term credit to the company, and it is responsible for closely monitoring the business affairs of the company. If the company suffers a business crisis, the main bank assumes major responsibility for various rescue operations, which include the rescheduling of loan payments, emergency loans, advice for the liquidation of some assets, the facilitation of business opportunities, the supply of management resources, and finally reorganisation, to secure the claims of the consortium (Sheard, 1989). In the normal course of events, however, the main bank exercises explicit control neither in the selection of management nor in corporate policy making. Although this bank ownership system insulates the incumbent management of Japanese firms from take-over raids through the open market (Aoki, 1990, p. 14), management displacement nevertheless can be and sometimes is orchestrated by the main bank (Aoki, 1990, p. 15).

Indeed, the story of Japanese corporate governance is actually more complicated. The Japanese employment relation, Japanese subcontracting practices, and the above-described main bank system are all joined (Aoki, 1992). Figures 4a and 4b, shown below and elaborated elsewhere (Williamson, 1991c, pp. 87-91), locate the employment relation as the central feature to which banking and subcontracting provide needed support. The upshot is that Japanese economic organisation is a syndrome of related contractual attributes (which is to say there is no single "silver bullet"), the combined effect of which is to realise the proposition that economy is the best policy.

C. Knick Harley appeals to path dependency considerations in explaining the involvement of German banks with German corporations. Relying on Alexander Gershenkron (1966), Harley interprets the German banks as a substitute for the underdeveloped state of German financial markets (Harley, 1991, p. 40). Because of the lack of a broad financial market, German firms and banks "depended on continuing relationships with each other" of a bilaterally dependent kind (Harley, 1991, p. 40). Unlike in the United States, moreover, those relationships were not subsequently limited by legislative restraints. To the contrary, German banking laws have remained permissive: it "is only in the Federal Republic of Germany and Luxemburg that banks are subject to no restrictions at all on their ability to participate in non-bank corporations" (Eckstein, 1980, p. 466). Understandably, this has attracted the attention of banking and antitrust authorities. The German Commission on Banking Structure reported that of the 74 large enterprises quoted on the stock exchange in 1974/75, credit institutions in aggregate (Eckstein, 1980, p. 470):

-- owned 9 per cent of the capital stock;

-- represented on average more than 62 per cent of the votes in the stockholders' meetings; and

-- held 18 per cent of the seats on the supervisory boards (including employees' representatives). The mechanism through which the banks represent so many votes has been explained as follows: "Since the nineteenth century banks have also provided the country's

stockbroking services, and about half of all shares are deposited by the owners with the banks, both for safe custody and to minimize personal transaction-cost. Subject to restrictions specified under company law, the bank may then exercise proxy voting rights on behalf of the owner" (Cable, 1985, p. 120).

In addition to bank involvement through the direct ownership and control of proxies and representation on supervisory boards, the supply of loans is also pertinent. John Cable and M. Dirrheimer observe with respect to the last that bank borrowing is second only to cash flow as a "source of funds for longer-term investment as well as for financing inventories, etc., contributing some 20 per cent of corporate funds on average in the period 1964-1978" (1983, p. 50). They conclude that German banks perform many of the internal capital market functions that have been ascribed to multidivisional firms in the United States and in the United Kingdom (1983, p. 50).

Cable subsequently examined the relation between banks and corporate profitability, especially in relation to the ratio of bank borrowing to total corporate debt, which measure "is intended to capture the closeness of the bank-company relationship in the provision of external finance, especially as regards the type and amount of information given" (Cable, 1985, p. 122). He reports a positive and significant effect and concludes that the results "are wholly consistent with the internal capital market hypothesis" (1985, p. 129). More generally, he contends that "it is bank control as well as bank lending which raises profitability" (1985, p. 130).

The upshot is that a contractual approach to the study of economic organisation informs the analysis of corporate finance and corporate governance quite generally. Differences in legal regimes are responsible for changes in the institutional environment, which changes are treated as "shift parameter" effects. Cross-national comparisons, which is to say, country studies, need to be informed by significant legal differences of these kinds. This is a matter to which I return in Section V, below.

C. The modern corporation

Recall that Demsetz explained the modern corporation in property rights terms (see II.B(i), above). Transaction cost economics mainly takes property rights and other legal rules as given and inquires into the organisational and contracting consequences. Differences between the property rights and contractual approach to the modern corporation include the following:

1) The property rights approach pays little or no heed to organisation form and organisational innovation. By contrast, transaction cost economics maintains that organisation form matters greatly and that organisational innovation has been the source of significant productivity improvement (Williamson, 1981).

2) The property rights theory holds that shareholders are lenders of equity capital and not owners. Transaction cost economics maintains that debt and equity are vastly different governance instruments, the one working out of rules, the other discretion. "Awarding" the board of directors to the owners of equity capital is neither adventitious

nor an exercise of raw power. It reflects a contractual logic with far-reaching investment and performance consequences.

3) Property rights theory holds that the transferability of shares permits shareholders to "get out" if shareholder and management preferences get out of alignment. Transaction cost economics interprets the transferability of shares principally as a means by which to concentrate ownership and change the management if the management indulges managerial discretion. According to this conception, significant performance failures invite take-over, which is a device by which to bring managerial activities back into alignment with shareholder preferences for efficiency and profit. That is a more ambitious conception of the purposes served by transferability.

D. Regulation and deregulation

Monopoly supply is efficient where economies of scale are large in relation to the size of the market. But as Milton Friedman (1962, p. 128) observed, "There is unfortunately no good solution for technical monopoly. There is only a choice among three evils: private unregulated monopoly, private monopoly regulated by the state, and government operation."

That Friedman characterised private unregulated monopoly as an evil is because he assumed that private monopoly ownership implied pricing on monopoly terms. As subsequently argued by Harold Demsetz (1968), George Stigler (1968), and Richard Posner (1972), however, a monopoly price outcome can be avoided by using *ex ante* bidding to award the monopoly franchise to the firm that offers to supply product on the best terms. Demsetz (1968, p. 57) advanced the franchise bidding for natural monopoly argument by stripping away "irrelevant complications -- such as equipment durability and market and technological uncertainties. Stigler proposed that "customers can auction off the right to sell electricity, using the state as an instrument to conduct the auction.... The auction...consists of...[franchise bids] to sell cheaply" (1968, p. 19). Posner agreed and furthermore held that franchise bidding is an efficient way by which to award and operate CATV franchises.

Transaction cost economics recognises merit in the argument but insists that both *ex ante* and *ex post* contracting features be examined. Only if competition is efficacious at <u>both</u> stages does the franchise bidding argument go through without qualification. The attributes of the good or service to be franchised are crucial to an accurate assessment. Specifically, if the good or service in question is supported by nontrivial investments in specific assets and is supplied under conditions of market and technological uncertainty, then the efficacy of franchise bidding is problematic. There being no costless choices, the strengths and limitations of franchise bidding must be compared with the strengths and limitations of regulation. Sometimes that calculus comes out one way, sometimes another (Joskow and Schmalensee, 1983).

Examples where franchise bidding can be expected to supplant regulation or public ownership include local service airlines and, possibly, postal delivery. The winning bidder for each can be displaced without posing serious asset valuation problems -- since the base plant (terminals, post offices,

warehouses, etc.) can be owned by the government and other assets (planes, trucks, etc.) will have an active second-hand market. It is not, therefore, that franchise bidding is lacking in merit. Here as elsewhere, however, the determination of which system is best requires a comparative institutional assessment -- which will vary with the attributes of the transaction.

The selective application of the argument has clear ramifications for deregulation -- where such reforms are feasible and where they are not. Interpreted in terms of the contractual schema in Figure 2, above, regulation can be interpreted as a safeguard arrangement of a node C kind and warrants examination only if $k > 0$. Deregulation is a node A outcome. Industries with negligible asset specificity are the obvious candidates for deregulation.

Although the polar cases may be relatively easy to treat, how are industries for which assets are only moderately specific (in kind or amount) to be organised? Plainly, rate of return regulation significantly weakens incentive intensity. As rival technologies pose added competitive options and/or as the costs of duplication fall, the benefits of incentive intensity take on greater (comparative) significance in reaching a new assessment. The issues here are complicated; transaction cost reasoning has helped to reshape the dialogue and sort them out (Joskow, 1991).

E. The socialist controversy

The socialist controversy pitted Oskar Lange and Abba Lerner against Friedrich Hayek and Ludwig von Mises. Who won the socialist controversy and why? Would that controversy have come out differently if the focus had been different?

Although Schumpeter took exception with the application of neo-classical economic theory to capitalism, he did not question its adequacy for assessing socialism. His response to the query "Can socialism work?" was "Of course it can" (1942, p. 167). There was, in his judgement, "nothing wrong with the pure theory of socialism" (Schumpeter, 1942, p. 172). Abram Bergson concurred: "there can hardly be any room for debate; of course socialism can work. On this, Lange certainly was convincing" (1948, p. 447). As Joseph Persky remarks, "the general consensus held that Lange had won the debates with his formal arguments from welfare economics" (1991, p. 230, n. 1).

But does allocative efficiency, which is a technical criterion, really implicate the main problems with socialism? Or is opportunism/managerial discretion/bureaucratisation more central? To his credit, Lange raised (but thereafter dismissed) the crucial issue of bureaucratisation (Lange, 1938, pp. 109-110; emphasis in original):

> There is also the argument which might be raised against socialism with regard to the efficiency of public officials as compared with private entrepreneurs as managers of production. Strictly speaking, these public officials must be compared with corporation officials under capitalism, and not with private small-scale entrepreneurs. The argument thus loses much of its force. The discussion of this argument belongs to the field of sociology rather than of economic theory and must therefore be dispensed with here. By doing so we do not mean, however, to deny its great importance. It seems to

us, indeed, that the real danger of socialism is that of a bureaucratisation of economic life, and not the impossibility of coping with the problem of allocation of resources. Unfortunately, we do not see how the same, or even greater, danger can be averted under monopolistic capitalism. Officials subject to democratic control seem preferable to private corporate executives who practically are responsible to nobody.

This formulation is important in three respects. First, and most important, Lange expressly entertains the possibility that efficacy of socialism turns less on realising the requisite technical conditions for efficient resource allocation than it does on bureaucratisation. Second, Lange invokes a comparative institutional test: is bureaucratisation really worse under socialism than it is under monopoly capitalism? And third, he observes that the study of bureaucracy is outside the scope of economics and belongs to sociology.

Transaction cost economics concurs in the first two respects but insists that the scope of economics needs to be enlarged to include bureaucracy. As discussed elsewhere (Williamson, 1991b; 1992b), socialism was brought down not by the failure to implement marginal cost pricing but by the overweening (and cumulative) costs of bureaucracy. The propensity to prescribe benign purposes to bureaucracy needs to give way to analyses in which there are no privileged forms but all, in varying degrees and ways, are subject to bounded rationality and opportunism.

V. Applications to Country Studies

Applications of transaction cost economics to country studies -- the comparative study of economic systems and performance -- are just now beginning to be considered. My discussion is necessarily very preliminary and highly provisional. If, however, it really is true that institutions matter and that institutions are susceptible to analysis, then an understanding of economic organisation within and between countries ought to be informed by an institutional perspective.

Transaction cost economics is first and foremost an exercise in positive economics. As heretofore indicated, it is concerned with and attempts to describe and assess the ramifications of both "human nature as we know it" (39) and of "real institutions" (40). The litmus tests of human and institutional realities are thus continuously applied.

It is elementary that normative prescriptions that are based on hypothetical forms of organisation that cannot be implemented (except, perhaps, under very special circumstances -- such as in small, carefully screened, and socially conditioned groups) are operationally irrelevant. Aside from providing a hypothetical standard, such optimality exercises can and have "directed economists' attention away from the main question, which is how alternative arrangements will work in practice" (Coase, 1964, p. 195). The above-described misconceptions about socialism are illustrative. Once the powers and limits of alternative forms of organisation are understood, however, a prescriptive approach to a high performance economy can be attempted. Normative applications of positive economics can proceed on two levels.

The first takes the rules of the game as given and asks how these should be applied. Consider antitrust enforcement, or corporate governance, or regulation (as discussed in sections IV.A, IV.B and IV.C, above). If the firm is regarded mainly in technological terms, and non-standard behaviour is thought to have mainly monopoly purpose and effect, then antitrust will be enforced very aggressively. If, instead, the firm is regarded mainly as a governance structure, and if non-standard behaviour is presumed to have efficiency purposes unless a nontrivial market power threshold is exceeded, then antitrust enforcement will be much more permissive. The very same rules will therefore be enforced very differently, depending on which theory of the firm is believed to be more correct. The positive theory -- of technology or governance -- thus has massive (normative) enforcement implications.

The second level asks whether changes in the rules of the game (the institutional environment) can be made, the effect of which would be to induce higher performance from the institutions of governance. This section develops this latter set of normative issues. I begin with an examination of the actual or purported weaknesses of transaction cost economics, then examine alternative definitions of a high-performance economy, and conclude with a discussion of how country studies might be re-shaped to reflect the value added of institutional economics.

A. Actual and purported weaknesses

i) Conceptual

It is often useful to think of economic activity as being organised in three stages. The first stage involves innovation and development; the second stage involves the production and distribution of goods and services; and the third stage involves satisfying final demand. Transaction cost economics is most well developed at stage two (dealing with intermediate product markets, financial markets, labour markets). The issues posed by early stage development (including R&D, technology races and other real-time responsiveness issues, and added appropriability hazards) are more complicated. That is not to say that transaction cost economics is irrelevant or cannot be brought to bear (it can: see Teece (1986), Pisano (1990), Williamson (1991a), Langlois (1992)). The state of the art, however, is decidedly primitive.

This is also true for servicing final demands. One of the complications here is that it is much more difficult for consumers, as compared with firms, to solve problems of bounded rationality through "organisation." Thus whereas large corporations can deal effectively with many complex problems by hiring specialists who possess and/or can acquire deep knowledge, that is more difficult for final consumers.

Again, the transaction cost economics literature is partly responsive. Rate of return regulation in public utilities, for example, is interpreted as a means by which to infuse credible commitments into an otherwise hazardous contracting relation (Goldberg, 1976; Williamson, 1976). Health care is another area where information asymmetries (between physician and patient) pose difficult contracting issues. Despite best efforts by physicians to candidly disclose, the limited capacities of patients to meaningfully process the

information received are often great. Efforts by neo-classical economics to address these matters have not been notably successful. Whether recent efforts to apply transaction cost economics will have greater success remains to be seen. It is noteworthy, however, that such efforts have begun to appear (Robinson, 1992). The triple of bounded rationality, opportunism, and asset specificity together with the idea of discriminating alignment appear to have promise for unpacking health care (Gardner, 1992).

ii) Empirical

Transaction costs are sometimes treated as whimsy. Such costs are purportedly non-measurable. And transaction cost arguments are too easily invoked *ex post* to explain any outcome whatsoever.

My responses are four: (1) I agree that more quantitative measures would be useful, (2) sometimes that can be done, (3) yet qualitative analysis suffices for a wide range of issues, and (4) transaction cost economics should not be held to a higher standard than orthodoxy, much of which is highly qualitative. My focus here is on the second of these, but it is noteworthy that transaction cost economics has developed a logic of economic organisation that invites and has been subject to considerable empirical testing. As discussed in III.D(iii), above, there have been roughly 200 empirical studies of the qualitative predictions of transaction cost economics -- as to when complex contracting will be employed, when vertical integration will appear, when labour requires added governance support, when debt finance is supplanted by equity finance, when deregulation is appropriate, etc. These tests, moreover, have been mainly corroborative. And although quantitative measures of transaction costs are few, that is sometimes remediable.

For one thing, indirect measures can sometimes be devised. Consider, for example, the decision by a highly specialized supplier to locate remotely -- in, say, a population centre -- rather than construct a plant immediately adjacent to the buyer. Since transportation costs would be saved by locating adjacently, the added transportation costs can be taken as a lower bound estimate on the amount of added contractual difficulty that the supplier projects would result were it to become locationally more dependent on (specialized to) the buyer.

Or suppose that a firm procures from two independent suppliers, despite diseconomies of small scale that accrue thereto. The production cost diseconomies can be treated as a lower bound estimate on the added transaction costs that are projected if the buyer were to purchase sole source rather than dual source.

Or suppose that a firm undergoes ownership and financial changes (due, say, to a management buyout), as a consequence of which the value of the firm is increased significantly. The implied costs of managerial discretion (under the earlier ownership and financial arrangements) can then be inferred from the resulting increase in value.

The logic of transaction cost economics sometimes permits organisational mistakes to be discerned, to which added production costs can be projected. The mistaken compensation logics of Tenneco (in acquiring Houston Oil and Gas) and of General Motors (in issuing special Class E stock when acquiring EDS

Corporation) would be evident *ex ante* to a transaction cost economics specialist, whereupon serious problems in managing these transactions (contrary to the official announcements and supporting rationale) could have been predicted. The same is true of excesses of vertical integration (Williamson, 1985, Chapter 5).

Also, absolute values of transaction cost differences can sometimes be inferred econometrically. The recent application of James Heckman's (1980) censored regression techniques by Scott Masten, James Meehan, and Edward Snyder (1991) provide an example. In the context of the firm that they were studying, failure to organise transactions "appropriately" could double the transaction costs (increasing them from 14 to 28 per cent of the total (Masten *et al.*, 1991, p. 20)).

Other devices for getting at transaction costs (directly or indirectly) include examination inventories (focusing on interdependencies between stages or between companies) and legal expenses (which are especially pertinent in making international comparisons of legal regimes (Langbein, 1987)), and from crisis related reductions in force (Williamson, 1964). More generally, the devices for getting absolute measures on transaction costs are limited not merely by real difficulties but also by failures of effort and imagination.

B. High-performance economies

High-performance economies are described variously. The conventional description runs in terms of aggregative measures of economic activity: level and growth of national income, macrostability, income distribution. Institutional economics emphasises different but complementary measures: investment confidence, contractual confidence, competition, and the discriminating alignment of governance structures in relation to transactions. Credible commitments, or the lack thereof, play a prominent role throughout.

i) Credible investment

High-performance regimes are ones that credibly promise investors their just desserts. Protection against wilful and remediable private and public expropriation is one of the the main concerns here.

Note that perfect compensation against expropriation is not the relevant standard. Sometimes it is prohibitively costly to ascertain who has expropriated whom and in what degree. The deep problems of information impactedness (Arrow, 1962) that complicate the definition and enforcement of intellectual property rights (Teece, 1986) are illustrative.

Similar problems can arise in ascertaining the consequences associated with changing property rights (for example, the exercise of eminent domain) by the state. Requiring the state to compensate losers for every change in property rights would be inefficient and stultifying. Sometimes the costs of compensation are prohibitive -- because the relevant data are not costlessly available (bounded rationality) and because individual parties cannot be relied upon candidly to disclose true effects (opportunism). If, however, the losses imposed by a change in the rules are easy to ascertain and if refusal to compensate signals strategic expropriation, then failure to compensate will

discourage future investments of this genre -- which is a manifestation of "demoralization costs" (Michelman, 1967). Investments will be deflected from productive, but politically risky projects, to less productive but safe havens. Less durable and more mobile investments will be favoured and/or capital may flee.

The institutional environment will pose investment hazards if: (1) the constitution lacks protective covenants; (2) the political regime is perceived to lack stability and is perceived to be predatory; (3) the regulatory and enforcement agencies of the state are given to regulatory excesses (possibly because future effects are unrecognised or are mindlessly dismissed); and (4) the judiciary is incompetent or corrupt. On the one hand, this is all so obvious that it hardly warrants remark. What may be obvious, however, has received scant attention in the literatures dealing with economic development and reform.

Recall Berman's admonition that the law transcends politics: "The monarch, it is argued, may make the law, but he may not make it arbitrarily, and until he has remade it -- lawfully -- he is bound by it" (1983, p. 9). That is a hard message and is widely ignored. Thus Mikhail Gorbachev advised U.S. firms to invest quickly in the Soviet Union rather than wait, since "Those [companies] who are with us now have good prospects of participating in our great country...[whereas those who wait] will remain observers for years to come -- we will see to it" (41). That the leadership of the former Soviet Union "will see to it" that early and late movers will be rewarded and punished, respectively, reflects conventional carrot-and-stick incentive reasoning. What it misses is that ready access to administrative discretion is the source of contractual hazard. The paradox is that fewer degrees of freedom (rules) can have advantages over more (discretion) because added credible commitments can obtain in this way. Effective economic reform thus requires that reneging options be foreclosed if investor confidence is to be realised.

Thus the fear of expropriation experienced by craftsmen and small shopkeepers in Hungary does not vanish upon "repeated official declarations that their activity is regarded as a permanent feature of Hungarian socialism" (Kornai, 1986, p. 1705). Partly that is explained by the fact that "These individuals or their parents lived through the era of confiscation in the forties" (Kornai, 1986, pp. 1705-1706). But there is more than a simple projection that what has happened in the past could be repeated in the future. There is also a concern that structural reforms are lacking in commitment. If commitments to the market are tepid and if the structure of government, including the judiciary, is constitutionally weak, then the future is fraught with hazard.

In this respect, the efficacy of the Marshall plan in Western Europe and of the economic revitalisation of Japan are pertinent. Factors contributing to these "economic miracles" include (Williamson, 1990, p. 27):

1) The populations of those countries possessed considerable production and organisational skills;

2) Development sent a strong signal that occupying nations were committed to the economic recovery of the now-defeated aggressors;

3) Development provided key seed-money; and

4) The occupation assured that political and legal stability would be in place during the critical years during which returns from investment by private parties would be realised.

The first and third of these are commonly referred to. The second and fourth, by contrast, receive much less attention. I submit that these neglected factors are vitally important. Indeed, but for the perception of credible commitment to lasting reform -- including respect for both property and contract -- it is greatly to be doubted that economic aid by itself would have done the job.

J. Bradford De Long and Barry Eichengreen have since studied the mechanisms and consequences of the Marshall Plan and reached similar conclusions. The main benefits, in their judgement, were "not direct increases in productive capacity made possible by aid" (1991, p. 4). Rather, "the Marshall Plan significantly sped Western European growth by altering the environment in which economic policy was made" (DeLong and Eichengreen, 1991, p. 3). Sometimes this entailed pressuring "European governments to decontrol and liberalize even when they wished to do otherwise" (DeLong and Eichengreen, 1991, p. 3) -- although the need for pressure was highly variable, being much less in Germany than in England or Italy. DeLong and Eichengreen conclude that while economic aid "can help as an incentive and as a cushion to make reform possible,...aid cannot substitute for reform. The key remains the successful execution of structural adjustment" (1991, p. 4).

To be sure, the reforms that they emphasise involve "policies that accelerate the move toward market organization, free trade, and financial stability" (DeLong and Eichengreen, 1991, p. 4), whereas those that I emphasise deal with the "security of expectations," as mediated by legal and political institutions. These are complementary, however, and both are to be contrasted with what had long been the prevailing views on economic development and reform. As Francis Fukuyama reports, "In the 1950s, when the Argentine economist Raul Prebisch headed the United Nations Economic Development for Latin America, it was fashionable to attribute underdevelopment not only of Latin America but of the Third World more generally to the global capitalist system. It was argued that early developers in Europe and America had in effect structured the world economy in their favour and condemned those who came later to dependent positions as providers of raw materials" (1992, pp. 41-42). Those views have since given way to an understanding that capitalist economic organization supported by credible commitments to property, contract, and democracy are the crucial ingredients (Fukuyama, 1992, pp. 42-44). Indeed, De Long and Eichengreen speculate that "Without the Marshall Plan, the pattern of post-World War II European political economy might well have resembled the over-regulation and relative economic stagnation of post-World II Argentina, a nation that has dropped from First to Third World status in two generations" (1991, p. 4, n. 3).

The argument comes down to this: constitutional guarantees are a necessary but not a sufficient condition for a credible investment climate to obtain. Credible guarantees additionally require the support of a political and economic system that is respectful of property rights (which perception will be reflected in the security, or lack thereof, of investment

expectations). Unsupported constitutional guarantees will be discounted by investors who perceive them to be lacking in credible political commitments (Weingast, 1992).

ii) Credible contracting

A credible contracting environment reduces incentives to supplant markets by hierarchies. To be sure, there will always be some transactions for which hierarchy is the superior governance form. Inasmuch, however, as hierarchy always entails a loss of incentive intensity and incurs added bureaucratic costs, hierarchy should supplant markets only if the associated adaptive gains more than offset the added costs.

Credible contracting will be facilitated if (1) contract laws are well-conceived, (2) the judiciary is competent, and (3) contract enforcement is respectful of private ordering. The main question with respect to the first of these is whether contract laws reflect an underlying appreciation for the full efficiency effects of proposed contract law changes. Unintended consequences are sometimes pertinent. Franchise laws, for example, that have protectionist purposes can have the (unintended) effect of discouraging franchising, with net negative efficiency consequences.

Perceived disparities in power between franchisers (who are large) and franchisees (who are smaller and comparatively weak) often give rise to requests for legislative redress. Well intentioned though such efforts may be, they can also have the effect of undermining the integrity of the franchise system. If, for example, termination of a franchise "at will" is a cost effective means by which to deter individual franchisees from devaluing the quality image on which the system relies, then insistence on termination only "for cause" can run up the costs of enforcement and deter subsequent use of the franchise mode. The effect will be to favour forward integration and/or the redesign of franchise goods and services to reduce franchisor discretion (Klein, 1980; Williamson, 1985, pp. 180-182). As discussed in II.A, above, protectionist antitrust enforcement also undervalues efficiency.

The differential competence of judiciaries is little remarked but can also have a bearing on performance. John Langbein compares the American and European style of managing complex transactions and finds the American system wanting: "It is expensive, protracted, and unpredictable, and it does a poor job of discouraging frivolous lawsuits (or frivolous defenses)" (Langbein, 1987, p. 386). Partly that is because the American judiciary is "politically selected" whereas European judges "have been selected and promoted on criteria of ability, learning, and diligence" (Langbein, 1987, p. 386).

Corruption in the judiciary is especially discouraging. If, upon "ultimate appeal," there is no principled institution to restore integrity, then credibility (except as crafted entirely through private ordering) is sorely lacking. Investments are deterred and/or reorganised.

A competent and honest but overzealous judiciary can also be a problem. The "legal centralist" approach to contract is an example of excessive judicial zeal -- where legal centralism refers to the idea that "disputes require 'access' to a forum external to the original social setting of the dispute [and that] remedies will be provided as prescribed in some body of authoritative

learning and dispensed by experts who operate under the auspices of the state" (Galanter, 1981, p. 1). The facts, however, disclose that in "many instances the participants can devise more satisfactory solutions to their disputes than can professionals constrained to apply general rules on the basis of limited knowledge of the dispute" (Galanter, 1981, p. 4). Respect for private information and the costs of accurate and nuanced disclosure is vital.

Access to the courts for purposes of "ultimate appeal" is nonetheless important. The limits on legal centralism notwithstanding, the idea that competent courts are available for purposes of contract enforcement has integrity infusing properties. The prospect that contract disputes can ultimately be appealed to the courts serves to delimit threat positions -- which facilitates more efficient private ordering.

iii) Competition

A high-performance economy is one in which competition in the product and capital markets are both effective. A chronic concern is that well-intentioned efforts to curb competition of both kinds will degrade performance. Examples include the excesses of antitrust enforcement in the Unite States in the 1960s and excesses of banking regulation in the United States in the 1930s, both of which are described above.

Such excesses are less likely where there is greater confidence in the Schumpeterian process of "handing-on," whereby consumers are the lagged but ultimate beneficiaries of efficiency gains (purposive restrictions on imitation and rivalry aside). Intertemporal tradeoffs are implied. A patient willingness to allow innovators to reap what may be large initial rewards is required. Absent a credible commitment not to expropriate winners, research and risk-taking will arguably be attenuated.

iv) Discriminating alignment

As already indicated, a high-performance economy is one that has confidence in the efficacy of contracting. High-performance economies thus have weaker incentives to integrate, *ceteris paribus*.

More generally, high-performance economies support a wide range of governance structures -- markets, long-term contracts (with various vertical restraints), partnerships, corporations, regulation, nonprofits, etc. -- which are thereafter aligned with transactions in a discriminating way.

One of the questions that arises is whether the state should take a more active role in favouring and disfavouring certain forms of economic organization. If so, what are the more favoured forms? Economic reforms in Eastern Europe have brought renewed attention to worker-management modes of economic organization (Weisskopf, 1991). Lest reform economies uncritically adopt capitalist modes of economic organization in which finance has a significant say in the oversight of and strategic decisions of the firm, the devolution of control over state enterprises "to communities of citizens and/or workers rather than conventional privatization" is proposed as a viable and superior alternative (Weisskopf, 1991, pp. 5, 23-67).

The *sine qua non* for the worker-managed firm is that control by equity ownership be prohibited. Although some contend that such a prohibition is

without cost (Bonin and Putterman, 1987), that is because transaction cost issues are effectively suppressed by the orthodox framework that they employ. Governance issues never arise, hence cannot be assessed, with the orthodox firm-as-production function framework. If, however, a critical attribute of equity is the ability to exercise contingent control by concentrating votes and taking over the board of directors, then to ignore governance -- in the marginalist, firm-as-production function theory tradition -- is merely to replay the misconceptions of the socialist controversy.

Making allowance for governance reveals that the terms on which finance is made available will vary with the safeguards -- of which ultimate control over management is one. It is elementary, in a governance structure set-up, that finance will demand a premium whenever holders are provided with less security against mismanagement and expropriation. Accordingly, the worker-managed firm comes at a cost -- to which, of course, the worker-managed firm may be able to offer compensating advantages. If those advantages are not uniform but vary among firms and industries, then the net gains of the worker-managed firm will vary correspondingly. Firms that can be mainly financed with debt are the obvious candidates for worker-management. That is because if there is little equity-like capital at stake, then there is little reason for equity to ask or expect that pre-emptive control over the board of directors will be awarded to equity as a contractual safeguard. The question then is what types of firms best qualify for a preponderance of debt financing?

The partnership form of organization works well in professional organisations, such as law and accounting firms, where the need for firm-specific physical capital is small. There being little need for equity capital to support investment in such firms, the control of these firms naturally accrues to those who supply specialized human assets (Williamson, 1989, pp. 24-26; Hansmann, 1990). Also, peer group forms of organization can and do operate well in <u>small</u> enterprises where the membership has been carefully <u>screened</u> and is committed to democratic ideals (Williamson, 1975, Chapter 3). These exceptions aside, "third forms" experience serious incentive disabilities.

C. Implementation

A high-performance economy, according to the foregoing, will be characterised by: (1) considerable investment in durable, nonredeployable assets; (2) low rates of return on capital; (3) considerable contracting; and (4) vigorous (but not predatory) competition. Having confidence in the legal rules of the game and in the political and judicial processes, investors will not fear expropriation (through seizure, taxation, regulation, involuntary sharing) and will make cost-effective investments according to undistorted investment criteria. Required rates of return will vary directly with perceived expropriation hazards -- which explains why rates of return are low in a credible investment economy.

High-performance economies will engage in a lot of contracting because parties have confidence that private ordering will work well and that court enforcement, for purposes of ultimate appeal, will be done competently and with reference to efficiency criteria. Accordingly, the incentive to take transactions out of markets and organise them internally (resort to vertical integration) is reduced.

Finally, a high-performance economy is one in which the community has confidence that public intervention will be made for good cause. Antitrust enforcement will work out of an efficiency criterion. The same is true of regulation. In practice, this requires a sense that the efficiency purposes served by the private institutions of governance are well understood by the agencies of the state. Well-intentioned state intervention that works out of a myopic framework in which future investment and organisational consequences are ignored or dismissed will not infuse the requisite confidence.

Although the propositions advanced below are controversial, I would urge that, whether the effects are as I describe them or not, the issues raised are crucial to the country studies enterprise. Also note that the treatment is incomplete. Issues of macroeconomic stability, of transition difficulties, and of a welfare safety net are not addressed.

Those limitations notwithstanding, I propose that country studies can usefully benefit from taking measurements on and making comparisons and assessments with respect to the following features of the institutional environment and institutions of governance:

i) Contextual features

i) Politics, bureaus, judiciary. Credibility will be signalled by constitutional rules that are not easily reversed, by strict observance of democratic election procedures, by professionalisation of bureaus and courts, and by independence of the judiciary.

ii) Property law. Property rights should be defined and enforced so as to elicit efficient investments. That does not require that property rights be construed rigidly. Unanticipated changes in property rights must, however, make allowance for "demoralization costs" (Michaelman, 1967), lest credibility be devalued.

iii) Antitrust. Antitrust law can be written and/or enforced in ways that are inimical to efficiency. A high performance system is one that values efficiency, hence designs and enforces antitrust laws in ways that make appropriate provision for it. In general, antitrust should be permissive of the organization of economic activity in all sectors save those where nontrivial market power obtains. (Contract laws (against fraud, duress, and the like), criminal laws, property laws, etc. suffice to protect against unfair business practices in other contexts.)

iv) Regulation of monopoly. The redeployability of the assets in an industry are vital to a determination of whether rate of return regulation is warranted or not.

v) Consumer protection. Considerations of information asymmetry, weak reputation effects, long latency periods, and, sometimes, limited cognitive competence (as in minors) are all pertinent to consumer protection. These are to be distinguished from paternalistic regulation, which commonly works out of the good intentions set-up.

vi) Industry policy. Picking winners requires deep knowledge of industrial conditions and is very problematic (42). If infant industry arguments are employed, they should be used sparingly and for limited periods of time -- lest special interests be mindlessly served. An "even playing field" is a reasonable objective.

vii) Culture. An assessment of culture in terms of education, social conditioning, professionalisation, and the like can and should play an important role in studying comparative economic organization. In general, more knowledgeable parties to which reputation effects and professional codes and ethics apply more fully will support greater degrees of hybrid contracting, *ceteris paribus*.

ii) Contractual features

i) Intermediate product markets. Not only does each generic form of governance (market, hybrid, hierarchy) need to be supported by a distinctive form of contract law, but it is useful to examine each contract law regime "as if" it had the purpose of reducing the costs of that class of contracting, thereby to "maximise" the number of transactions organised by that mode of governance. It is elementary that contract enforcement is also important. Those countries and regions in which the judiciary is more knowledgeable and professional will elicit greater use of complex (hybrid forms of) contracting, *ceteris paribus*.

ii) Labour. Efficiency purposes are served by specialising the labour contract to the needs of the particular enterprise. Craft and industry unions serve a mixed constituency and have mixed purposes. Provided that the leadership of a bargaining and labour relations unit is competent and not corrupt, the cost effective way to organise labour is in an enterprise context.

iii) Capital. Capital markets and financial institutions perform two important services: they can and do allocate resources, and they can and do exercise governance. The laws regarding banking and securities ought mainly to be assessed with reference to the efficacy with which resource allocation and governance functions are discharged. Organised fraud, deceit, and collusion in banking and finance are especially troublesome, whence state oversight has a special role to play.

iv) Intellectual property. Contracting for and protecting rights in intellectual property poses special problems. An optimal policy here is difficult to prescribe but requires further study. The following proposition is nonetheless pertinent: weak regimes of appropriability will discourage firms from contracting. (Rather than risk the loss of valued knowhow, firms will rely more extensively on internal organization instead.)

v) Systems concerns. The distribution of branded product often poses reputation effect concerns for which a systems solution is

required. Lest individual distributors degrade the reputation of the system as a whole, contractual constraints and penalties that deter opportunism should be interpreted not as one-sided efforts to impose power but as instruments for assuring contractual integrity.

iii) Bureaucratic features

i) Modern corporation/organization form. The modern corporation is first and foremost an efficiency instrument. That is not to say that managerial discretion is not a concern or that monopoly purposes can be dismissed. Control over managerial discretion is, however, a leading purpose served by organization form changes. And monopoly purposes are a concern only in conjunction with durable monopoly power. Efficiency purposes will be served by granting corporations considerable latitude to craft cost-effective internal structures.

ii) Corporate governance. All constituencies that invest in firm-specific assets have an interest in the contractual integrity of the firm. In most cases, those interests will be best served by tuning up the contractual interface between the firm and the particular input. That applies to labour and debt capital alike. In the case, however, of equity capital, a more diffuse relation to the firm is implied. Making equity a residual claimant and giving it control over the board of directors is an efficient solution to many corporate governance issues. An active corporate control agent (be it through the banks or through the capital market) is needed to check excesses of managerial discretion in the modern corporation. Corporation law should be evaluated accordingly. Protectionist uses of the law to favour incumbent managements are a chronic concern.

iii) Partnerships. Partnership forms are different, in that these apply where physical assets are generic and the key governance issues relate to the membership. Co-operative forms likewise pose special issues, the efficiency features of which can also be assessed separately.

iv) Assets. An inventory of human and physical assets with reference to their industry- and firm-specific qualities is needed to evaluate economic organization.

Glossary

Asset specificity: a specialized investment that cannot be redeployed of alternative uses or by alternative users except at a loss of productive value. Asset specificity can take several forms, of which human, physical, site, and dedicated assets are the most common. Specific assets give rise to bilateral dependency, which complicates contractual relations. Accordingly, such investments would never be made except as these contribute to prospective reductions in production costs or additions to revenue.

Bilateral dependency: an on-going dependency relation obtains between a buyer and a supplier when one or both have made durable specialized investments in support of the other. Although sometimes this condition exists from the outset (the familiar bilateral monopoly condition), often it evolves during the course of an on-going contractual relation. Bilateral dependency, in which one or both parties specialise to the other, is a much more widespread condition than pre-existing bilateral monopoly. Such dependency poses contractual hazards in the face of incomplete contracting and opportunism, in response to which contractual safeguards are commonly provided.

Bounded rationality: refers to behaviour that is intendedly rational but only limitedly so; a condition of limited cognitive competence to receive, store, retrieve, and process information. All complex contracts are unavoidably incomplete because of bounds on rationality.

Bureaucracy: the support staff that is responsible for developing plans, collecting and processing information, operationalising and implementing executive decisions, auditing performance, and, more generally, providing direction to the operating parts of a hierarchical enterprise. Bureaucracy is attended by low-powered incentives (due to the impossibility of selective intervention) and is given to subgoal pursuit (which is a manifestation of opportunism).

Contract: an agreement between a buyer and a supplier in which the terms of exchange are defined by a triple: price, asset specificity, and safeguards. (This assumes that quantity, quality, and duration are all specified.)

Credible commitment: a contract in which a promisee is reliably compensated should the promisor prematurely terminate or otherwise alter the agreement. This is to be contrasted with noncredible commitments, which are empty promises, and semi-credible commitments, in which there is a residual hazard. Credible commitments are pertinent to contracts where one or both parties invest in specific assets.

Discriminating alignment: the assignment of least-cost governance structures to manage transactions.

Governance structure: the institutional matrix within which the integrity of a transaction is decided. Within the commercial sector, three discrete structural governance alternatives are commonly recognised: classical market, hybrid contracting, and hierarchy.

Hierarchy: transactions that are placed under unified ownership (buyer and supplier are within the same enterprise) and subject to administrative controls (an authority relation, to include fiat) are managed by hierarchy. The contract law of hierarchy is that of forbearance, according to which internal organization is its own court of ultimate appeal.

Hybrid: long-term contractual relations that preserve autonomy but provide added transaction-specific safeguards as compared with the market.

Incentive intensity: a measure of the degree to which a party reliably appropriates the net receipts (which could be negative) associated with its efforts and decisions. High-powered incentives obtain if a party has a clear entitlement to and can establish the magnitude of its net receipts easily. Lower-powered incentives obtain if the net receipts are pooled and/or if the magnitude is difficult to ascertain.

Incomplete contracting: contracts are effectively incomplete if (1) not all of the relevant future contingencies can be imagined, (2) the details of some of the future contingencies are obscure, (3) a common understanding of the nature of the future contingencies cannot be reached, (4) a common and complete understanding of the appropriate adaptations to future contingencies cannot be reached, (5) parties are unable to agree on what contingent event has materialised, (6) parties are unable to agree on whether actual adaptations to realised contingencies correspond with those specified in the contract, and (7) even though the parties may both be fully apprised of realised contingency and the actual adaptations that have been made, third parties (e.g., courts) can be fully apprised of neither, in which event costly haggling between bilaterally dependent parties may ensue.

Institutional arrangement: the contractual relation or governance structure between economic entities that defines the way in which they co-operate and/or compete.

Institutional environment: the rules of the game that define the context within which economic activity takes place. The political, social and legal ground rules establish the basis for production, exchange, and distribution.

Market: the arena in which autonomous parties engage in exchange. Markets can either be thick or thin. Classical markets are thick, in which case there are large numbers of buyers and sellers on each side of the transaction and identity is unimportant, because each can go its own way at negligible cost to the other. Thin markets are characterised by fewness, which is mainly due to asset specificity. Hybrid contracts and hierarchy emerge as asset specificity builds up and identity matters.

Opportunism: self-interest seeking with guile, to include calculated efforts to mislead, deceive, obfuscate, and otherwise confuse. Opportunism is to be distinguished from simple self-interest seeking, according to which individuals play a game with fixed rules which they reliably obey.

Private ordering: the self-created mechanisms to accomplish adaptive, sequential decision-making between autonomous parties to a contract, including information disclosure, dispute settlement, and distributional mechanisms to deal with gaps, errors, omissions, and inequities. (Court-ordering, however, is normally available for purposes of ultimate appeal.)

Safeguard: the added security features, if any, that are introduced into a contract, thereby to reduce hazards (due mainly to asset specificity) and infuse confidence. Safeguards can take the form of penalties, a reduction in incentive intensity, and/or more fully developed private ordering apparatus to deal with contingencies.

Selective intervention: would obtain if bureaucratic intervention between the semi-autonomous parts of a hierarchical enterprise occurred only but always when there is a prospect of expected net gain. Because promises to intervene selectively lack credibility, selective intervention is impossible. Were it otherwise, everything would be organised in one large firm. Because, however, selective intervention is impossible, hierarchies are unable to replicate market incentives.

Transaction: the microanalytic unit of analysis in transaction-cost economics. A transaction occurs when a good or service is transferred across a technologically separable interface. Transactions are mediated by governance structures (markets, hybrids, hierarchies).

Transaction cost: the *ex ante* costs of drafting, negotiating, and safeguarding an agreement and, more especially, the *ex post* costs of maladaptation and adjustment that arise when contract execution is misaligned as a result of gaps, errors, omissions and unanticipated disturbances; the costs of running the economic system.

Weak form selection: selection from among the better of the feasible alternatives, as contrasted with selection of the best from among all possible -- to include hypothetical-alternatives. In a relative sense, the fitter survive, but these may not be the fittest in any absolute sense.

Notes

1. The author is Transamerica Professor of Business, Economics, and Law at the University of California, Berkeley. This paper draws heavily on previously published work, especially "Transaction Cost Economics" (Williamson, 1989) and "Comparative Economic Organization" (Williamson, 1991b). Also, I borrow extensively from my treatments of "Vertical Merger Guidelines" (1983) and "Corporate Finance and Corporate Governance" (1988).

2. Interestingly, Coase implicated both the Harvard and Chicago approaches to industrial organization in his indictment (1972, pp. 61-62).

3. Other forms of governance include regulation, nonprofits, and bureaus. The norm of fairness is especially vital to rate of return regulation and is implemented through elaborate procedural mechanisms (Goldberg, 1976). Fiduciary law (both formal and informal) is the contract law of nonprofits. And civil service law (in combination with administrative law) is characteristic of government bureaus (Moe, 1990; Williamson, 1990).

4. Trading confidence is a background condition within which commercial transactions operate. It is a variant of institutional-trust (Williamson, 1992).

5. See Hernando DeSoto (1989), *The Other Path*.

6. Interestingly, Alfred Marshall (1948, p. 626) recognised that idiosyncratic human capital could sometimes accrue during the course of employment. Gary Becker (1962), moreover, made express provision for human capital in his examination of labour market incentive schemes. Jacob Marschak expressly took exception with the readiness with which economists accept and employ assumptions of fungibility. As he put it, "There exist almost unique, irreplaceable research workers, teachers, administrations; just as there exist unique choice locations for plants and harbors. The problem of unique or imperfectly standardized goods...has indeed been neglected in the textbooks" (Marschak, 1968, p. 14). Michael Polanyi's (1962) remarkable discussion of "personal knowledge" further illustrates the importance of idiosyncratic knowledge and working relations. Transaction cost economics accepts all of the foregoing and moves the argument forward in three respects: (1) asset specificity can take many forms, of which human asset specificity is only one; (2) asset specificity not only elicits complex *ex ante* incentive responses but, even more important, it gives rise to complex *ex post* governance structure responses; and (3) the study of economic organization in all of its forms -- industrial organization, labour, international trade, economic development, family organization, comparative systems, and even finance -- becomes grist for the transaction cost economics mill.

7. As Sanford Grossman and Oliver Hart show (1986), the direction in which an acquisition is made can influence the efficacy. I will avoid those issues here by assuming that a merger goes the right way.

8. The main linkage is through the concept of credible commitment. The development of that concept in the governance branch (Williamson, 1983) has been adopted and employed by the environment branch (North and Weingast, 1989).

9. Specialized production technologies commonly afford steady-state cost savings over general purpose production technologies. But since the former are less redeployable than the latter, demand disturbances may reverse the cost advantage. See Williamson (1985, pp. 169-175).

10. Consider the following contract language: "The Parties recognize that omissions or defects in the Agreement beyond the control of the Parties or not apparent at the time of its execution may [arise]...and further, that supervening conditions, circumstances or events beyond the reasonable and practical control of the Parties, may...impose economic or other hardships." (For a more complete statement of this contract and the enforcement mechanics, see Williamson (1985, pp. 164-165).)

11. The "fundamental message" that is being relentlessly drilled into would-be managers in Eastern European reform economies is this: "If your products are not competitive, you will not sell them. If your products are not profitable, you will not keep the economy alive" (Carrington, 1991, p. A12). As between clever ploys and positioning and mundane economising, economy is evidently the best policy.

12. Sam Peltzman indicts the *Handbook of Industrial Organization* for its failure to pay greater heed to empirical work (1990). I have no quarrel with his general indictment, but Peltzman's neglect of empirical work in transaction cost economics is either a serious lapse or reflects Peltzman's ingrained predilection for orthodoxy.

13. This is not, however, to say that more competition is always better than less. If property rights in new organisational forms are weak, if imitation is easy, and if oligopolies are slow to respond to innovative opportunities, then some inertia in the process may have beneficial incentive effects.

14. Milgrom and Roberts seem to favour "influence costs" as the principal rival theory of organization. Although transaction cost economics has long made express provision for subgoal pursuit, influence costs can be thought of as pre-positioning, which moves the analysis back one stage. But that too is reflected in earlier work on organization form and its relation to subgoal pursuit (Chandler, 1962; Williamson, 1970).

15. The main monopoly emphasis was on the use of boundary extension to exercise economic muscle (Stigler, 1951, 1955; Bain, 1968). As Lionel McKenzie (1951) and others have noted, however, vertical integration may also be used to correct against monopoly-induced factor distortions. Arguments of both kinds work out of the

firm-as-production-function tradition. For a much more complete treatment of vertical integration, see Martin Perry (1989).

16. Franchise decisions are not reached once-for-all. It may be the case that the nature of the good or service changes. Conceivably superior self-policing effects can be provided by redesign. For example, more advanced electronics for which only the manufacturer can provide service may reduce the scope of a local supplier to a sales-only role. But matters could also go in the other direction: stronger interdependencies for which unified ownership afforded added value could also result and sometimes do (Muris, Scheffman, and Spiller, 1991).

17. Throughout this discussion, the term "rival" will refer to either an actual or potential rival.

18. Such contracting might be backward into earlier stages of production, laterally into other components required at a given stage, or forward into fabrication and distribution of the product.

19. Merger Guidelines § IV(B)(1)(b)(i), 47 Fed. Reg. at 28,501, *California Law Review*, March 1983, 71, p. 663. The discussion in the text refers to the 1982 Merger Guidelines, which were the first and remain the most important revisions to the original 1968 Merger Guidelines. Although there have been subsequent extensions to and elaborations of the 1982 Guidelines, the economising spirit of those 1982 Guidelines remains unchanged.

20. Id.

21. Id. § IV(B)(1)(b)(ii), 47 Fed. Reg. at 28,501, 71 *California Law Review* at 663.

22. Id. n.47, 47 Fed. Reg. at 28,501 n.47, 71 *California Law Review* at 663 n.47.

23. Id. § IV(B)(2)(a), 47 Fed. Reg. at 28,501, 71 *California Law Review* at 664.

24. The recent Guidelines should, but do not, elaborate on why collusion becomes a serious concern at an HHI of 1800.

25. Guidelines § IV(B)(3), 47 Fed. Reg. at 28,501, 71 *California Law Review* at 664-65.

26. Id., 47 Fed. Reg. at 28,502, 71 *California Law Review* at 665.

27. Although this literature is mainly concerned with predatory pricing, the same reasoning applies to strategic behaviour generally.

28. See Guidelines § IV(B)(1)(b), 47 Fed. Reg. at 28,500-01, 71 *California Law Review* at 662-663.

29. Lenders may raise capital costs for potential entrants if they "doubt" that such entrants are fully qualified because prior competence has been

demonstrated at only one of the stages. This may occur even though a potential entrant may be objectively qualified to enter at two stages of an industry because of the competence of its employees and management. The problem here is that it can be prohibitively costly for qualified entrants who lack a track record at the secondary stage to show their qualifications. Rather than incurring these cost-of-capital penalties, firms that have demonstrated qualifications only at stage I may attempt to satisfy their stage II requirements by contract. The question then becomes whether the stage II product will be made available on competitive terms. The structure of the industry plainly has a bearing on this. If economies of scale are large in relation to the size of the nonintegrated fringe and if integrated firms are few and supply principally or exclusively to their own needs, the would-be stage I entrant can anticipate difficulties in securing his second-stage requirements on parity terms.

30. Guidelines § IV(B)(1)(b)(i), 47 Fed. Reg. at 28,501, 71 *California Law Review* at 663.

31. A Compendium of Antitrust Guides, *The Journal of Reprints for Antitrust Law and Economics* (Vol. 16, No. 1).

32. *Ibid.*, pp. 8-9.

33. *Ibid.*

34. The prevailing view on vertical restraints in 1967, as set out in the Brief for the United States at 50, *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365 (1967), which view reflected the antitrust thinking of Donald F. Turner (then head of the Antitrust Division) and Richard Posner (then in the office of the Solicitor General), reads as follows:

> Even if the threat to integrate were not wholly lacking in credibility in the circumstances of this case, we would urge that it was not a proper defense to the restraint of trade charge. In the first place, a rule that treats manufacturers who assume the distribution function themselves more leniently than those who impose restraints on independent distributors merely reflects the fact that, although integration in distribution may sometimes benefit the economy by leading to cost savings, agreements to maintain resale prices or to impose territorial restrictions of unlimited duration or outlet limitations of the type involved here have never been shown to produce comparable economies.

The implicit rank ordering is this: markets are preferred to hierarchies, and both are preferred to hybrids. By contrast, transaction cost economics regards all forms of organization instrumentally and asks which are more cost-effective when and why.

35. Some contend that they have been so regarded all along. So what else is new? I submit, however, that the governance-structure attributes of debt and equity have been underdeveloped and undervalued. Prior attention has focused on the tax, signalling, incentive, and bonding

differences between debt and equity. Only this last comes close to a governance-structure treatment, and even here the governance-structure differences are obscured by (1) working out of a composite-capital set-up and (2) failure to treat the differential bureaucratic costs of these two forms of finance.

36. Stuart Myers' interesting treatment of corporate uses of debt financing begins with the observation that the theory should not merely explain why the tax advantages of debt "do not lead firms to borrow as much as possible...[but it] should explain why some firms borrow more than others, why some borrow with short-, and others with long-maturity instruments, and so on" (1977, p. 147). He further observes that "the most fundamental distinction is...between (1) assets that can be regarded as call options, in the sense that their ultimate values depend, at least in part, on further discretionary investment by the firm and (2) assets whose ultimate value does not depend on further discretionary investment" ([45], p. 155) -- where discretionary investment takes the form of maintenance, marketing, and, more generally "all variable costs" (1977, p. 155). But rather than focus on the ways by which "lenders often protect themselves by obtaining security in the form of specific assets for which secondary markets exist," he regards that as "an attempt to avoid the problems analyzed in this paper.... The heart of the matter is that the existence of debt" sets up *ex post* strain between stockholders and debtholders. This *ex post* strain between debt and equity occupies much of the finance literature of the past decade. It is <u>not</u> what transaction cost economics is interested in. Liquidation is an extreme response. But the spirit of the argument is that debt is unforgiving.

37. One that does not is the Mushroom King leveraged buyout for which Citicorp was the principal source of funds. That Mushroom King was a poor candidate is suggested by the following (Cowan, 1981, p. 1): "In a leveraged buyout, investors buy a company almost entirely with borrowed money, using the company's cash flow and sales of the company's assets, to reduce the debt. The best candidates, therefore, are companies that have a predictable stream of earnings and hard assets that can be sold for good prices. Investors also look for companies in low-tech fields, so that a venture is not overly dependent on any one or two managers.... Mushroom King broke all the rules, and its collapse illustrates what can happen when a good idea is yanked so far that it snaps."

38. The Yeltsin quote appears in an Associated Press interview that was published in the *International Herald Tribune*, September 7-8, 1991, p. 4.

39. The phrase is borrowed from Frank Knight (1965, p. 270).

40. The term is borrowed from Ronald Coase (1984, p. 231).

41. The quotation is from the *International Herald Tribune*, "Soviet Economic Development," June 5, 1990, p. 5.

42. The evidence from Eastern Europe is pertinent. Maciej Iwanek remarks of the Polish experience that "except [among] advocates of workers'

management, nobody believes that the...governance scheme of state-owned enterprises [by workers' management] creates strong incentives" (1991, p. 12); Manuel Hinds concludes that "absenteeism, shirking, and lack of initiative are pervasive in the self-managed firm" (1990, p. 28); and Janos Kornai counsels that "it would be intellectually dishonest to hide the evidence concerning the weakness of third forms" (1990, p. 144). The declining industry represents a separate and rather special case. If plant closings are objectively in prospect, then the nature of the bargaining relation between workers and firm can be presumed to change. Thus whereas incumbent workers benefit from prospective reputation effect features so long as continuity of the business can be projected (Williamson, 1985, pp. 259-261), this protection weakens when termination is in prospect. Outside investors may under-value firm-specific human capital in deciding to terminate. Or they may demand give-backs as a condition of continuity. One possible way by which to orchestrate the waning years of an enterprise is for the workers to buy the investors out, on nominal terms, and arrange their own give-backs (that is, cut their own pay). (Recent sales of steel mills in the United States to workers appear to qualify. These mills were scheduled for shutdown and workers, upon taking control, cut their wages and benefits.)

Table 1. **Distinguishing attributes of market, hybrid and hierarchy governance structures (1)**

Attributes	Governance structure		
	Market	Hybrid	Hierarchy
Instruments			
Incentive intensity	++	+	0
Administrative controls	0	+	++
Performance attributes			
Adaptation (A)	++	+	0
Adaptation (C)	0	+	++
Contract law	++	+	0

1. ++ = strong;
+ = semi-strong;
0 = weak.

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