The ECONOMIC INSTITUTIONS of CAPITALISM

Firms, Markets, Relational Contracting

OLIVER E. WILLIAMSON
Yale University

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CHAPTER 3

The Governance of Contractual Relations

The preceding chapters focused on alternative economic approaches to the study of contract. Alternative legal approaches to the study of contract also warrant review, and they are subject of the present chapter.

Contractual variety is the source of numerous puzzles with which the study of the economic institutions of capitalism is appropriately concerned. Transaction cost economics maintains that such variety is mainly explained by underlying differences in the attributes of transactions. Efficiency purposes are served by matching governance structures to the attributes of transactions in a discriminating way.

Ian Macneil's (1974; 1978) thoughtful and provocative three-way classification of contract is set out in section 1. A transaction cost interpretation is advanced in section 2. Issues of uncertainty and measurement are addressed in sections 3 and 4. The distribution of transactions within the spectrum of contract is discussed in section 5.

1. Contracting Traditions

There is widespread agreement that the discrete transaction paradigm—"sharp in by clear agreement; sharp out by clear performance" (Macneil,

1974, p. 738)—has served both law and economics well. But there is also increasing awareness that many contractual relations are not of this well-defined kind. A deeper understanding of the nature of contract has emerged as the legal-rule emphasis associated with the study of discrete contracting has given way to a more general concern with the contractual purposes to be served. Macneil's distinctions among classical, neoclassical, and relational law are instructive.

1.1 *Classical Contract Law*

As Macneil observes, any system of contract law has the purpose of facilitating exchange. What is distinctive about classical contract law is that it attempts to do so by enhancing discreteness and intensifying "presentiation" (1978, p. 862), where presentiation has reference to efforts to "make or render present in place or time; to cause to be perceived or realized at present" (1978, p. 863, n. 25). The economic counterpart to complete presentiation is contingent claims contracting, which entails comprehensive contracting whereby all relevant future contingencies pertaining to the supply of a good or service are described and discounted with respect to both likelihood and futurity.

Classical contract law endeavors to implement discreteness and presentiation in several ways. For one thing, the identity of the parties to a transaction is treated as irrelevant. In that respect it corresponds exactly with the "ideal" market transaction in economics.[1] Second the nature of the agreement is carefully delimited, and the more formal features govern when formal (for example, written) and informal (for example, oral) terms are contested. Third, remedies are narrowly prescribed so that, "should the initial presentation fail to materialize because of nonperformance, the consequences are relatively predictable from the beginning and are not open-ended" (Macneil, 1978, p. 864). Additionally, third-party participation is discouraged (p. 864). The emphasis is thus on legal rules, formal documents, and self-liquidating transactions.

[1] As Lester G. Telser and Harlow N. Higinbotham put it:

> In an organized market the participants trade a standardized contract such that each unit of the contract is a perfect substitute for any other unit. The identities of the parties in any mutually agreeable transaction do not affect the terms of exchange. The organized market itself or some other institution deliberately creates a homogeneous good that can be traded anonymously by the participants or their agents. [1977, p. 997]

1.2 *Neoclassical Contract Law*

Not every transaction fits comfortably into the classical contracting scheme. In particular, for long-term contracts executed under conditions of uncertainty complete presentiation is apt to be prohibitively costly if not impossible. Problems of several kinds arise. First, not all future contingencies for which adaptations are required can be anticipated at the outset. Second, the appropriate adaptations will not be evident for many contingencies until the circumstances materialize. Third, except as changes in states of the world are unambiguous, hard contracting between autonomous parties may well give rise to veridical disputes when state-contingent claims are made. In a world where (at least some) parties are inclined to be opportunistic, whose representations are to be believed?

Faced with the prospective breakdown of classical contracting in such circumstances, three alternatives are available. One would be to forgo such transactions altogether. A second would be to remove those transactions from the market and organize them internally instead. Adaptive, sequential decision-making would then be implemented under unified ownership and with the assistance of hierarchial incentive and control systems. Third, a different contracting relation that preserves trading but provides for additional governance structure might be devised. This last brings us to what Macneil refers to as neoclassical contracting.

As Macneil observes, "Two common characteristics of long-term contracts are the existence of gaps in their planning and the presence of a range of processes and techniques used by contract planners to create flexibility in lieu of either leaving gaps or trying to plan rigidly" (1978, p. 865). Third-party assistance in resolving disputes and evaluating performance often has advantages over litigation in serving these functions of flexibility and gap filling. Lon Fuller's remarks on the procedural differences between arbitration and litigation are instructive:

> [T]here are open to the arbitrator . . . quick methods of education not open to the courts. An arbitrator will frequently interrupt the examination of witnesses with a request that the parties educate him to the point where he can understand the testimony being received. This education can proceed informally, with frequent interruptions by the arbitrator, and by informed persons on either side, when a point needs clarification. Sometimes there will be arguments across the table, occasionally even within each of the separate camps. The end result will usually be a clarification that will enable everyone to proceed more intelligently with the case. [1963, pp. 11–12]

A recognition that the world is complex, that agreements are incomplete, and that some contracts will never be reached unless both parties have confidence in the settlement machinery thus characterizes neoclassical contract law. One important purposive difference in arbitration and litigation that contributes to the procedural differences described by Fuller is that, whereas continuity (at least completion of the contract) is presumed under the arbitration machinery, that presumption is much weaker when litigation is employed.[2]

Patrick Atiyah's views regarding "the failure of classical law" are apposite:

> The modern commercial transaction is, in practice, apt to include provision for varying the terms of exchange to suit the conditions applicable at the time of performance. Goods ordered for future delivery are likely to be supplied at prices ruling at the time of delivery; rise and fall clauses in building or construction works are the rule and not the exception; currency-variation clauses may well be included in international transactions. And even where such provisions are not included in the contract itself, business people are in practice often constrained to agree to adjustments to contractual terms where subsequent events make the original contract no longer capable of performance on a fair basis. The rewards and penalties for guessing what the future will bring are no longer automatically thought of as being the natural consequences of success or failure in the skill and expertise of business activity. For example, in Government contracts, ex gratia payments are typically made in fixed price contracts, "where unforeseen circumstances have substantially raised costs and caused the contractor to suffer a loss." And conversely, contractors who make "excessive profits" in dealings with the Government may well discover that these are not regarded as the reward for abnormal skill and enterprise, but as the result of miscalculation by the Government which they will be compelled to hand over. Nor are such occurrences peculiar to Government or other public authorities. Even between private commercial organizations, the fact that business relationships are so often continuous means that the desire to maintain the goodwill of other contracting parties is often more important than the letter of a contract. [1979, pp. 714–15]

1.3 *Relational Contracting*

The pressures to sustain ongoing relations "have led to the spinoff of many subject areas from the classical, and later the neoclassical, contract law system, e.g., much of corporate law and collective bargaining" (Macneil, 1978, p. 885). Progressively increasing the "duration and complexity" of contract has thus resulted in the displacement of even neoclassical adjustment processes by adjustment processes of a more thoroughly transaction-specific, ongoing-administrative kind. The fiction of discreteness is fully displaced as the relation takes on the properties of a "minisociety with a vast array of norms

[2] As Lawrence Friedman observes, relationships are effectively fractured if a dispute reaches litigation (1965, p. 205).

beyond those centered on the exchange and its immediate processes'' (Macneil, 1978, p. 901). By contrast with the neoclassical system, where the reference point for effecting adaptations remains the original agreement, the reference point under a truly relational approach is the ''entire relation as it has developed [through] time. This may or may not include an 'original agreement'; and if it does, may or may not result in great deference being given it'' (Macneil, 1978, p. 890).

The spinoff to which Macneil refers notwithstanding, commercial law, labor law, and corporate law all possess striking commonalities.

2. Efficient Governance

As discussed above, the principal dimensions for describing transactions are asset specificity, uncertainty, and frequency. It will facilitate the argument in this section to assume that uncertainty is present in sufficient degree to pose an adaptive, sequential decision requirement and to focus on asset specificity and frequency. Three frequency classes—one-time, occasional, and recurrent—and three asset specificity classes—nonspecific, mixed, and highly specific—will be considered. To simplify the argument further, the following assumptions are made: (1) Suppliers and buyers intend to be in business on a continuing basis; thus the special hazards posed by fly-by-night firms can be disregarded. (2) Potential suppliers for any given requirement are numerous—which is to say that *ex ante* monopoly in ownership of specialized resources is assumed away. (3) The frequency dimension refers strictly to buyer activity in the market. (4) The investment dimension refers to the characteristics of investments made by suppliers.

Although discrete transactions are intriguing—for example, purchasing local spirits from a shopkeeper in a remote area of a foreign country one expects never again to visit or refer his friends—few transactions have such a totally isolated character. For those that do not, the difference between one-time and occasional transactions is not apparent. Accordingly, only occasional and recurrent frequency distinctions will be maintained. The two-by-three matrix shown in Figure 3–1 thus describes the six types of transactions to which governance structures must be matched. Illustrative transactions appear in the cells.

The question now is how Macneil's contracting classifications correspond to the description of transactions in Figure 3–1. Several propositions are suggested immediately: (1) Highly standardized transactions are not apt to require specialized governance structure. (2) Only recurrent transactions will

Frequency	Investment Characteristics: Nonspecific	Mixed	Idiosyncratic
Occasional	Purchasing standard equipment	Purchasing customized equipment	Constructing a plant
Recurrent	Purchasing standard material	Purchasing customized material	Site-specific transfer of intermediate product across successive stages

FIGURE 3–1. Illustrative Transactions

support a highly specialized governance structure.[3] (3) Although occasional transactions of a nonstandardized kind will not support a transaction-specific governance structure, they require special attention nonetheless. In terms of Macneil's three-way classification of contract, classical contracting presumably applies to all standardized transactions (whatever the frequency), relational contracting develops for transactions of a recurring and nonstandardized kind, and neoclassical contracting is needed for occasional, nonstandardized transactions.

Specifically, classical contracting is approximated by what is described below as market governance, neoclassical contracting involves trilateral governance, and the relational contracts that Macneil describes are organized in bilateral or unified governance structures. Consider these seriatim.

2.1 *Market Governance*

Market governance is the main governance structure for nonspecific transactions of both occasional and recurrent contracting. Markets are especially

[3]Defense contracting may appear to be a counterexample, since an elaborate governance structure is devised for many defense contracts. This reflects in part, however, the special disabilities of the government to engage in own-production. But for that, many contracts would be organized in-house. Also, contracts that are very large and of long duration, as many defense contracts are, do have recurring character.

efficacious when recurrent transactions are contemplated, since both parties need only consult their own experience in deciding to continue a trading relationship or, at little transitional expense, turn elsewhere. Being standardized, alternative purchase and supply arrangements are presumably easy to work out.

Nonspecific but occasional transactions are ones for which buyers (and sellers) are less able to rely on direct experience to safeguard transactions against opportunism. Often, however, rating services or the experience of other buyers of the same good can be consulted. Given that the good or service is of a standardized kind, such experience rating, by formal and informal means, will provide incentives for parties to behave responsibly.

To be sure, such transactions take place within and benefit from a legal framework. But such dependence is not great. As S. Todd Lowry puts it, "the traditional economic analysis of exchange in a market setting properly corresponds to the legal concept of *sale* (rather than contract), since sale presumes arrangements in a market context and requires legal support primarily in enforcing transfers of title" (1976, p. 12). He would thus reserve the concept of contract for exchanges where, in the absence of standardized market alternatives, the parties have designed "patterns of future relations on which they could rely" (1976, p. 13).

The assumptions of the discrete contracting paradigm are rather well satisfied for transactions where markets serve as a main governance mode. Thus the specific identity of the parties is of negligible importance; substantive content is determined by reference to formal terms of the contract; and legal rules apply. Market alternatives are mainly what protect each party against opportunism by his opposite. Litigation is strictly for settling claims; concentrated efforts to sustain the relation are not made, because the relation is not independently valued.[4]

2.2 *Trilateral Governance*

The two types of transactions for which trilateral governance is needed are occasional transactions of the mixed and highly specific kinds. Once the principals to such transactions have entered into a contract, there are strong incentives to see the contract through to completion. Not only have specialized investments been put in place, the opportunity cost of which is much lower in alternative uses, but the transfer of those assets to a successor supplier would pose inordinate difficulties in asset valuation.[5] The interests of the principals in sustaining the relation are especially great for highly idiosyncratic transactions.

[4] "Generally speaking, a serious conflict, even quite a minor one such as an objection to a harmlessly late tender of the delivery of goods, terminates the discrete contract as a live one and leaves nothing but a conflict over money damages to be settled by a lawsuit. Such a result fits neatly the norms of enhancing discreteness and intensifying . . . presentiation" (Macneil, 1978, p. 877).

Market relief is thus unsatisfactory. Often the setup costs of a transaction-specific governance structure cannot be recovered for occasional transactions. Given the limits of classical contract law for sustaining such transactions, on the one hand, and the prohibitive cost of transaction-specific (bilateral) governance, on the other, an intermediate institutional form is evidently needed.

Neoclassical contract law has many of the sought-after qualities. Thus rather than resorting immediately to court-ordered litigation—with its transaction-rupturing features—third-party *assistance* (arbitration) in resolving disputes and evaluating performance is employed instead. (The use of the architect as a relatively independent expert to determine the content of form construction contracts is an example (Macneil, 1978, p. 566).) Also, the expansion of the specific performance remedy in past decades is consistent with continuity purposes—though Macneil declines to characterize specific performance as the "primary neoclassical contract remedy" (1978, p. 879). The section of the Uniform Commercial Code that permits the "seller aggrieved by a buyer's breach . . . unilaterally to maintain the relation" is yet another example.[6]

2.3 *Bilateral Governance*

The two types of transactions for which specialized governance structure are commonly devised are recurring transactions supported by investments of the mixed and highly specific kinds. The fundamental transformation applies because of the nonstandardized nature of the transactions. Continuity of the trading relation is thus valued. The transactions' recurrent nature potentially permits the cost of specialized governance structures to be recovered.

Two types of transaction-specific governance structures for intermediate product market transactions can be distinguished: bilateral structures, where the autonomy of the parties is maintained, and unified structures, where the

[5] As discussed in Chapter 4, physical assets sometimes qualify as an exception.

[6] The rationale for this section of the Code is that "identification of the goods to the contract will, within limits, permit the seller to recover the price of the goods rather than merely damages for the breach . . . ([where the] latter may be far less in amount and more difficult to prove)" (Macneil, 1978, p. 880).

transaction is removed from the market and organized within the firm subject to an authority relation (vertical integration). Bilateral structures have only recently received the attention they deserve, and their operation is least well understood. The issues are elaborated in Chapters 7 and 8.

Highly idiosyncratic transactions are ones where the human and physical assets required for production are extensively specialized, so there are no obvious scale economies to be realized through interfirm trading that the buyer (or seller) is unable to realize himself (through vertical integration). In the case, however, of mixed transactions, the degree of asset specialization is less complete. Accordingly, outside procurement for those components may be favored by scale economy considerations.

As compared with vertical integration, outside procurement also maintains high-powered incentives and limits bureaucratic distortions (see Chapter 6). Problems with market procurement arise, however, when adaptability and contractual expense are considered. Whereas internal adaptations can be effected by fiat, outside procurement involves effecting adaptations across a market interface. Unless the need for adaptations has been contemplated from the outset and expressly provided for by the contract, which often is impossible or prohibitively expensive, adaptations across a market interface can be accomplished only by mutual, follow-on agreements. Inasmuch as the interests of the parties will commonly be at variance when adaptation proposals (originated by either party) are made, a dilemma is evidently posed.

On the one hand, both parties have an incentive to sustain the relationship rather than to permit it to unravel, the object being to avoid the sacrifice of valued transaction-specific economies. On the other hand, each party appropriates a separate profit stream and cannot be expected to accede readily to any proposal to adapt the contract. What is needed, evidently, is some way for declaring admissible dimensions for adjustment such that flexibility is provided under terms in which both parties have confidence. This can be accomplished partly by (1) recognizing that the hazards of opportunism vary with the type of adaptation proposed and (2) restricting adjustments to those where the hazards are least. But the spirit within which adaptations are effected is equally important (Macaulay, 1963, p. 61).

Quantity adjustments have much better incentive-compatibility properties than do price adjustments. For one thing, price adjustments have an unfortunate zero-sum quality, whereas proposals to increase, decrease, or delay delivery do not. Also, except as discussed below, price adjustment proposals involve the risk that one's opposite is contriving to alter the terms within the bilateral monopoly trading gap to his advantage. By contrast, a presumption that exogenous events, rather than strategic purposes, are responsible for quantity adjustments is ordinarily warranted. Given the idiosyncratic nature of the exchange, a seller (or buyer) simply has little reason to doubt the representations of his opposite when a quantity change is proposed.

Thus buyers will neither seek supply from other sources nor divert products obtained (at favorable prices) to other uses (or users)—because other sources will incur high setup costs and an idiosyncratic product is nonfungible across uses and users. Likewise, sellers will not withhold supply because better opportunities have arisen, since the assets in question have a specialized character. The result is that quantity representations for idiosyncratic products can ordinarily be taken at face value. Since inability to adapt both quantity and price would render most idiosyncratic exchanges nonviable, quantity adjustments occur routinely.

Of course, not all price adjustments pose the same degree of hazard. Those which pose few hazards will predictably be implemented. Crude escalator clauses that reflect changes in general economic conditions are one possibility. But since such escalators are not transaction-specific, imperfect adjustments often result when these escalators are applied to local conditions. Consider therefore whether price adjustments more closely related to local circumstances are feasible. The issue here is whether interim price adjustments can be devised for some subset of conditions such that the strategic hazards described above do not arise. What are the preconditions?

Crises facing either of the parties to an idiosyncratic exchange constitute one class of exceptions. Faced with a viability crisis that jeopardizes the relationship, *ad hoc* price relief may be permitted. More relevant and interesting, however, is whether there are circumstances whereby interim price adjustments are made routinely. The preconditions here are two: first, proposals to adjust prices must relate to exogenous, germane, and easily verifiable events; and second, quantifiable cost consequences must be confidently related thereto. An example may help to illustrate. Consider a component for which a significant share of the cost is accounted for by a basic material (copper; steel). Assume, moreover, that the fractional cost of the component in terms of this basic material is well specified. An exogenous change in prices of materials would in such a case pose few hazards if partial but interim price relief were permitted by allowing pass-through according to formula. A more refined adjustment than aggregate escalators would afford thereby obtains.

It bears emphasis, however, that not all costs so qualify. Changes in overhead or other expenses for which validation is difficult and which, even if verified, bear an uncertain relation to the cost of the component will not be passed through in a similar way. Recognizing the hazards, the parties will simply forgo relief of this kind.

2.4 *Unified Governance*

Incentives for trading weaken as transactions become progressively more idiosyncratic. The reason is that as human and physical assets become more specialized to a single use, and hence less transferable to other uses, economies of scale can be as fully realized by the buyer as by an outside supplier. The choice of organizing mode then turns entirely on which mode has superior adaptive properties. As discussed in Chapter 4, vertical integration will ordinarily appear in such circumstances.

The advantage of vertical integration is that adaptations can be made in a sequential way without the need to consult, complete, or revise interfirm agreements. Where a single ownership entity spans both sides of the transaction, a presumption of joint profit maximization is warranted. Thus price adjustments in vertically integrated enterprises will be more complete than in interfirm trading. And, assuming that internal incentives are not misaligned, quantity adjustments will be implemented at whatever frequency serves to maximize the joint gain to the transaction.

Unchanging identity at the interface coupled with extensive adaptability in both price and quantity is thus characteristic of highly idiosyncratic transactions. Market contracting gives way to bilateral contracting, which in turn is supplanted by unified contracting (internal organization) as asset specificity progressively deepens.[7]

The efficient match of governance structures with transactions that results from the foregoing is shown in Figure 3–2.

[7]Note that this transaction cost rationale for internal organization is very different from that originally advanced by Coase. He argued that there are two factors that favor organizing production in the firm as compared with the market: the cost of "discovering what the relevant prices are" is purportedly lower, and the "costs of negotiating and concluding a separate contract for each exchange transaction which takes place on a market" are reduced (Coase, 1952, p. 336). His 1972 treatment of the main differences between firms and markets invokes precisely these same two factors (Coase, 1972, p. 63). Expressed in terms of the behavioral assumptions on which I rely, Coase (implicitly) acknowledges bounded rationality but makes no reference to opportunism. Indeed, to contend, as he does, that Knight offers no reason for superseding the price system, since "[w]e can imagine a system where all advice or knowledge was bought as required" (Coase, 1952, p. 346), is essentially to deny that markets for information are beset by opportunism. Coase is not only silent on the contracting hazards and maladaptations on which I rely to explain nonstandard contracting, but he makes no mention of the need to dimensionalize transactions, which is the key to the discriminating approach. Those differences notwithstanding, the debts of transaction cost economics to Coase's early work are beyond adequate acknowledgment.

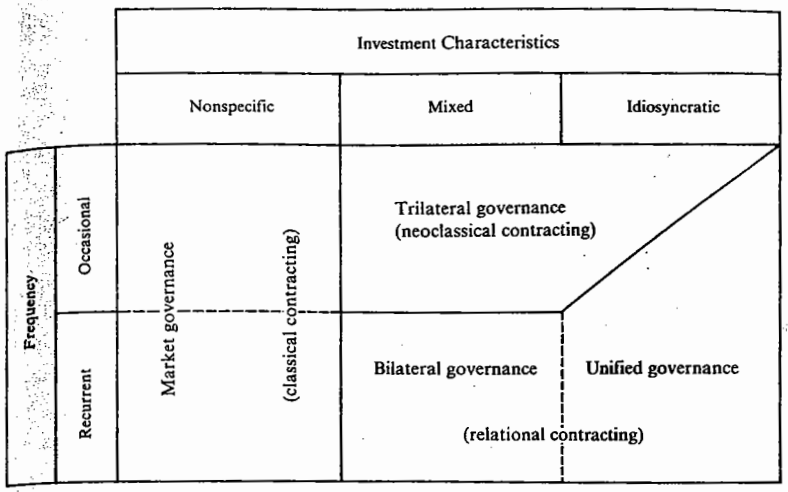

FIGURE 3–2. Efficient Governance

3. Uncertainty

The proposed match of governance structures with transactions considers only two of the three dimensions for describing transactions: asset specificity and frequency. The third dimension, uncertainty, is assumed to be present in sufficient degree to pose an adaptive, sequential decision problem. The occasion to make successive adaptations arises because of the impossibility (or costliness) of enumerating all possible contingencies and/or stipulating appropriate adaptations to them in advance. The effects on economic organization of increases in uncertainty above that threshold level have not, however, been considered.

As indicated earlier, nonspecific transactions are ones for which continuity has little value, since new trading relations can be easily arranged by both parties. Increasing the degree of uncertainty does not alter this. Market governance (classical contracting) thus holds across standardized transactions of all kinds, whatever the degree of uncertainty.

Matters change when asset specificity is introduced. Since continuity now matters, increasing the degree of parametric uncertainty makes it more imperative to organize transactions within governance structures that have the capacity to "work things out." Failure to support transaction-specific assets with protective governance structures predictably results in costly haggling and maladaptiveness. Efforts to restore a position on the shifting contract

curve may be forgone for this reason. The intrusion of behavioral uncertainty, which is associated with unique events, compounds the difficulties.

Indeed, though it is extreme and even implausible in many trading situations, it is not strictly essential for the original disturbance to which an adaptation is sought to have exogenous origins. As discussed in Chapter 7, Section 4, one of the parties to a bilateral trade can contrive to introduce a disturbance that alters the profit prospects of the other. An even more blatant example would be for one party to make false state of the world declarations. Thus suppose that a contract stipulates that X will be delivered under θ_1 and $X + \delta$ under θ_2, where θ_1 and θ_2 refer to state realizations. If it is difficult for third parties to discern which state actually obtains, buyers may falsely assert that θ_2 obtains. Although such blatant opportunism may be rare, it nevertheless illustrates the problems that arise when trading parties possessing the behavioral attributes of human nature as we know it are joined, by reason of asset specificity, in a bilateral trading situation.

Transactions with mixed investment attributes pose especially interesting organizational problems. Unless an appropriate market-assisted governance structure can be devised, such transactions may "flee" to one of the polar extremes as the degree of uncertainty increases. One possibility would be to sacrifice valued design features in favor of a more standardized good or service. Market governance would then apply. Alternatively, the valued design features could be preserved (perhaps even enhanced) and the transaction assigned to internal organization instead. Sometimes, however, it will be feasible to devise nonstandard contracts of the kinds discussed in Chapters 7 and 8. Where that is done (and is not prohibited by public policy), bilateral contracting relations between nominally autonomous contracting agents can often survive the stresses of greater uncertainty.

Reductions in uncertainty, of course, warrant shifting transactions in the opposite direction—although such shifts may be delayed if the assets in question are long-lived. To the extent that uncertainty decreases as an industry matures, which is the usual case, the benefits that accrue to internal organization (vertical integration) presumably decline. Accordingly, greater reliance on market procurement is commonly feasible for transactions of recurrent trading in mature industries.

4. Measurement

The cognitive map of contract set out in Figure 1–1 (Chapter 1) distinguishes between two branches of transaction cost economics: the governance branch and the measurement branch. The former is concerned mainly with organizing

transactions in such a way as to facilitate efficient adaptations. The latter is concerned with the ways by which better to assure a closer correspondence between deeds and awards (or value and price). To be sure, these are not independent. The difference in emphasis is nevertheless real and needs to be highlighted. It is furthermore noteworthy that problems of governance and measurement both vanish if *either* bounds on rationality *or* opportunism are presumed to be absent.

Thus assume that parties to a trade do not experience bounded rationality. Assume, moreover, that this implies the absence of private information and that this competence extends to impartial arbiters. Governance problems then vanish, since comprehensive contracting is feasible. Opportunistic inclinations are simply of no account. Measurement problems likewise vanish, since a world of unbounded rationality is one in which measurement costs are zero. An opportunistic propensity to exploit private information is vitiated in these circumstances.

Assume instead that parties experience bounded rationality but are not opportunistic. Incomplete contracting does not then pose a governance issue, since the general clause device assures that appropriate adaptations will be implemented without resistance by either party to a bilateral trade. Similarly, costly measurement is not a problem if neither party to a trade attempts to exploit private information to the disadvantage of the other—which neither will do if opportunism is absent.

Repeated reference to bounded rationality and opportunism does not, however, without more, direct attention to the particular problems of economic organization that are most severe. Some transactions test bounded rationality limits more severely. Some pose greater hazards of opportunism. Which are they?

Just as the study of governance has benefited by efforts to identify the critical dimensions with respect to which transactions differ in governance respects, so likewise will the study of measurement benefit by efforts to develop the underlying microanalytics. Although the measurement branch of transaction cost economics has made considerable headway during the past decade (Barzel, 1982; North, 1982; Kenney and Klein, 1983), the relevant dimensions for ascertaining where the measurement difficulties reside remain somewhat obscure. Be that as it may, an effort to examine some of the underlying features will nevertheless be attempted.

4.1 *Ex Ante Problems*

The adverse selection problem referred to above is an illustration of an *ex ante* condition where one party to the trade has private information that it can

choose selectively to disclose, which asymmetry the other party cannot overcome except at great cost. The condition is a manifestation of a more general problem that is responsible for measurement difficulties, namely, idiosyncratic information. Many of the problems that George Akerlof (1970) treats in the context of "lemons" are precisely attributable to such an *ex ante* valuation condition. The seller of a used car can thus be presumed to have deeper knowledge than the buyer, which asymmetry introduces distortions into this market. And Groucho Marx's refusal to join a club that would admit him reflects a condition of bilateral asymmetry: if they really knew what he was like, they wouldn't admit him; and since they don't know, they presumably have admitted many others of dubious reputation earlier.

The recent Kenney and Klein (1983) treatment of "oversearching" in the market for gem-quality uncut diamonds is another illustration of the phenomenon. Despite classification into more than two thousand categories, significant quality variation in the stones evidently remained. How can such a market be organized so that oversearching expenses are not incurred and each party to the trade has confidence in the other? The "solution" that Kenney and Klein describe entails more than just accumulating experience upon which to base "trust". By assembling groups of diamonds—or "sights"—and subjecting the exchange to special trading rules, hazards of opportunism are more reliably attenuated.

4.2 *Contract Execution*

Information asymmetries of two kinds can be distinguished at the contract execution stage. The more familiar is where one party to the trade has more knowledge over the particulars than does the other. For example, a salesman's success depends jointly on his sales efforts and stochastic state realizations. Although the salesman knows the former, he cannot be relied upon accurately to report them. Accordingly, if the producer can observe only output alone, then compensation is based entirely on sales. (That is the classic agency problem, where $X = X(a,\theta)$, where X denotes output, a is effort, and θ is the state realization.) Complex incentive alignment problems are thereby posed (Holmstrom, 1979).

A second, less widely recognized type of asymmetry takes the form of King Solomon problems. Here each party to the transaction knows the full truth of what has occurred, but it is costly to disclose the facts to anyone other than an on-site observer. Those are the issues with which Alchian and Demsetz (1972) were concerned in their discussion of team organization. If two or more workers must work coordinately and if their separate contributions cannot be ascertained by an *ex post* examination of the work product, then assignment of someone to oversee the work may be needed. Supervision purportedly arises in this way.

Unsurprisingly, many of the most interesting problems of economic organization involve both asset specificity and information asymmetry issues. Indeed, as Alchian has argued, the two are often inseparable (1984, p. 39).

5. The Distribution of Transactions

The study of contractual relations plainly involves more than an examination of discrete markets on the one hand and hierarchical organization on the other. As Llewellyn observed in 1931, the exchange spectrum runs the full gamut from pure market to hierarchy and includes complex "future deals" located between market and hierarchy extremes (1931, p. 727). Similarly, George Richardson remarks that "what confronts us is a continuum passing from transactions, such as those on organized commodity markets, where the cooperation element is minimal, through intermediate areas in which there are linkages of traditional connection and good will, and finally to those complex and interlocking clusters, groups and alliances which represent cooperation fully and formally developed" (1972, p. 887). Both Richardson's examples and those more recently developed and discussed by Arthur Stinchcombe (1983) demonstrate that activity in the middle range is extensive. Stewart Macaulay's empirical examination of commercial contracting practices (1963) confirms this.

Suppose that transactions were to be arrayed in terms of the degree to which parties to the trade maintained autonomy. Discrete transactions would thus be located at the one extreme, highly centralized, hierarchical transactions would be at the other, and hybrid transactions (franchising, joint ventures, other forms of nonstandard contracting) would be located in between. What would the resulting distribution of transactions look like?

The three leading candidates are (1) the bimodal distribution, where most transactions cluster at one or the other extreme, (2) the normal distribution, whence the extremes are rare and most transactions display an intermediate degree of interdependence, and (3) the uniform transaction. Whereas I was earlier of the view that transactions of the middle kind were very difficult to organize and hence were unstable, on which account the bimodal distribution was more accurately descriptive (Williamson, 1975), I am now persuaded that transactions in the middle range are much more common. (Such transactions have, moreover, been the object of increasing attention in the economic,[8]

[8]See especially Chapters 7, 8, 10, and 13 and the numerous references to the recent economic literature therein.

legal,[9] and organizations[10] literatures.) But inasmuch as standardized commodity transactions are numerous and as administrative organization is similarly widespread, the tails of the distribution are thick. By a process of elimination, the uniform distribution appears most nearly to correspond with the world of contract as it is. Whatever the empirical realities, greater attention to transactions of the middle range will help to illuminate an understanding of complex economic organization. If such transactions flee to the extremes, what are the reasons? If such transactions can be stabilized, what are the governance processes?

[9]Macaulay (1963); Macneil (1974); Clarkson, Miller, and Muris (1978); Atiyah (1979); Goetz and Scott (1983); Palay (1984); Masten (1984); and Kronman (1985) are examples.

[10]Stinchcombe (1983), Harrison White (1981), and Robert Eccles (1981), and Granovetter (1983) are examples.