CONTRACTUAL FLEXIBILITY

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UCLA Working Paper #388

December 1985

Revised December, 1985

Preliminary -- Not To Be Quoted

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*We are grateful to the Sloan Foundation grant to the University of California, Los Angeles for the study of contractual relationships for research support and to Thomas Borcherding, Timothy Muris, Kevin M. Murphy, Janet Smith, Richard Smith and participants of the UCLA Sloan Workshop for useful comments.

Real world contracting differs substantially from the economists' view of contracting. Economists see contracts as devices transacting parties use to precisely define future performance and allocate the risks of future contingencies. Within this framework it is difficult, if not impossible, to explain why transactors in the real world are willing to make disadvantageous unilateral modifications to agreed upon contract terms. Further, given that transactors frequently modify their agreements, it is difficult to explain the particular terms transactors choose to write down explicitly to begin with.

This paper presents an economic framework for the determination of contractual specification and modification consistent with real world business relationships. We explain why many real world contractual arrangements consist not of fully specified written documents but of incompletely specified, flexible understandings. These contractual understandings entail an obligation for the parties to perform in a manner not explicitly written in the formal contractual agreement and, if market conditions warrant, to modify the explicit written agreement. The flexible understanding is enforced not by court imposed sanctions but by transactor imposed brand name sanctions. However, given limited amounts of brand name capital, there is some probability that transactors will "hold-up" their transacting partners by taking advantage of unwritten terms or by failing to modify written terms. This will occur if market conditions change sufficiently to place the flexible contractual arrangement outside the "self-enforcing range".

The contract terms that transactors specify to begin with and the contract law designed to facilitate enforcement and modification of these terms are explained as attempts to economize on limited brand name capital. By expanding the self-enforcing range, the costs associated with hold-up behavior are avoided and cooperative transactor-specific investments are encouraged. Therefore, efficient contracts and optimal contract law do not merely set contingent ground rules for the distribution of existing wealth; they also promote the creation of new wealth.

I. INTENTIONALLY INCOMPLETE CONTRACTS

In the standard economic framework a contract is a written document by which transacting parties fully define future performance. Most real world contracts, on the contrary, are intentionally structured to leave many elements of anticipated performance unspecified but understood. Such incomplete contracts have obvious advantages over fully specified contracts. Rather than attempting to determine all of the many events which might occur during the life of the contract and writing a prespecified response to each, an incomplete contract permits transactors to wait until future conditions emerge before determining what should be done. Since most unlikely events can be accommodated to at lower cost after the relevant information is revealed, expenditures made by transactors to anticipate such events and to negotiate prespecified contractual responses are allocatively unnecessary.

Although prespecified responses to unlikely events may have no allocative benefit, they may have substantial redistributive consequences. Therefore, transactors will have an incentive to expend resources attempting to gain informational advantages over their transacting partners during the contractual specification process. Resources devoted to this purely redistributive search and negotiation effort associated with more complete contract specification will result in a wasteful dissipation of rents.[1]

Attempts at ex ante contract specification are also more likely to lead to conditions where ex post prices or other contract terms may be wrong and, hence, where resources are misallocated. For example, if a long-term contract set the price of newsprint to a newspaper publisher and market conditions deviated from this price, the publisher will not face the true opportunity cost of newsprint. Newspapers will be either too long (if market prices are above the contracted price) or too short (if market prices are below the contracted price). Because an explicit contract creates a rigid relationship that cannot cheaply be breached when market prices deviate substantially from contractually specified prices, the disruption may be significant.

Finally, even if the parties to a contract wished to be completely specific in their planned responses to future events, their written agreement would

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[1]This is analogous to the purely redistributive oversearching for an informational advantage analyzed in Kenney and Klein. Purely redistributive investments are also analyzed by Hirshleifer in the context of speculative oversearch, by Spence in the context of overinvestment in education as a screening device, by Tullock in the context of the economic inefficiency associated with theft and, more generally, by Cheung, Kitch, and Gordon as competition for the establishment of property rights.

still be incomplete because of measurement costs. Some elements of contractual performance, such as the level of energy an employee devotes to a complex task or the taste of a food product, may be prohibitively costly to measure and, hence, to specify in a contractually enforceable way. The extent of performance may be known by the transacting parties, yet contractual breach and the magnitude of damages will be difficult to prove to a court.

II. BRAND NAME ENFORCEMENT

The unspecified, but understood, elements of real world contractual arrangements are enforced not by a court-imposed sanction but by a transactor imposed brand name sanction. A brand name sanction involves the capital cost that can be imposed on a transactor by its transacting partner when the contractual understanding is violated. The capital loss is the sum of two parts. One part is the future losses directly associated with the termination of the relationship with that specific transactor. They consist of the quasi-rents on the nonsalvageable transactor specific investments which are lost when the relationship is terminated. The other part is the losses associated with depreciation of the transactor's reputation in the marketplace as the contract violation is communicated to other transactors. These market reputation losses consist of increased costs of doing business in the future as others become unwilling to rely upon the transactor's promises.[2]

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[2]A brand name enforcement mechanism is formally derived in Klein and Leffler and extended in Klein and Murphy. Evidence for the fact that reliance on legal sanctions is extremely rare is provided by Macauley.

The magnitude of the capital loss that can be imposed upon a breaching transactor by terminating the relationship and communicating the failed relationship to the market is defined as the transactor's brand name capital. The amount of brand name capital possessed by transactors will determine the incompleteness of the contractual arrangement they adopt. Where brand name capital is limited, contracts are extremely "thick", with transactors attempting to specify almost every element of performance and provide for every possible contingency; where substantial brand name capital is present, contracts are "thin", with transactors writing out only the essential elements of the agreement, or perhaps even proceeding on the basis of only a handshake.[3]

Because the limit on the cost to a transactor of breaching a brand name enforced understanding is the quasi-rent stream from firm-specific investments and the loss of market reputation, a brand name enforced understanding is potentially more flexible than a court enforced contract. If, for example, market conditions deviate substantially from the contractual understanding, transactors may decide to bear the brand name costs and breach the relationship. However, if the understanding was formalized in an explicitly specified contract term, the cost of opting out of the contract when market conditions deviate substantially from ex ante expectations is essentially limited only by bankruptcy.

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[3]We are assuming here that the magnitude of brand name capital is exogenous. More generally, transactors can invest in increased brand name capital by expenditures on nonsalvageable firm-specific assets or by adoption of specific production technologies. See Klein and Leffler.

However, the built-in flexibility of incomplete, brand name enforced contracts, which allows the efficient use of information generated during the course of the relationship and permits transactors to more easily breach, may also allow transactors to "hold-up" their transacting partners. For example, by taking advantage of unspecified elements of contractual performance a transactor may attempt to modify explicit contract terms to appropriate the quasi-rents yielded by any specific investment made by the transacting partner. Such opportunistic modification is a behavioral or "moral hazard" risk inherent in any long-term agreement and is distinct from "state of the world" risks also present in any long-term agreement.[4]

As an example of such a hold-up, consider the case of fishermen operating under a contract to catch and can salmon in a remote part of Alaska who negotiated a favorable modification of their employment agreement.[5] Since employment contracts typically do not completely specify performance, the fishermen had considerable leeway to slow down their work effort with legal impunity. This contractual incompleteness, together with the threat by the fishermen to stop work completely in the middle of the short fishing season, forced the employer-boat owner to agree to revised contract terms. The additional compensation the fishermen were promised by the boat owner in order to finish the job was clearly a hold-up.

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[4]See Klein, Crawford and Alchian. Williamson refers to the hold-up as "ex post small numbers opportunism" (1975, pp. 26-30).

[5]Alaska Packers' Association v. Domenico, 117 F. 99 (9th Cir. 1902).

III. THE "SELF-ENFORCING" RANGE

Transactors will only attempt hold-ups if their contract is outside of what we call the "self-enforcing range". The self-enforcing range measures the maximum deviation of actual outcomes from planned outcomes where hold-ups will not occur. An exogenous event which shifts the actual gains from trade beyond the limits of the self-enforcing range will result in a hold-up. The self-enforcing range is determined at any point in time by comparing the short-run gain from the hold-up with the capital value of the expected quasi-rent stream from contract performance. A transactor will be outside the self-enforcing range and attempt a hold-up only if the potential one-time gain from the hold-up is large relative to the total discounted quasi-rents anticipated from continuing the relationship. The quasi-rent stream, as noted above, consists of both the returns on transactor-specific investments that will be lost upon termination of the relationship and the increased costs of purchasing inputs or supplying services in the marketplace after the breach is communicated to others.

For example, consider a real world case that we will examine in some detail. In 1919 General Motors entered a contractual agreement with Fisher Body Corporation for the supply of "closed" metal automobile bodies.[6] In order to produce these bodies Fisher Body had to make a highly General Motors specific investment in stamping machines and dies. Firm specific

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[6]In 1919 the dominant form of automobile body was open and largely wooden. The manufacturing agreement between General Motors and Fisher Body can be found in the minutes of the Board of Directors of Fisher Body Corporation for November 7, 1919. Analysis of this case is taken in part from Klein, Crawford, and Alchian, pp.308-310.

investments increase the hold-up potential associated with incomplete contracts since an incentive is created for the transacting partner to capture the quasi-rents yielded by these investments. In this case General Motors had the potential to demand that the price of auto bodies be lowered by the amount of the quasi-rent on the General Motors specific investment made by Fisher Body. Such a demand, however, would have jeopardized General Motors' future relationship with Fisher Body and the stream of rents associated with it. General Motors may have made Fisher Body specific investments, and would lose the quasi-rents on them if Fisher Body terminated or did not renew the contractual agreement. General Motors also relied upon quality performance, timely deliveries and other incompletely specified elements of Fisher Body's performance, which would have been compromised if Fisher Body began to perform solely to the letter of the agreement.

In addition, if an attempted hold-up of Fisher Body became known in the market, General Motors' reputation for "fair dealing" would have been damaged and they would have faced increased costs of acquiring inputs from vendors in the future. The magnitude of General Motors' loss would have depended upon the extent to which the Fisher Body hold-up was communicated to other vendors and the alternative contractual arrangement that General Motors would have been forced to adopt, including the possible unwillingness of other vendors to make investments specific to General Motors. The total present discounted value of the cost increase to General Motors of holding up Fisher Body, the loss of Fisher Body specific quasi-rents plus the

increased cost of acquiring inputs, is the brand name capital that General Motors had at stake with respect to the Fisher Body relationship.

The magnitude of General Motors' and Fisher Body's brand name capital defined "the self-enforcing range" of the General Motors-Fisher Body contractual relationship. This is the range of conditions over which a hold-up will not occur. If, for example, with any given set of market conditions General Motors' brand name capital with regard to the Fisher Body relationship was greater than the short-run hold-up potential, General Motors would not cheat Fisher.[7] If market conditions changed so that General Motors brand name capital was less than the short-run hold-up potential, General Motors would have cheated Fisher Body.

This formulation of the hold-up problem implies that its existence is not an either-or phenomenon. Given the costs associated with attempts to specify responses to every remote contingency and the finite level of transactor brand name capital, transactors enter every contractual arrangement knowing that there is some probability of a change in market conditions sufficient to place them outside of the self-enforcing range. That is, they know at the time they contract that there is some positive probability of being held-up. They also know, however, that it is not economical for them to

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[7]We are assuming that General Motors expects to be earning a future quasi-rent on firm specific consumer marketing investments, such as advertising capital. Therefore, it will continue to supply automobiles even though it faces a higher cost of acquiring inputs. If the capital value of this cost increase is greater than this firm specific marketing asset, General Motors will go out of the automobile business.

reduce this probability any further by increasing brand name capital or by employing more detailed contractual specification.[8]

A broadening of the self-enforcing range implies a reduction in the probability of a hold-up occurring for any given level of contractual incompleteness. However, since a hold-up is merely an attempt to force a lump sum transfer of wealth, for example, from the employer-boat owner to the fishermen in salmon fishing case or from Fisher Body to General Motors in the automobile body production case, the economic costs associated with hold-up behavior and, therefore, the economic benefits of an increased self-enforcing range are not obvious. It is not necessary, however, to rely on risk aversion to generate benefits. Although the hold-up itself is just a lump sum transfer, transactors expend resources in attempts to obtain lump sum transfers and they expend resources in attempts to avoid payment of lump sum transfers. These expenditures and transactor adjustments to hold-up possibilities have allocative in addition to redistributive effects. The resources transactors devote during the contract specification process to obtain informational advantages over their transacting partners discussed above is an example of the allocative waste associated with hold-up behavior.

Attempts to obtain lump sum transfers also generate allocative costs during the transitional period before a lump sum transfer is made. During this period, transactors will take disruptive actions in an attempt to convince

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[8]This result differs from the analysis in Klein, Crawford and Alchian, where hold-ups are assumed not to be present in long-run equilibrium and exist solely because of transactor myopia or ignorance.

their trading partners that a hold-up can or cannot be accomplished. For example, as in the salmon fishing case, transactors may renege on the arrangement by performing only to the letter rather than the spirit of the contract in an attempt to force the payment of a lump sum.

Finally, the most important real resource cost associated with hold-ups is that transactors, fearing a hold-up, will avoid making the specific investments that make them vulnerable to hold-up actions. The adoption of less efficient production technologies or contractual arrangements to avoid being locked-in to a potential hold-up situation may imply substantial real economic costs.

IV. EFFICIENT EXPLICIT CONTRACT TERMS

Transactors designing efficient contractual arrangements recognize that the probability of costly hold-up behavior occurring may be reduced by explicitly writing things down. By contractually defining performance with explicit court enforceable contract terms, such as stating the quality of a product to be delivered, transactors legally tie their own hands with regard to variables that can be manipulated to hold-up a transacting partner. Relying on court enforcement, therefore, allows transactors to economize on the brand name capital required to make the transactional relationship self-enforcing over any given range of ex post conditions. Transactors can make longer, larger or more specific commitments without creating a hold-up potential so great that it exceeds the brand name capital losses from opportunistic behavior.

In addition to economizing on brand name capital, explicit contract terms shift the location of the self-enforcing range. Efficient contract terms, by more closely relating actual brand name capital with likely requirements, widen the ex post market conditions that are likely to fall within the range where performance remains assured. An efficient shift in the self-enforcing range can be made, for example, merely by changing the timing of performance so that the party with the greater brand name capital performs "last".[9] Analogously, an efficient shift of the self-enforcing range can be made by contractually shifting the party that makes the transaction-specific investment. For example, in the case of a franchising contract the franchisee may be required to make an initial lump sum payment to the franchisor, thereby largely shifting the potential hold-up from the franchisee ("free riding" on a common trademark by supplying lower quality service) to the franchisor (terminating or threatening to terminate the franchisee without cause and purchasing the franchisee investment at a discount price).[10]

The transactor that will contractually commit to make the specific investment is determined by comparing the likely future brand name

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[9]The fact that transactors generally prefer to perform last so that others rely on their brand name capital rather than they relying on the brand name of others, i.e., they prefer to be the defendant rather than the plaintiff in any potential litigation, is evidence that contracts are somewhat incomplete and not court enforceable.

[10]The franchisor hold-up of franchisees is limited by the depreciation of the franchisor's brand name from the increased cost of operating the chain through an employee operation compared to a franchise operation when such cheating is communicated among current and potential franchisees. See Klein and Saft.

requirements of each party under alternative arrangements and probable contingencies with the amount of brand name capital that each transactor has available. Generally it will be the individual transactor with the smaller brand name capital that will make the specific investment commitment. As in the franchising case this often will be the smaller firm. A larger firm, such as the franchisor, generally has more brand name capital and hence contract fulfillment credibility because of its increased repeat transaction frequency. Contractual commitments also may be influenced by the fact that the cost of making a specific investment may be more costly for one transactor than another, that the probability distribution of likely future events may be skewed in one direction or another, or that one transactor may be able to more quickly detect a hold-up than another.

Consider, as an example of these effects, the case of a firm and a worker. Because of the larger size and increased repeat purchase frequency of firms compared to individual workers, cheating firms are likely to become known more quickly than cheating workers, reducing the opportunity to cheat a succession of separate workers. Workers, on the other hand, may be able to behave opportunistically at several jobs without their reputation becoming known. Therefore, it will be generally more efficient for the worker rather than the firm to make specific investments in job-specific training, relying on the brand name of the firm as their assurance that they will receive a return on this investment.[11]

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[11]It is important to distinguish between the transactor that may "finance" the specific investment and the transactor that actually "pays for" the specific investment. For example, although the firm may be making the actual expenditures for the on-the-job human capital acquired by the workers, because of increased firm brand name capital we would expect the

This shifting of the self-enforcing range may allow one to explain otherwise "unusual" real world contract terms as devices that economize on the limited amount of brand name capital possessed by the transactors in any relationship. Many contract terms that appear "unfair" or "anticompetitive" may be efficient attempts to shift and minimize brand name capital requirements over likely future states of the world.[12] For example, in the General Motors-Fisher Body case explicit contract terms were used to limit the ability of General Motors to hold-up Fisher Body, thereby reducing Fisher Body's reliance on General Motors' brand name and encouraging Fisher Body's specific investment. These terms included the use of a long-term fixed price supply contract, with price set over a ten year period equal to Fisher's "cost" plus 17.6 percent.[13] This was combined with an exclusive dealing clause, whereby General Motors agreed to buy all their closed bodies from Fisher Body over the period of the contract. The exclusive dealing clause prevented General Motors from threatening to reduce

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expenditures to be netted out of the worker's salary so that the worker would actually be paying for the investment. Rather than firm specific human capital investment, Lazear explains underpayment in the early years of a worker's career as the initial bond paid by the worker upon which a premium is later earned above the worker's marginal product to assure performance. The obvious question is why the collateral bond (or specific investment) is not paid all at once, as in the franchising case. In our framework such an initial payment would increase the firm's cheating potential beyond that supportable by its brand name capital and place him outside of the self-enforcing range.

[12]See Klein (1980).

[13]When a significant amount of firm specific investment is being made, one generally cannot index price to a general economy wide index, such as the U.S. Bureau of Labor Statistics Consumer Price Index. As we shall see below, use of a general index creates significant problems when relative price shocks, such as the oil crises of the 1970s, occur.

the quantity it demanded, including threatening complete termination, unless some contractual adjustment or side payment were made.[14]

In an attempt to minimize a potential Fisher hold-up of General Motors, the contract also included provisions that the price could not be greater than what Fisher Body charged other automobile manufacturers for "similar" bodies. It is common for transacting parties to use such "price protection" rules to prevent the hold-up. In this way a price increase or decrease to any buyer is guaranteed to be given to all buyers. Established buyers that are "locked-in" by a specific investment are protected by the necessity of making new sales. While such clauses may appear to be collusive and to produce rigidity, they efficiently raise the cost to the firm of cheating. Hence they lower the firm's required brand name capital.[15]

Although an explicit contract term may decrease the required brand name capital and optimally shift the location of the self-enforcing range, transactors do not attempt to cover every contingency explicitly in a contract. As noted above there are substantial redistributive search and negotiation costs associated with complete contract specification. There are also potential disruptions of ex post incorrect contract terms.

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[14]The use of exclusive dealing as an efficient contractual mechanism to reduce the possibility of a buyer acting opportunistically after a seller makes a specific investment should be sharply distinguished from the possible risk-shifting functions of such contracts emphasized by Havighurst and Berman. Analogously, if a buyer makes a seller-specific investment, an agreement to supply the buyer's "requirements" may effectively prevent the seller hold-up.

[15]Similarly motivated "most favored nation" clauses exist for crude oil posted prices and for the pricing arrangements examined in Ethyl Corporation, et al., FTC Docket No. 9128, March 22, 1983.

Explicit terms, in addition to defining the self enforcing range, also change the costs to transactors of being outside the range. Therefore, transactors create optimal contractual arrangements by intentionally deciding to leave some contract terms unspecified and relying on the brand name enforcement mechanism to assure performance. Transactors simultaneously decide upon the specific investments and contractual commitments they will make which will, given the brand name capital they possess, define the self-enforcing range and determine the probability of a hold-up occurring. Rational transactors design efficient contractual arrangements by attempting to minimize the hold-up potential at the smallest contract specification cost and to optimally locate this potential between transactors based upon their brand name capital and expected future events.

V. CONTRACTUAL FLEXIBILITY

Implicit in the discussion to this point is recognition that most contracts governing real world business relationships are designed to handle continuing, cooperative dealings. Rather than rigidly structured risk shifting contracts, such as forward commodity contracts, insurance policies, and other transactions which may involve little or no cooperative productive effort on the part of the parties involved, the contracts we have been considering are designed to allow the parties to engage in what is essentially a joint production effort. Part of the contractual understanding which governs these evolving cooperative relationships is that, in addition to the parties performing the unwritten terms of the agreement, the parties will modify the explicit terms of the agreement when

the terms get substantially out of line with market conditions. In this way the self-enforcing range can be flexibly adjusted over time to correspond to market realities.

If the contractual understanding includes contract term flexibility, then an opportunistic breach of the contractual understanding may occur either by a unilateral modification of the contract in the face of unchanging market conditions (our salmon fishing case) or by a failure to modify the contract in the face of changing market conditions. As an example of such a failure to modify hold-up, consider the case of individuals who rented space to view the coronation procession of King Edward. When Edward was suddenly taken ill and the procession was cancelled, the lessors failed to modify the contract to change the rental day to the new scheduled date of the procession. By holding the leasees to the literal terms of the contractual agreement in the face of changing conditions the lessors were taking advantage of an unspecified element of the contractual understanding to violate the obvious intent of the agreement.[16]

It is important to emphasize that the major reason transactors find it mutually beneficial to create a flexible contractual arrangement where they are assured that over a wide range of market conditions ex post disturbances will be reflected in adjusted contract terms is not because of risk aversion. Although hold-ups associated with failure to adjust contract terms are only lump sum transfers of wealth, for example, from the lessors to the leasees, they have important allocative effects. As stated above,

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[16]Krell v. Henery [1903] L.R. 2 K.B. 740.

the real economic costs associated with hold-up behavior involve the resources transactors expend to place themselves in a position to collect such lump sum transfers and the resources they expend in an attempt to avoid the payment of such transfers.

To illustrate the economic determinants of a failure to adjust hold-up, consider an example where parties to a contract set a particular price for future delivery of a stream of services with the understanding that this price will be adjusted if market conditions get out of line.[17] Such flexibility encourages optimum factor use, with the parties always facing the opportunity cost of the factors they are using and jointly maximizing profits. The contract does not shift "state of the world" risks, but allows the seller to make the specific investments necessary to optimally supply the service stream desired by the buyer and the buyer to make the reliance investments necessary to optimally use the service stream.

However, if the market price deviates sufficiently from the contract price, either the buyer or seller may choose to opportunistically breach the price adjustment understanding and try to enforce the contract as written. At this point the short-run hold-up gain from the failure to adjust the price will be greater than the depreciation of the breaching party's brand name capital. The larger the brand name capital and the faster information is transmitted, the more market prices can move away from contract prices

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[17]We are assuming that there is no perfect market price index that can be used in the contract. As noted above this assumption is realistic in a great many instances since there are often firm-specific investments present and, hence, the services being priced are somewhat idiosyncratic.

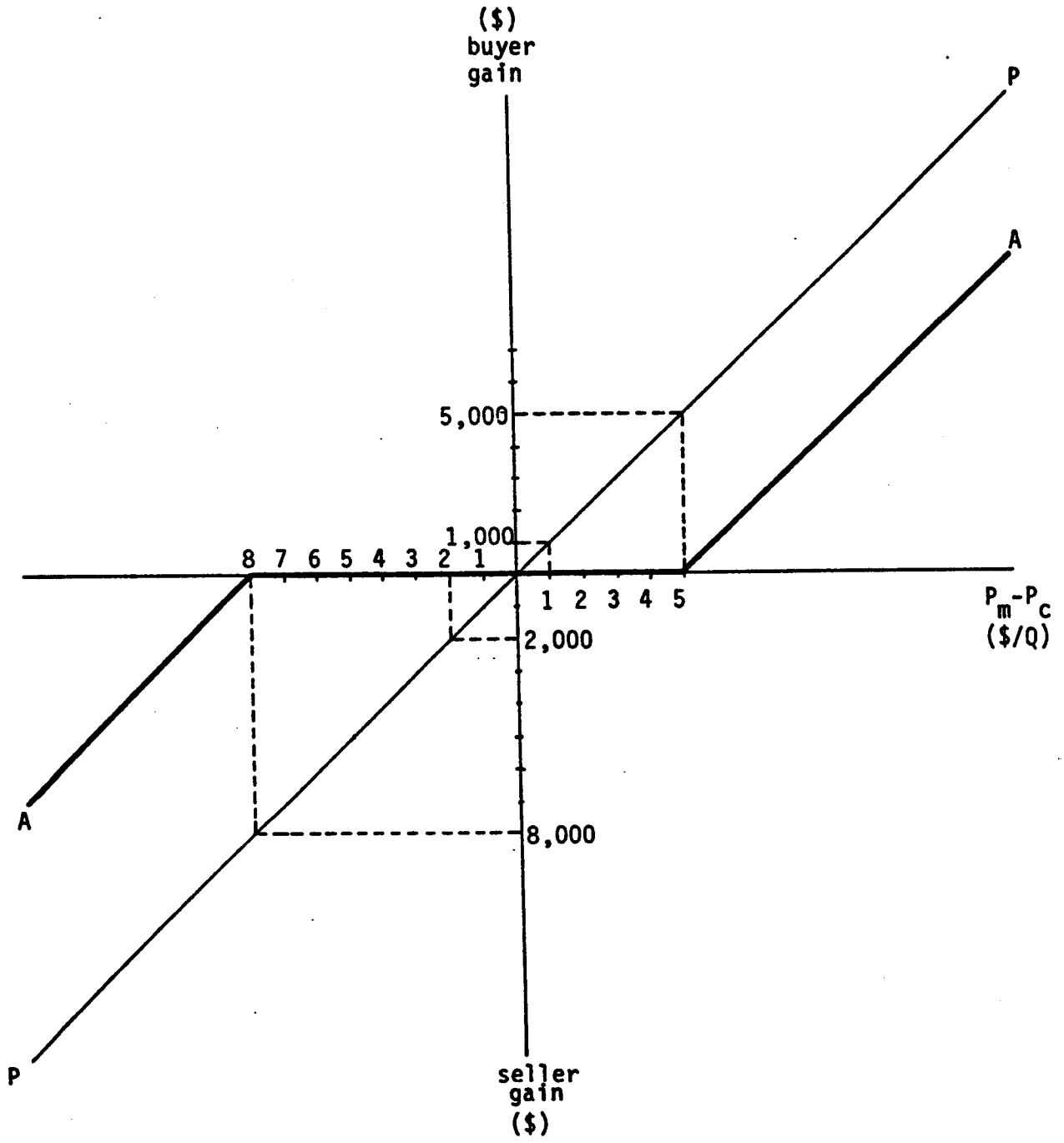
without transactors attempting to enforce the literal (fixed price) terms of the contract. If the market price rises above the contract price, the buyer must "allow" the upward price adjustment and it is the magnitude of the buyer brand name capital that is critical. Similarly, the maximum negative price deviation and the magnitude of downward price adjustments is determined by the magnitude of the seller's brand name capital.

Figure 1 illustrates these forces. It relates the deviation of "market" prices, P_m, from contracted prices, P_c, along the horizontal axis, to the potential transactor gain from enforcing the literal terms of the agreement along the vertical axis. Let us assume that the contractually specified quantity flow is such that any price deviation along the horizontal axis can be multiplied by, say, 1,000 to determine the present value of the potential transactor gain along the vertical axis. Therefore, if market price rises above the contract price by $1, the potential gain to the buyer of enforcing the literal terms of the agreement is $1,000; if the market price falls, say, $2 below the contract price, the potential gain to the seller of enforcing the contract agreement is $2,000. The potential transactor gains as market price deviates from contract price are represented in Figure 1 by the line PP.

The self-enforcing range of contractual flexibility is determined by considering the transactors' brand name capital. For example, if the seller can impose a cost of $5,000 on a cheating buyer, say $1,000 from the capital depreciation of seller-specific investments made by the buyer and

Figure 1

POTENTIAL TRANSACTOR GAIN (P) AND ACTUAL LUMP SUM PAYMENT (A)
AS MARKET CONDITIONS DEVIATE FROM CONTRACT TERMS



$4,000 from the increased cost in the future to the buyer of operating in the marketplace, then the buyer cannot credibly threaten not to adjust the contract price as long as the (P_m - P_c) deviation is less than $5. If, for example, the market price moves up by $3 relative to the contract price, the buyer (given its brand name capital) cannot credibly insist on receiving the goods at the contracted price. Although a court may enforce the original contract terms, the $3,000 gain to the buyer of such enforcement is less than the $5,000 cost that can be imposed on him by the seller via termination of the relationship and communication of the buyer's failure to adjust contract terms to the marketplace.[18]

Similarly, if the sellers' brand name capital is, say, $8,000 (consisting of $2,000 buyer specific investments and $6,000 market reputation capital), the market price can, in principle, fall up to $8 below the contract price and the contract adjustment still be made by the seller. The self-enforcing range of voluntary unilateral contract adjustments, therefore, consists of all market price deviations from contract price between minus $8 and plus $5. Within this range of price deviations, represented in Figure 1 by the flat portion of the AA schedule between minus eight and plus five, contract terms will be adjusted without any lump sum payment being made by the transactors.

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[18]Given our assumption that the seller has also made buyer-specific investments, termination of the buyer will cost the seller $2,000. The seller may, therefore, rely solely on the cost to the buyer of market communication of the hold-up.

The advantage of larger buyer and seller brand name capital and, hence, a larger self-enforcing range of contractual flexibility is the reduction in dissipative redistributive investments that will made by individuals to get in a position to hold up their transacting partners. Transactors know that deviations of market conditions from contract terms can only be taken advantage of if they are of sufficient magnitude to place them outside of the self-enforcing range. Therefore, wasteful redistributive investments will only be made if one expects to be outside of the self-enforcing range.

If market conditions change sufficiently to move the contractual arrangement outside the self-enforcing range, one of the parties is in a position to demand a lump sum settlement. For example, if the positive deviation between market and contract prices is greater than the $5 given by buyer brand name capital, the buyer can credibly threaten the seller with litigation if he does not receive a lump sum payment. As opposed to the situation inside the self-enforcing range, where a litigation threat is not credible since the parties each have more to lose by litigating and terminating the relationship than they have to gain, once we are outside the self-enforcing range it will be in the interest of one of the parties to sue and not continue the relationship if the contract dispute is not settled with a lump sum payment.[19]

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[19]Therefore, the magnitude of the brand name capital and the size of the self-enforcing range determines the probability that the relationship will end in litigation for a given informational and stake difference (see, for example, Priest and Klein). Disputes which actually reach litigation appear to be disproportionately concerned with nonrecurring transactions, such as one-time building contracts. For such transactions the hold-up potential is large in value relative to the available brand name capital. Although the parties structure performance and explicitly contract in such situations so that a hold-up is not expected, the self-enforcing range is generally very

However, the presence of brand name capital implies that even when one is outside of the self-enforcing range, the necessary lump sum payment that will be made by transactors in continuing business relationships will be less than the potential transactor gain represented by the PP schedule. If, for example, $(P_m - P_c)$ is \$6, the seller need not pay the buyer \$6,000 to force the buyer to adjust the contract price up to the market price. In the real world we do not observe such discontinuous behavior between, say, a \$5.00 price deviation and a \$5.10 price deviation. Because of buyer brand name capital, the seller can impose a \$5,000 cost on the buyer and, if the seller and the market considers payment to the buyer of any lump sum settlement greater than \$1,000 to be a hold-up, then the buyer will be willing to accept \$1,000 to adjust the contract price up \$6.00. The potential payoff to the buyer is reduced by the magnitude of brand name capital present. Hence, even when outside the self-enforcing range, the real resources devoted to dissipative hold-up activities will be reduced by the existence of brand name capital.

An obvious question is why a hold-up ever occurs. Why do not transactors continuously modify explicit terms as conditions develop in the marketplace to keep the relationship always within the self-enforcing range? For

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small. Because the relationship is not continuing and the reliance investment is small, there is little room for exogenous market changes occurring without moving outside the self-enforcing range. In addition, termination of the relationship and litigation, rather than a side payment, may also occur if a transactor believes that action was taken by his transacting partner to move the relationship outside the self-enforcing range, i.e., if the deviation of contract conditions from market conditions is not considered exogenous.

example, considering our price-deviation illustration in Figure 1, why is the contract price not continuously adjusted so that the deviation never moves out of the self-enforcing range? The answer relates to the fact that both parties to a transaction do not have the same information about changing market conditions. The attempt by one transactor to alter the price to correspond to its perception of changed market conditions requires the other transactor to devote resources to certify that market conditions warrant the change. Given costly information, it will be wasteful for transactors to devote resources to search and negotiate changes for every small deviation of contract terms from market conditions. Consider, for example, a case of a contractor who after agreeing to build a room addition for your home for $20,000, informs you at the start of construction that the contract price has to be adjusted up from $20,000 to $20,010 because of a change in the price of nails which occurred in the two weeks since the contract was bid, negotiated and agreed upon. You would, of course, not be aware of this price change nor would it be economic for you to certify his claim. More importantly, you would, with good reason, wonder what kind of contractor you were dealing with.

Adjustment to small changes generally are not part of original contractual understandings and will not occur even though the parties are within the self-enforcing range. In addition to the wasteful search and negotiation costs entailed by frequent contract changes (similar to the rent dissipating costs transactors attempt to avoid in setting up an imperfect incomplete contract to begin with), small deviations are not effectively communicated to the marketplace. Therefore, the market reputation element of brand name

capital is not available to implicitly enforce performance. Transactors must rely entirely on the more costly termination enforcement mechanism. For both of these reasons the implicit contractual understanding must be that adjustments are not made unless some minimum disturbance occurs. The explicit terms that define the self-enforcing range can be thought of as a contractual constitution that is not anticipated to be frequently amended.[20]

Given this constitutional contractual understanding and the time necessary to negotiate contractual changes, transactors can find themselves outside of the self-enforcing range if market conditions change rapidly. Market prices or conditions may change so dramatically that one party expects to be favorably outside of the self-enforcing range, or has an incentive to delay the renegotiation process because of the likelihood of such a movement.[21]

To illustrate, consider our General Motors-Fisher Body example. The contract, not unexpectedly, turned out to have "gaps" when put into practice. One gap was that, although the price was set on a cost plus basis, cost was defined exclusive of interest on invested capital. Given the absence of a capital cost pass through, Fisher Body shifted towards a lower than optimal capital intensity form of production, with resulting higher prices to General Motors. Another problem was that since

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[20]The fact that explicit contract prices do not flexibly follow every change in market conditions may partially explain macroeconomic fluctuations. See Klein (1984).

[21]Similarly, a transactor may delay holding up his transacting partner, even though their relationship is outside of the self-enforcing range, if he expects future likely market movements to place him sufficiently further outside the self-enforcing range later.

transportation costs were reimburseable as part of the price formula, Fisher Body had the incentive to locate their plants far from General Motors (and close to General Motors competitors). In particular, Fisher Body refused a General Motors request to locate their body plants directly adjacent to General Motors assembly plants, a move which General Motors claimed was necessary for production efficiency.[22]

The contractual deficiencies revealed over time in the General Motors-Fisher Body arrangement are not unusual. What is unusual is that timely renegotiated modifications of the contract did not occur. Standard commercial practice is that when such contractual deficiencies in a long-term contract are discovered, adjustments and modifications to the recognized change in conditions are voluntarily made by the transacting parties. In this case Fisher Body took advantage of the "incorrect" explicit contract terms and refused to unilaterally adjust them.

If the present discounted value of the future expected quasi-rent stream to Fisher Body had been greater than the short-run gain from holding up General Motors, then Fisher Body would have adjusted to General Motors' complaint about the inefficient location of Fisher Body plants. The future expected quasi-rent stream to Fisher Body depends upon the cost that can be imposed on Fisher Body by General Motors' non-renewal (the magnitude of Fisher Body's General Motors specific investment) and the increased cost

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[22]See deposition and direct testimony of Alfred P. Sloan, Jr. in United States v. DuPont & Company, 366 U.S. 316 (1961), 186-90 (April 28, 1952) and 2908-14 (March 17, 1953).

Fisher Body may have to bear as other buyers learn about its failure to equitably adjust to unspecified, unanticipated events. The short-run gain to Fisher Body depends upon the magnitude by which the contract permits them to favorably deviate performance from long-run "market" conditions and the length of the contract term.

In this particular case the unanticipated growth in General Motors' demand for Fisher Body's output in the current contractual period was so large that the loss of future rents to Fisher Body from the failure of General Motors to renew the contract was insufficient to assure unstated but understood performance. At the time the contract was written in 1919 closed bodies were essentially a novelty. The transactors did not make the error of overlooking an obvious element of performance in the location by Fisher Body of General Motors body plants since specific General Motors plants were probably not anticipated. Five years later demand had grown to account for more than 65 percent of General Motors' rapidly growing automobile production.[23] This produced an increase in the initial period (in this case, ten-year) potential Fisher Body hold-up of General Motors, both because of the large increase in current Fisher Body sales to General Motors and the ability of Fisher Body to now hold-up General Motors for its substantial industry specific investment in the manufacture and marketing of automobiles. This demand shift appears to have been substantially greater than anticipated at the time the contract was made, leading to a breakdown of the original contractual relationship. After protracted negotiation and

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[23]See Sixteenth Annual Report of the General Motors Corporation, year ended December 31, 1924.

significant production disruptions the contractual adjustment adopted by the parties was vertical integration of the Fisher Body operation into General Motors, with a lump sum payment made by General Motors to the Fisher brothers (presumably at a point along our AA schedule) in the form of substantially greater General Motors stock in the new combined firm than if the original contractual agreement had not existed.

VI. OPTIMUM CONTRACT LAW

When contractual relationships such as the General Motors-Fisher Body agreement breakdown, the court often gets involved in interpreting the terms of the understanding. Within the standard economic framework, where transacting parties are assumed to employ contracts merely to allocate risks of future contingencies, the specific content of contract law is largely irrelevant. Because of the limited number of parties to each transaction, "(t)he costs of contracting around an inefficient contract doctrine are not zero, but are probably low enough to permit the Coase theorem to apply, at least approximately, to contract law."[24] Thus, as long as contract law is predictable, the particular content of the law is of little significance. The sole social cost of inferior legal rules is the paperwork or "ink costs" imposed upon transactors who are forced to write their own contract terms to reach the allocation of risk they desire.[25]

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[24]Kronman and Posner, p. 6 n. 6.

[25]Posner (1977), p. 64 and Kronman and Posner, p. 4.

However, the contracting process does not consist of transactors considering every possible contingency, checking it off against the law's response and deciding whether to contract around the law or not. Contract law, including prior judicial rulings, represents a social capital asset that transactors generally want to use. In addition to the savings in real resource costs of not having to discover, figure out and specify a set of complex responses to all contingencies, there are significant savings in real resource costs from relying on an impartial set of terms. Since transactors know that statutory and common law has been settled independent of their particular contract, they know it is, in that sense, impartial. Transactors know that once one party tries to contractually specify an interpretation that differs from accepted law, the contracting process is opened up to the wasteful search for purely distributional informational advantages as both parties attempt to protect their interests. Therefore, transactors largely accept the law and adjust only to grossly inefficient judicial standards.

Because the law is largely accepted by transactors, the actual content of the law matters. Economically efficient contract law must set rules for the court to interpret the contractual understanding in the face of unspecified or unintended contingencies so as to reflect the terms transactors would have voluntarily adopted if they had explicitly contracted over those contingencies. To accomplish this the court does not merely look at the written agreement, but must infer the intent of the contractual agreement from the circumstances surrounding the agreement in addition to the agreement itself. Determining the purpose of a contract and hence the optimal response by the court is a more difficult task than it might seem.

To an economist, the purpose of a contract is to allocate and shift state-of-the-world risk according to the tastes or risk preferences of the transacting parties. For example, Paul Joskow, in analyzing the Westinghouse uranium case, asks: "Why would somebody buy a long-term fixed price contract other than to insure against fluctuations in the price of uranium?"[26] Within such an economic framework optimal court interpretation implies construction of terms which shift risk to the "superior risk bearer."[27]

Our economic framework considers contracts more generally as devices which facilitate cooperative specific investments by broadening the self-enforcing range. Our framework implies that, in addition to insuring against state of the world risks, long-term fixed price contracts are frequently designed to prevent the behavioral risks associated with hold-ups. The General Motors-Fisher Body contract is an obvious example of such a contract that is designed to encourage economic exchange by facilitating the reliance of the parties upon one another.

A general rule for court interpretation of contracts within this more general economic framework is that the court should make decisions which broaden the self-enforcing range, thereby encouraging the transactor specific investments which underlie all continuing, cooperative business

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[26]Joskow (1976), p. 173. This economic view of the purpose of contracts is also accepted by legal scholars (see Barton) and reflects the philosophy of nineteenth century legal scholarship (see Friedman, 20-24, Friedman and Macauley, and Gilmore, 5-35).

[27]See Posner (1977), Posner and Rosenfeld.

relationships. The self-enforcing range would be effectively broadened if the court by contract interpretation minimizes opportunistic behavior and thereby decreases the required brand name capital and the wasteful contract specification costs associated with hold-up avoidance. This could be accomplished if the court prevented itself from being used to further the attempt by transactors to hold-up one another by using litigation or the threat of litigation to capture rents not anticipated as capturable by the parties at the time of contracting. In effect, both parties would be prevented from using their written agreement inconsistently with the actual understanding which it memorializes.[28]

The courts have reasonably constructed rules which facilitate the application of our general rule that contract interpretation should broaden the self-enforcing range. The doctrine of consideration, for example, may appear to be a straightforward application of the principle that courts should prevent hold-ups. If one contracting party agrees to modify an existing contractual obligation so as to do more (or to pay more) than under the original agreement without the other parties' responsibilities being similarly increased, it may be an indication that opportunistic behavior has occurred. However, the court must examine the particulars of the case in question to determine if, in fact, a hold-up has occurred and the doctrine should be applied. The court does not apply the rule blindly, but commonly

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[28]Muris insightfully presents a similar view that contract law and, in particular, the doctrines of modification and consideration, as well as the treatment of unconscionability, commercial impracticability and penalty prohibitions appear to be attempts by the court to distinguish between hold-up and non-hold-up situations and thereby to minimize opportunistic behavior.

distinguishes between hold-ups such as the salmon fishermen case from flexible unilateral contractual modifications which are merely anticipated adjustments to unforeseen circumstances.[29]

For example, a leading case involves a contract to excavate a cellar where, shortly after the work began, the excavator hit solid rock and refused to continue unless the price was adjusted upward. After a nine-fold price increase was negotiated and the work completed, the home owner attempted to hold the excavator to the original terms by refusing to pay the higher renegotiated price.[30] The court faces a difficult task in distinguishing between coerced modifications (the salmon fishing case) and cases such as this where mutually desired adjustments to changed conditions would voluntarily occur if sufficient brand name capital existed.[31]

Section 89 of the Second Restatement of Contracts states that modifications are enforceable without fresh consideration if they are "fair and equitable in view of circumstances not anticipated by the parties when the contract

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[29]See Aivazian, Trebilcock and Penny.

[30]Watkins and Son v. Carrig, 91 N.H. 459, 21 A.2d 591 (1941). This is illustration one to Sec.89 of the Second Restatement of Contracts, where the modification is enforced in spite of a lack of consideration.

[31]Posner (1977b, pp. 423-42) argues that the court should not enforce modifications in ex post "monopoly" situations. Labeling "hold-ups" as "monopolies", however, blurs the fact that the economic power which facilitates such behavior relates to the presence of a specific investment. Hence the existence of such power is pervasive, present in both the salmon fishing and the basement excavation cases, and does not imply a reasonable decision rule. It is the opportunistic exercise of such power that is crucial, that is, whether the modification reflects changed market conditions or not.

was made."[32] Critical to the application of this rule is an understanding of what is meant by "unanticipated". In comment b to the same section the meaning of unanticipated is explained as follows: "The reason for modification must rest in circumstances, not "anticipated" as part of the context in which the contract was made, but a frustrating event may be unanticipated for this purpose if it was not adequately covered, even though it was foreseen as a remote possibility." That is, even if the parties know there is some chance they can be "struck by lightening", if they decide not to worry about it and to leave it, like many other remote possibilities, unspecified and part of the general unwritten understanding, the court will enforce the unilateral modification that occurs after the lightening strikes.

The problem of determining intent and whether a hold-up is taking place is perhaps more difficult for the court in distinguishing the presence or absence of our second type of hold-up -- failure to adjust a contract term in the face of changing market conditions. These cases do not reach the court under the classification of contract modification. Because the party demanding but failing to obtain the adjustment often does not perform, the cases reach the court under the classification of breach. The court may determine that the parties are not held to the written terms of the contract. This, for example, is what occurred in the coronation procession

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[32]Second Restatement of Contracts, Sec. 89(a). See, for example, Angel v. Murray, 1213 R.I. 482, 322 A.2d 630 (1974). The Uniform Commercial Code, by explicitly repealing the pre-existing duty rule, makes it even easier for the court to justify modifications (U.C.C. Sec. 2-209(1)). Muris believes that the courts' failure to employ a "good faith" requirement for all modifications litigated under the Code has made it difficult for them to prevent extorted modifications.

cases. Although written terms were clear, with a rental agreement explicitly stated to be for a particular day, the court held that the purpose of the contract was frustrated by Edward's sudden illness which resulted in cancellation of the procession. Failure of the leasors to modify the rental terms and their demand for payment of the rent for the originally set day represents a hold-up within our framework and the court correctly refused to enforce the original written terms.

To determine intent the court must determine the primary purpose of the contractual understanding. If the purpose of the contract is risk shifting (for example, a standard forward commodity transaction) one cannot go to court complaining about an unadjusted price after the market price moves. Cases that are litigated and on which the court must reach decisions are more difficult. Consider, for example, the cases involving long-term fixed price uranium supply contracts in the face of large "unanticipated" price increases. Given that the parties are in court, the large price change must have been unanticipated in the sense that it is outside of the self-enforcing range where adjustment occurs with no lump sum side payment necessary. If the parties are in court they also are unable to reach a private lump sum settlement and have decided to terminate their relationship. The court has to determine, independent of the written terms, if the risk was allocated, i.e., intended to be covered in the contract's original price terms, or unforeseen.

Most of the utilities who contracted with Westinghouse for future uranium supplies at a set price were also buying the nuclear reactor from

Westinghouse. By offering this package, Westinghouse could assure the utilities that the overall cost of the nuclear power supply system would be comparable to conventional coal or oil-fired systems. Without such price protection from Westinghouse, an unanticipated event which substantially increased the cost to a utility adopting this new technology would likely not be looked upon favorably by the utility's regulatory commission. Even if the parties knew about the potential for large uranium price changes, they would have still attempted to fix prices ex ante. The supply relationship does not appear to have been a cooperative evolving relationship and the purpose of the fixed price term does not appear to have been the encouragement of specific investments. Hence Joskow is correct in claiming that the primary purpose of the contract appears to have been risk allocation. Therefore, the court's decision to reject Westinghouse's plea of commercial impracticability and hold it to the original contract terms in the face of dramatic and presumably unanticipated increases in market prices appears to have been correct.

However, the court may have incorrectly reached a similar conclusion in the recent cases of long-term coal supply contracts.[33] Unlike uranium, where transportation costs are trivial and in fact all uranium goes first to fuel fabricators before going to the utilities, these coal mines were frequently specially developed or expanded to serve specific utilities. Similarly, the utilities made specific investments in coal-fired equipment in anticipation

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[33]See Iowa Elec. Light & Power Co. v. Atlas Corp., 467 F. Supp. 129, 134 (N.S. Iowa 1978), rev'd on other grounds, 603 F. 2d 1301 (8th Cir. 1979); Missouri Pub. Ser. Co. v. Peabody Coal Co., 583 S.W. 2d 721 (Mo. App.), cert. denied, 444 U.S. 865 (1979).

of reliable supplies. In these cases, the contracts were most probably designed to allow specific reliance investments to be made and the purpose of the fixed price contract was not primarily risk allocation.

Another example of a contract which appears to have been more than a risk shifting arrangement is the long-term agreement entered into by Alcoa in 1967 to process specified amounts of alumina into aluminum for Essex.[34] On the basis of this agreement Essex made a highly Alcoa specific reliance investment in a cable fabrication plant located near the Alcoa aluminum production facility. Alcoa shipped the processed aluminum in molten form to the Essex plant. The agreed upon pricing formula chosen by Alcoa and Essex used the wholesale price index for industrial commodities. Although this index had historically tracked Alcoa's costs, electricity costs, the principal non-labor cost in aluminum production, began to rise much more rapidly than the chosen price index after the oil crisis in 1973.[35] By June of 1973 Essex was receiving aluminum from Alcoa at a net cost which was less than one half of the then current market price, resulting in an expected gain to Essex of more than $75 million over the life of the contract.

Although it was not impossible for Alcoa to perform nor was there risk of an Alcoa bankruptcy, the court ruled that Alcoa was entitled to relief on the grounds of mutual mistake of fact, impracticability and frustration of

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[34]See Aluminum Co. of America v. Essex Group, Inc., 499 F. Supp. 53 (W.D. Pa. 1980) and discussion in Speidel.

[35]This index was also chosen in Missouri Pub. Ser. Co. v. Peabody Coal Co., supra. One of the costs of inflation uncertainty is that the necessity to index prices to correct for general inflation trends creates the risk of incorrect prices when relative prices change.

purpose. However, rather than simply discharging the obligation, which would have subjected Essex to a potential hold-up by Alcoa, the court's remedy was an adjustment of the pricing term to approximately preserve what it considered to be the original distribution of gains from the contract. This "fair" remedy was necessary, according to the court, to avoid disruption of long-term commercial relationships.[36]

The decision reached in Alcoa v. Essex is consistent with the position advocated by Llewellyn more than fifty years ago, that "When we approach constructive conditions bottomed on the unforeseen, [n]ot agreement, but fairness, is the goal of the inquiry." [37] Within our transaction cost minimization framework such a standard potentially makes economic sense. The court can be thought of as using its discretion to modify the terms of the contract in an attempt to reach the "equitable" adjustment that would have been reached voluntarily by the transacting parties if sufficient brand name capital had existed. The court action can thereby economize on limited brand name capital so that unspecified but understood terms can be enforced and contractually specified but ex post incorrect terms can be adjusted. Judicial discretion can be thought of as a substitute for brand name capital

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[36]Although judicial revision of a contract is rare in the United States, it is a common occurrence in Germany. See Dawson (1983) and Dawson (1984).

[37]Llewellyn went on to claim that "This holds of impossibility, and of frustration, it holds of mistake" (1931), p. 746. Macneil has more recently advocated increased judicial discretion in interpreting long-term contractual relationships and notes that "almost any contract doctrine can and does serve to make the commitment of the legal system to promise keeping less than complete" (1974, p. 73). This historical movement of the courts, injecting actual commercial practice into the contract interpretation process, is explored by Gilmore.

of the transacting parties, while expanding the self-enforcing range of contractual flexibility.

If courts were omniscient, transactors could efficiently reduce both the costs associated with setting explicit contract terms and the costs of insufficient brand name capital and merely depend on the (costlessly arrived at) judgement of the court to always find the "efficient" solution. However, while the courts are generally excellent fact finders, they are not omniscient. A judicial standard which would require the court to figure out the "fair" result that would voluntarily occur if sufficient brand name capital existed would require that judges be sophisticated economists and know an extremely large amount about the transactional relationship. The court certainly cannot look merely at the superficial, obvious facts of a situation and reach reasonable conclusions. For example, as in the case of franchise termination provisions, contract terms that seem "unfair" may be serving a rational economic purpose.[38] Even the transacting individuals may not know the exact economic role of each particular contract term. They may only know that such systems of contracts have worked, i.e., have survived, in similar circumstances in the past.

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[38]See Klein (1980), where it is shown that it may be efficient for the transacting parties to contractually agree upon a penalty-type sanction for breach as a means of economizing on franchisor direct policing costs. See Dunkin' Donuts of American, Inc. v. Middletown Donut Corp. No. A-63, New Jersey Sup. Ct., July 23, 1985 for a recent judicial statement of this principle. However, there are many other rulings which classify franchise termination provisions as contracts of adhesion and/or based on unequal bargaining power. See, for example, Keating v. Superior Court (1955) __ Cal. App. 2d ___, 278 P. 2d 510, vacated, 45 Cal. 2d 440, 289 P. 2d 209, holding that 7-11's franchise agreement is an adhesion contract.

Once we assume a more realistic view of the judicial process, the fact that there are costs to transactors of fully specifying contracts, that most contractual arrangements are incomplete and that there is limited brand name capital possessed by transactors for self-enforcing understandings, does not imply a broad role for judicial discretion. Paternalistic judicial activism may actually increase the total cost of contracting by forcing transactors to write more explicit contract terms, to possess more brand name capital and to avoid specific investments.

VII. CONCLUSION

The Alcoa v. Essex case illustrates the trade-offs that transactors must make when formulating contracts. If, rather than a particular price index, the contract had specified that the price paid by Essex for aluminum would merely track Alcoa's "cost", it may appear that the parties would have been better off. Certainly the contract price would not have gotten as far out of line with market conditions. However, in addition to creating a reduced incentive on Alcoa to control costs, as in the Fisher Body-General Motors case, such a vague contract specification creates an increased necessity for court interpretation and discretion. More explicitly specifying an exact contract price or price formula, as the parties attempted to do, increases the predictability of the court response.

Predictability of the court response facilitates planning. When transactors are aware of exactly how the risk of any contingency will be allocated by the court, the responsible individual can take the appropriate economic

steps to avoid or adjust to each contingency. In addition, costly post-contractual litigation will be reduced. Once the court is perceived to possess substantial discretion, the parties will invest resources in attempting to influence the court's decision. Since such attempts are largely redistributive, resources devoted to such rent dissipating exercises are wasteful.

Transactors trade-off the increased predictability gains associated with explicit specification of contract performance with the costs of increased specification we have outlined above. These costs include the wasteful search and negotiation costs involved in ex ante definition of contractual responses to unlikely events and the rigidity and disruption created by ex post incorrect contract terms.

Transactors choose the amount of judicial discretion they desire the court to take by choosing particular contract terms. An example of transactors guiding the court to take more discretion involves the use in long-term contracts of the requirement that contract terms such as price periodically be renegotiated in good faith. An economist may mistakenly believe that the presence of a contractually specified requirement for periodic renegotiation merely converts a long-term contract into a short-term contract. However, the relationship remains long-term, with the court now given explicit authority to interpret and enforce the good faith modification requirement implicitly present in all long-term contractual relationships. Since such increased court discretion may increase court enforcement unpredictability and thereby increase transaction costs and reduce transactor specific

investments, it makes no economic sense to claim that the court always has an obligation to enforce good faith renegotiation.[39] Transactors will decide to explicitly specify such a provision to supplement the normal private brand name contract term adjustment mechanism with increased court discretion only when the variance in expected market conditions becomes sufficiently great.[40]

The particular explicit contract terms chosen by transactors to define the self-enforcing range are influenced by the set of legal precedents and likely court responses to unspecified contingencies implied by the particular terms chosen. However, economists cannot determine the amount and type of judicial discretion chosen by transactors merely from a simple reading of the contract. Without understanding labor law, for example, it is difficult to understand why General Motors vertically integrated with Fisher Body when they redefined the self-enforcing range of their contractual relationship. How was the new self-enforcing contractual arrangement altered by the choice of an underlying legal framework where the Fisher brothers (and all the other employees of Fisher Body) were made employees of General Motors, rather than if they chose a legal framework where General Motors merely owned the specific physical capital and the

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[39]See Speidel.

[40]Goldberg and Erickson, for example, document the fact that after the oil price shock of 1973 (and the increase in market uncertainty) individuals moved to long-term petroleum coke contracts having more frequent negotiated price adjustments. These contractually fixed renegotiations occurred either at given intervals of three to six months or were triggered by the movement of some index price outside a prespecified range. Joskow (1984) also documents the presence of renegotiation provisions, in addition to other flexible terms, in the context of long-term mine-mouth coal supply contracts.

Fisher brothers remained as independent contractors? Economists cannot explain the contractual arrangements and institutions adopted in the marketplace without studying the law.

REFERENCES

Aivarian, Varoiy A., Michael J. Trebilcock and Michael Penny, "The Law of Contract Modifications: The Uncertain Quest for a Benchmark of Enforceability", Osgoode Hall Law Journal, Vol. 22, No. 2 (Summer 1984), 173-212.

American Law Institute, Restatement of the Law, Second, Contracts 2d (1981).

Barton, John H., "The Economic Basis of Damages for Breach of Contract", J. Legal Stud., 277 (1972).

Cheung, Steven, "The Structure of a Contract and the Theory of a Nonexclusive Resource", 13 J. Law & Econ. 49 (1970).

Dawson, John P., "Judicial Revision of Frustrated Contracts: Germany", 63 Boston Univ. L. Rev. 1039 (November, 1983).

Dawson, John P., "Judicial Revision of Frustrated Contracts: The United States", 64 Boston Univ. L. Rev. 1 (January, 1984).

Friedman, Contract Law in America (1965).

Friedman, Lawrence M. and Stewart Macauley, "Contract Law and Contract Teaching: Past, Present and Future", Wis. L. Rev. (Fall 1967), 805-821.

Gilmore, G. The Death of Contract, Ohio State Univ. Press, 1974.

Goldberg, Victor P., "Toward an Expanded Economic Theory of Contract", J. Econ Issues, Mar. 1976, 10, 45-61.

Goldberg, Victor P. and John R. Erickson, "The Law And Economics of Long-Term Contracts: A Case Study of Petroleum Coke", unpublished manuscript, 1983.

Gordon, Don, "The Economic Theory of a Common Property Resource: The Fishery", 62 J. Pol. Econ. 124 (1954).

Hardy, Charles O., Risk and Risk-Bearing, University of Chicago Press, 1923.

Havighurst, Harold C. and S. Berman, "Requirement and Output Contracts", 27 Ill. L. Rev. 1, (1932).

Holmes, Oliver Wendell, Jr., The Common Law.

Hillman, ___, "Policing Contractual Modification Under the Uniform Commercial Code: Good Faith and the Doctrine of Economic Duress", 64 Iowa L. Rev. 849 (1979).

Hillman, ___, "Contract Modification in Iowa -- Recker v. Gustafson and the Resurrection of the Preexisting Duty Doctrine", 65 Iowa L. Rev. 343 (1980).

Hirshleifer, Jack, "The Private and Social Value of Information and the Reward to Inventive Activity", 61 Am. Econ. Rev. 561 (1971).

Joskow, Paul L., "Commercial Impossibility, The Uranium Market and the Westinghouse Case", 6 J. Legal Stud. 119 (1976).

Joskow, Paul L., "Vertical Integration and Long-Term Contracts: The Case of Coal Burning Electric Generating Plants", J. Law, Econ. & Organization, Vol. 1 (Spring 1985), 33-80.

Kenney, Roy W. and Benjamin Klein, "The Economics of Block Booking", J. Law Econ., vol. 26 (October 1983), 497-540.

Kitch, Edmund, "The Nature and Function of the Patent System", 20 J. Law Econ. 265 (1977).

Klein, Benjamin, "Transaction Cost Determinants of 'Unfair' Contractual Arrangements", Am. Econ. Rev. Papers & Proc., vol. 70 (May 1980), 356-362.

Klein, Benjamin, "Contract Costs and Administered Prices: An Economic Theory of Rigid Wages", Am. Econ. Rev. Papers and Proc., vol. 74 (May 1984).

Klein, Benjamin, and Robert G. Crawford and Armen A. Alchian, "Vertical Integration, Appropriable Rents and Competitive Contracting Process", J. Law Econ., vol. 21, (October 1978), 297-326.

Klein, Benjamin, and Keith Leffler, "The Role of Market Forces in Assuring Contractual Performance", 89 J. Polit. Econ. 615 (August 1981).

Klein, Benjamin and Kevin M. Murphy, "Vertical Restraints as Contract Enforcement Mechanisms: The Coors Case", unpublished UCLA working paper.

Klein, Benjamin and Lester F. Saft, "The Law and Economics of Franchise Tying Contracts", J. Law and Econ., 28 (May 1985), 345-361.

Kronman, Anthony T., R. A. Posner, "Economic Theory and Contract Law" in Kronman and Posner The Economics of Contract Law (1979), Introduction.

Lazear, Edward "Why Is There Mandatory Retirement?" 87 J. Pol. Econ. 1261 (1979).

Llewellyn, Karl N., "What Price Contract? An Essay in Perspective", 40 Yale Law Journal, 704-51 (May 1931).

Macauley, S., "Non-Contractual Relations in Business: A Preliminary Study", Amer. Soc. Rev., Feb. 1963, 28, 55-69.

Macneil, I. R., "The Many Futures of Contracts", 47 Southern California Law Review, 691-816 (May 1974).

Macneil, I. R., "Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical and Relational Contract Law", 72 Nw. U. L. Rev. 854 (1978).

Macneil, I. R., The New Social Contract: An Inquiry into Modern Contractual Relations (1980).

Macneil, I. R., "Economic Analysis of Contractual Relations", 75 Nw. U. L. Rev. 1018 (1981).

Muris, Timothy J. "Opportunistic Behavior and the Law of Contracts", 65 Minn. L. Rev. 521 (1981).

Posner, R. Economic Analysis of Law (2nd Ed. 1977).

Posner, R. "Gratuitous Promises in Economics and Law", 6 J. Legal Stud., 411 (1977b).

Posner, R. and A. Rosenfield, "Impossibility and Related Doctrines in Contract Law: An Economic Analysis", 6. J. Legal Stud. 83 (1977).

Speidel, Richard E. "Court-Imposed Price Adjustments Under Long-Term Supply Contracts", 76 Nw. U. L. Rev. 369 (1981).

Spence, Michael, "Job Market Signaling", 87 Q. J. Econ. 355 (1973).

Tullock, Gordon, "The Welfare Costs of Tariffs, Monopoly and Theft", Western Economic Journal (1975).

Williamson, Oliver E., Markets and Hierarchies: Analysis and Antitrust Implications, New York, 1975.

Williamson, Oliver E., "Transaction Cost Economics: The Governance of Contractual Relations", 22 J. Law Econ. 233 (1979).

Williamson, Oliver E.,