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Contingency and Control: A Theory of Contracts

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Contingency and Control: A Theory of Contracts<sup>1</sup>  
by  
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1. Introduction

In the last twenty-five years, the economic theory of contract has grown extensively. It has two, substantial elements: the theory of incomplete contracts, developed in the economics literature, seeks to identify the contract that best promotes agents' objectives in given environments while the economic analysis of contract law seeks first to explain the role that contract law plays both in the drafting of contracts and in the manner in which contracts are executed and then to prescribe the role and substance of contract law.

This essay lays the foundations for a novel theory of contract law that partially integrates these two literatures. Our argument develops a simple distinction between *ex ante* and *ex post* specification of obligations. The economic analysis of contract law has adopted the *ex ante* specification of obligations as the paradigm for the drafting and analysis of contract law. Debates over the appropriate choice of default rules and of regimes of judicial interpretation spring from and rely on this perspective. We call this approach the *contingency approach* and we call clauses that specify obligations *ex ante contingency clauses*. Both literatures adopt an *ex ante* approach to contracts; the economic analysis

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of law being more explicit and rigid in its adherence to this approach. The incomplete contracts literature admits *ex post* considerations in the form of renegotiation of terms after an adverse realization.

In contrast, we identify circumstances in which it is efficient for parties to specify *ex ante* a procedure that allows the promisee to specify the promisor's obligation *ex post*. This *ex ante* planning for *ex post* specification differs both from the conceptual framework of the economic analysis of contract law in which the parties aim to specify all obligations *es ante* and the framework of the incomplete contracts literature in which the parties understand that renegotiation may later occur. Contractual specifications of control explicitly structure the environment in which renegotiation will occur.

We further show that many, common contracts in fact routinely specify all or some obligations *ex post*. Our analysis then draws on these real contracts to identify central elements of a well-drafted contract that specifies obligations *ex post*. We call these complexes of elements *control modules*.

Our argument has consequences both for contracting parties and for contract law. The specification of obligations *ex post* often requires that the parties structure the contract to control the potential opportunistic exploitation of the promisee's power to specify the promisor's obligation *ex post* and to insure that the promisor performs that obligation. The articles governing changes in work in construction contracts provide a model for this structure that we discuss at length in section ? below.

To illustrate the consequences of *ex post* specification of obligations for contract law, we consider in section ? "best efforts" clauses which commonly appear in franchise and other contracts. These clauses are often analyzed in terms of 'relational contracts.' We argue that they are better understood as (perhaps poorly drafted) control modules that courts need to interpret and enforce differently than they might

interpret a contingency clause. We thus suggest that the argument for strict interpretation of contracts that is currently popular in the literature on economic analysis of contract law<sup>4</sup> should not extend to the construction of control modules.

A complete theory of contract has several interlocking elements. First, one must characterize the economic and social context in which agents interact. This context includes the preferences and beliefs of the agents as well as the nature and extent of the markets in which the agents interact. Section 2 addresses these issues. Second, the theory must characterize the structure and content of the contracts into which parties enter. Section 2.2 offers a sketch of these issues that is developed more fully in our characterization of control modules in section 4. Third, the theory must explain the role that contract law plays in the determination of the structure and content of actual contracts. Finally, the theory must explain how contracting parties behave in light of the contract between them and the law governing that contract. A thorough understanding of the relation between the content of the law of contracts and the structure and substantive content of contracts facilitates normative recommendations concerning the structure of the law of contracts.<sup>5</sup>

## 2. Contingencies, Contracting environments, and Contractual Instruments.

To begin, we clear some conceptual ground. Analysis of contracting and contract law presents complex issues that require a clear framework in which of analysis. We identify three concepts: the set of *contractual environments* in which exchanges take place, the set of *contractual instruments* that parties

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<sup>4</sup>See for example, Scwhartz and Scott, Bernstein.

<sup>5</sup>As the discussion of construction contracts in section 4 illustrates, a complete theory would also attend to the manner in which form contracts emerge and develop.

draft to govern their relationships, and *contract law*, the set of substantive rules announced by legislatures and courts and the set of interpretive practices adopted by courts.

Careful development of these three concepts allows us to develop a partial taxonomy of problems in incomplete contracting and contract law. The variety of contractual environments and contractual instruments suggests that the analysis of the significance and evaluation of contract law will be both subtle and complex. Our subsequent discussion decomposes contractual instruments into *contractual modules*.

Modules may be identified in numerous ways; we shall distinguish two distinct *types of contractual module*: contingency modules and control modules. Our argument suggests both that empirically we should observe different combinations of contractual modules in different contractual environments and that normatively, these different mixtures of modules best serve distinct contractual environments. Contract law, we further argue, should also respond to these modules differently.

## 2.1 Contractual Environments.

Exchange occurs in a variety of distinct environments. Crudely, an environment is defined by a *production technology* and an (initial or pre-contract) *information structure*. The production technology specifies technological relations between inputs and outputs. The initial information structure specifies what information is revealed to whom at each time. Our discussion emphasizes two aspects of the information structure: the timing of the resolution of uncertainty relative to the point at which parties must act and how information about the state of the world is distributed between the parties and between the parties and the court.

Consider first the production technology. Crudely a production technology is the production possibilities set with some additional structure. A production possibilities set identifies the combinations

of inputs that yield a given output. Which combinations of inputs that the seller uses will depend upon the relative prices of the inputs. Production occurs over time. At any date  $t$ , each party to a contract may take action; A production technology also specifies, for each combination of inputs yielding a given output, the sequence of production – when different decisions must be made during the course of production.

Next we outline the idea of an (initial) information structure. An initial information structure represents the “natural” distribution of knowledge that each party has at each stage of exchange and production and the knowledge of the court (or other third party enforcer) at relevant dates. At any point in time, a party (or the court) may have more or less information concerning the actions of the parties and information concerning the state of nature. This information may be symmetric – i.e., the parties have the same information concerning their own actions (or the state of nature) – or it may be asymmetric – the parties have different information about their actions or the state of nature.

We focus on the initial information structure because the parties’ (and the court’s) knowledge depends not only on nature but on the actions of the parties; the actions of the parties depends in part on the contents of the contract and the requirements of contract law. Consider a simple exchange of a complex good such as a new home from the builder/developer to an individual. Under the initial information structure, the builder has private knowledge concerning any latent defects in the structure. If either the law or the contract provides assigns liability to the builder for the repair of any undisclosed defects, the builder may, prior to transfer, choose to reveal some or all of its private information to the buyer. The *realized* information structure, may then differ from the initial information structure.<sup>6</sup>

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<sup>6</sup>In fact, the information that prevails will be relative to the legal rules concerning disclosure and other matters and the contract between the parties.

When an action at date  $t$  is known to both parties at dates  $t' > t$ , then the action is said to be *observable* at  $t'$ ; if, in addition, the court also knows the action at  $t'$ , then it is *verifiable* at  $t'$ . The difference between observable and verifiable information is important for the study of contracting and contract law because legal rules must be conditioned on *verifiable* information. The court cannot make decisions on the basis of information it cannot observe.<sup>7</sup> The parties, of course, may condition their own actions on observable information.

A more precise account of an information structure requires that we elaborate on the ideas of a state of nature and a state of the world. We do this in the first subsection. In the second subsection, we offer a crude taxonomy of contractual environments.

2.1.1 States of Nature, States of the World, and Events. Discussion of contracts and contract law often focuses on “contingencies.” Ambiguity plagues these terms and causes much confusion. Our analysis requires that we have clear definitions.

To begin, we consider a pure insurance contract. The buyer  $B$  owns a structure on a flood plain. In the event of a flood  $F$ , the house will be completely destroyed. In the absence  $N$  of a flood, the house

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<sup>7</sup>Of course, verifiable information about some aspect of the state of the world need not require the court to observe the fact directly; the court may be able to infer the relevant aspect of the state of the world from other facts.

A more complete description of contractual environments would require refinement of the concept of verifiability. We previously distinguished between initial and realized contractual environments; in realized environments, information private to one party in the ordinary course may be revealed to the other party (or the court) because of the structure of the contract or of contract law. Similarly, contracts or contract law may provide incentives to parties to disclose otherwise unverifiable information to a court. A party may be willing to expend significant resources to make some fact verifiable if the outcome of the litigation turns on the verifiability of the information. For further discussion of this point see, Triantis La. State L. Rev.

is unharmed. We have thus specified two states of nature – flood F and no flood N. A The occurrence of a flood is costlessly observed by everyone – B, any insurer, and a court. A pure insurance contract specifies first that B pay a specified premium prior to learning whether a flood will occur and that the insurer S pay B a fixed sum I should a flood occur.

Consider next a simple, potential exchange between a buyer B and a seller S for the production and transfer of a good q at some price p. For purposes of this example, we stipulate that the good q is completely described by its physical characteristics, and the date and location of its (potential) delivery. S faces uncertain (monetary) costs of production of q; its costs may be either high ( $c=c^H$ ) or low ( $c=c^L$ ). Similarly, the buyer B faces an uncertain (monetary) value to possession of the good q; B's valuation may be either high ( $v=v^H$ ) or low ( $v=v^L$ ). Suppose that  $v^H > c^H > v^L > c^L$ . Each state of nature is defined by a combined realization of the costs and valuation of q. We may label these states of nature (HH, HL, LH, LL) where the first index refers to the realization of S's costs and the second index refers to the realization of B's value. We shall call the set of possible states of nature  $\Theta$ .

An event E is a subset of  $\Theta$  – one or more states of the world. In our simple exchange situation, the event  $C^H = \{HH, HL\}$  occurs when seller's costs are high. The event  $V^H = \{HH, LH\}$  occurs when buyer's valuation is high.

Analysts often think of a complete contract as one that specifies an action for each party in every state of nature; this contract would parallel the trades that an individual would make facing a complete set of competitive markets.<sup>8</sup> We shall call a contract that specifies each party's obligation in each state of

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<sup>8</sup>Triantis, La. St. L. R. defines a complete contingent claims contract in terms of the set  $\Theta$  of states of nature rather than in terms of the set  $\Omega$  of complete states of the world..



nature, a *complete natural contract*. In fact, however, a complete contingent claims contract must deal with more contingencies than those presented by a state of nature. A complete contingent claims contract must specify what each party will do in each possible contingency (known to the parties) A contingency here is a complete history of the world; it includes not only the state of the nature but the history of the actions of the parties to the contract.

Consider the simple exchange contract. Suppose that the contract requires production in every state of nature and requires that B pay a fixed price upon execution of the contract.. For any realizations of cost and valuation, however, S may either transfer the good or not. That is, she may either meet her obligation or not. So a complete contingent claims contract must specify what happens for each possible history which consists of both the state of nature and the Seller's action. We may display the states of the world in the table 1:

Table 1: States of the World in a Simple Exchange Contract								
Nature	HH	HH	HL	HL	LH	LH	LL	LL
Seller	1	0	1	0	1	0	1	0
State	s <sub>1</sub>	s <sub>2</sub>	s <sub>3</sub>	s <sub>4</sub>	s <sub>5</sub>	s <sub>6</sub>	s <sub>7</sub>	s <sub>8</sub>
Buyer pays price on execution.								
"1" means Seller transfers the good; "0" means seller does not transfer.								

When we consider real transactions, the number of possible contingencies grows very rapidly. Suppose, for example, that the simple contract above requires payment not upon execution but at some later date – say the date of delivery. Then a history includes not only the realized state of nature and the

action of the seller, but also the action of the Buyer. After all, B may either pay or not pay the price on the given date. Thus, as shown in Table 2, this simple contract thus gives rise to 16 possible states of the world.

Table 2: States of the World in a Simple Exchange Contract: Buyer Pays After Execution																
N	HH				HL				LH				LL			
B	P		~P		P		~P		P		~P		P		~P	
S	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Sta	s <sub>1</sub>	s <sub>2</sub>	s <sub>3</sub>	s <sub>4</sub>	s <sub>5</sub>	s <sub>6</sub>	s <sub>7</sub>	s <sub>8</sub>	s <sub>9</sub>	s <sub>10</sub>	s <sub>11</sub>	s <sub>12</sub>	s <sub>13</sub>	s <sub>14</sub>	s <sub>15</sub>	s <sub>16</sub>
“P” means that buyer pays; “~P” that buyer does not pay “1” means that seller performs; “0” that seller does not perform																

In general we shall denote the set of states of the world by  $\Omega$ .

We note that, for several reasons, parties cannot draft complete contingent claims contracts. This impossibility is both practical and logical. Practical impossibility arises from the sheer number of contingencies for which a complete contingent claims contract must provide. There are countless possible histories of the world.

To see the source of the logical impossibility, consider the contractual environment displayed in table 2. Suppose that the parties draft a complete natural contract that specifies trade only when it is efficient to do so. We present this contract in table 3.

Table 3: A Complete Natural Contract				
Nature	HH	HL	LH	LL

$O_B$	P	$\sim P$	P	P
$O_S$	1	0	1	1
Clause	$c_1$	$c_2$	$c_3$	$c_4$
<p>“P” means that buyer has an obligation to pay; “<math>\sim P</math>” that buyer has no obligation to pay</p> <p>“1” means that seller has an obligation to perform; “0” that seller has no obligation to perform</p>				

Table 3 specifies the obligations of Buyer and Seller in each of the 4 states of nature that characterized the contractual environment. The contract displayed, however, is not a complete contingent claims contract because it does not specify actions in every possible history of the world. Given the contract. After all, the contract in table 3 specifies what each party *ought* to do not what each party *will* do. Thus, the contract does not specify what happens when, contrary to his obligation in  $c_1$  to perform, seller does not perform. In fact, each clause in the contract in table 3 may give rise to four different histories of the world – in one both parties comply with their contractual obligations, in a second, neither party complies with its contractual obligation, in a third, Buyer complies but Seller does not, and in the fourth the Buyer does not comply but the Seller does. A complete contingent claims contract must specify another obligation for each party in each of these 16 possible events. The new contract thus has sixteen clauses but this contract too is incomplete as it specifies the obligations of the parties not the actions that they will actually take. Again, each clause generates four possible histories of the world; a new “complete” contingent claims contract would have to specify the obligations of each party for each of these possible histories. We now have a contract with sixty-four clauses. Of course, the new contract has specified the obligations of the parties not the actions they will actually adopt; consequently we must write a longer

contract in order to cover all the new potential histories of the world. In the absence of recourse to the law, the parties seeking to draft a complete contingent claims contract face an endless regress.

### 2.1.2 Contractual Environments.

Importantly, over time, information about the world may be revealed to one or both parties. The information structure thus may evolve over time. The simplest information structure occurs in a world of perfect certainty in which each agent (including the court) knows the true state of the world at each time. In a pure exchange economy in this world, contracts are unnecessary; gains from trade can be exhausted through spot exchanges.<sup>9</sup> When production occurs, executory contracts may arise; now contract law is needed to provide appropriate incentives for agents to meet their contractual obligations.

Consider now a world in which agents have symmetric information about the state of the world and they must choose an action prior to its realization; different attitudes toward risk result in insurance contracts that transfer risk from the more risk averse to the more risk-preferring (or risk-neutral) agents.

To begin, we classify information structures along two dimensions: timing and the distribution of information at these points in times. First, we distinguish between an *action-first* environment and an *action-last* environment.<sup>10</sup> In an action-first environment, the agent/promisor acts and then the state of

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<sup>9</sup>This statement relies on the existence of competitive markets for all goods.

<sup>10</sup>This typology is adapted from the typology in MacLeod, “Complexity and Contract,” in Brousseau and Glachant (eds.) Cambridge University Press (2004?). MacLeod calls action-first environments *hold-up* situations (in our term hold-up environments); action-second environments in which the realization is observable to the principal, *authority* relationships, and action-second (which we here call action-last) environments, *ex post hold-up* situations. We have altered the terminology because MacLeod’s terminology in part describes the environments in terms of features of the contract when, in fact, the contractual features are properly functions of the environment in which contracting occurs.

nature is realized; in an action-last environment, the state of nature has been realized and become known to the agent/promisor prior to her action. Obviously, in more complex environments, a wider spectrum of possible structures exist: an agent may not know which state of nature has been realized or which action her contracting party has taken or the agent may take some actions prior to the revelation of some information and other actions after the receipt of some signal about the state of the world.

Second, we distinguish among information structures in terms of the symmetry and asymmetry of information among the parties and the court at each point in time. These two simple distinctions allow for many different information structures and hence contractual environments. For each timing of the action, we may identify several different distributions of information among the parties to the contract and the adjudicator. At the time of the action, information may be symmetric or asymmetric as between the parties; we thus have both symmetric action-first environments and asymmetric ones – similarly for action-last environments. Finally, the information available to the parties may be verifiable or unverifiable in court.<sup>11</sup>

Real-world contractual environments are, of course, much more variegated. Most obviously, each agent generally learns about the environment over time; the state is not “realized” and revealed to one or both parties at a specific date; rather each agent gradually learns about the state of nature. Moreover, as in the case of construction contracts discussed more fully in section ? below, the asymmetric information is often two-sided. The promisor gradually learns about the costs of production she faces while the promisee gradually learns the value of production. Costs are private information to the promisor but values

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<sup>11</sup>The situation is actually quite complex because information may be asymmetric at time  $t$  but symmetric at some later time  $t'$ .

of performance are private to the promisee. Finally, information may be asymmetric not only with respect to the state of nature but also with respect to the actions of one or both parties. That is, only the acting party may know which action she took.<sup>12</sup>

The distinction between action-first and action-last is easily applied to actual cases. Consider *Taylor v. Caldwell*, in which the defendant rented its opera house to plaintiff as a performance venue. Prior to the engagement, the opera house burned down. The case presents one of the simplest contractual environments. The state space may be divided into two events: E in which the opera house is standing on

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<sup>12</sup> *Peevyhouse v. Garland Mining Co.* illustrates some of the complexities that arise in real world contractual environments.

The Peevyhouses owned a farm in Oklahoma. They sold Garland Mining Company the mineral rights below the surface for a royalty. In addition, the contract provided that, after the extraction of the coal, Garland Mining Co. would regrade the land. After the extraction of the coal, Garland Mining learned that the cost of regrading the land would be roughly \$29,000 while this regrading would raise the market value of the land by only \$300. Garland Mining thus refused to regrade and the Peevyhouses sued. The court considered the appropriate measure of the Peevyhouses expectation: the change in market value or the cost of performance.

The contractual environment and the contractual instrument here are complex. The parties have essentially entered into two contracts: the first contract gives Garland Mining mineral rights; it is an action-first environment in the sense that the Peevyhouses must make the land available prior to the realization of the value to Garland Mining of the right. The second contract requires Garland Mining to regrade the land; Here we focus on the second contract to regrade the land.

Garland Mining finds itself in which there is two-sided asymmetric information at the time Garland must act. Garland Mining knows the cost of performance but the Peevyhouses know the value of the performance. The cost of performance is a verifiable fact but the value of performance is not because the Peevyhouses may place idiosyncratic value – i.e., value not reflected in the market place – on the land. The land may have sentimental value as the family farm or residence or they may value natural beauty highly.

For Garland Mining, the contractual environment is action-second relative to its own information concerning costs but, absent any contractual provisions or legal requirements that reveal the Peevyhouse's valuation, Garland Mining must act without knowledge of the value of the regrading.

the date of the engagement and not-E in which the house is not standing.<sup>13</sup> Moreover, the environment is action-last; the owner does not have to act until the state of the world has been realized. The contract, however, imposes an action-infeasible obligation in the contingency not-E.

Consider now the more complex case of *Hadley v. Baxendale*<sup>14</sup>. As every first year law student learns, the Hadley brothers, the owners of a mill, consigned a broken crankshaft for shipment by Pickford & Co to the manufacturer Joyce & Co. in Greenwich.. (Baxendale was the managing director of Pickford.) The carrier's clerk told the Hadleys that the repaired shaft would be delivered to Joyce & Co. the next day. The court thus understood the contract as requiring next-day – or at least prompt – delivery.

That is, the court understood the contract as imposing an obligation of a *performance* of delivery.

With a few additional facts, we may sketch the contractual environment and the state space. To begin, we characterize the state space in terms of events defined by the delivery time to the Hadleys. These events, of course, are those of interest to the Hadleys. At the time, Pickford shipped packages by both rail and barge;<sup>15</sup> for simplicity, we define the production possibilities set in these terms: shipment by rail or shipment by barge.<sup>16</sup> To describe the state space, then we need to specify the states of the world

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<sup>13</sup>In fact, a court implicitly has a more complex partition of the state space in mind; the result of the case will surely depend on how the opera house burned down. If the owner burned it down for the insurance money, for example, the court is unlikely to excuse her performance of the contract.

<sup>14</sup>Citation

<sup>15</sup>See Richard Danzig, *Hadley v. Baxendale: A Study in the Industrialization of the Law*, 4 J. Leg. Stud. 249 (1975)

<sup>16</sup>In fact, production is more complex as Pickford might take more or less care in the handling of a package; he might choose to ship packages in groups or singly, etc.

Note also that the contract might have specified Pickford's obligation as a task – say delivery by rail, rather than a performance, delivery within x days.

in terms of the delivery time to Joyce & Co. So, we might identify a state of the world as pairs of delivery times  $(d_{\text{Rail}}, d_{\text{Barge}})$ .<sup>17</sup>

Notice that the contract in *Hadley* is an action-first contract. Pickford must choose a means of shipment prior to the realization of the uncertainty. Thus, shipment by either means did not guarantee delivery in a specified time; rather mean delivery time by rail was faster than mean delivery time by barge.<sup>18</sup>

We may now describe the contract and the dispute within the economic framework. We must be careful to distinguish our description of the contract from our description and analysis of the behavior of the carrier under that contract. The contract, as noted earlier, is very simple. The parties contract within an action-first environment; Pickford must choose a shipping mode before he learns the realization of the delivery time by that mode. The contract itself defines Pickford's obligation in terms of a performance – next day delivery – rather than as a task.

Of course, in some states of the world, delivery does not occur the next day regardless of which mode of transportation Pickford selects; in those states of the world, the imposed obligation was action-infeasible. In other states of the world, timely delivery would occur if the package were shipped by rail but not barge; and in still other states of the world, the timely delivery would occur if shipped by barge and

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<sup>17</sup>This description actually uses complex events rather than primitive states of the world. A delivery by rail that took two days, for instance, might occur if the train broke down outside of Greenwich and repairs were difficult. Or if the carrier temporarily misplaced the ahaft and put it on a later train.

<sup>18</sup>Indeed, it is likely that the distributions of delivery times by rail and barge satisfy a more stringent requirement. Take any delivery time  $d$ , then the probability that delivery by rail will take less than  $d$  is greater than the probability that delivery by barge will take less than  $d$ . Technically, this means that the distribution of delivery times by barge first-order stochastically dominates the distribution of delivery times by rail.



not by rail. In the event of untimely delivery, the court must determine what obligations the parties have; delay caused by natural disaster, for example, might excuse Pickford but he might be held responsible for other delays. Indeed, the legal issue in the case concerns how much Pickford must pay in the event of breach.

Pickford cannot be certain that delivery will occur the next day. The carrier can, however, affect the probability that delivery will occur the next by choosing the mode of shipment – by rail or by barge.<sup>19</sup>

The amount of damages for non-performance of course will affect the carrier's decision concerning which mode of shipment it should adopt.<sup>20</sup>

## 2.2. Contractual instruments.

For a lawyer, a contract is defined as ". . . a promise, or a set of promises, for breach of which the law gives a remedy, or the performance of which the law in some way recognizes as a duty."<sup>21</sup> This definition is not very helpful in characterizing either contractual instruments or the law of contract.

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<sup>19</sup>Other actions of the carrier will affect the probability of next day delivery. Pickford, for example, can take more or less care to insure that the shaft is not misplaced or lost for an extended period.

<sup>20</sup>Though we use the facts in *Hadley* to illustrate the operation of the economic framework, our analysis sheds some light on the legal issue raised by *Hadley*. The carrier will choose its mode of shipment by comparing the extra cost of shipping by rail rather than barge to the expected reduction in damage payments from shipping by rail rather than barge. The expected reduction in damage payments depends on the the difference in the likelihood of next day delivery of the two modes and the measure of damages.

<sup>21</sup>Samuel Williston, *A Treatise on the Law of Contracts* § 1, at 1-2 (Walter H.E. Jaeger ed., 3d ed. 1957). Williston continues: "This definition may not be entirely satisfactory since it requires a subsequent definition of the circumstances under which the law does in fact attach legal obligation to promises. But if a definition were attempted which should cover these operative facts, it would require compressing the entire law relating to the formation of contracts into a single sentence." *id.*

In more common parlance, a contract refers to an agreement that structures the relation among the parties.<sup>22</sup> Contracts may take many different forms. We suggest that we analyze contractual instruments in terms of various modules. Though we might break down contracts in various ways,<sup>23</sup> we identify two types of modules: *contingency modules* and *control modules*. To define these ideal types, however, we must consider more carefully the content of a typical contracts term.

In the prior discussion, we have referred to the “action” taken by the agent/promisor. Actions may, however, be described in radically different ways; the description used may be in part determined by the contractual environment. In any case, the nature of the description of the action greatly affects the analysis of the contractual regime.

We distinguish two descriptions of actions: *tasks* and *performances*. A contract might specify a particular task, e.g., ship this package to X in Washington D.C. by the 9:00 am Amtrak train leaving New York’s Penn Station on the 1<sup>st</sup> of January 2006 with delivery by courier after that. Alternatively, the contract might specify a performance: deliver this package to X in Washington D.C. by 1:00 pm on 1 January 2006. When the contract specifies a performance, the promisor has the discretion to choose the manner in which she meets her obligation. In our example, she might use the 9:00 am train; or she might drive, fly, or take another train.<sup>24</sup>

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<sup>22</sup>Note that, in this usage, a “contract” is not necessarily legally enforceable.

<sup>23</sup>Most obviously, one might break down contracts in terms of the function of various clauses: risk allocation, delivery, payment, etc.

<sup>24</sup>Our dichotomy in fact identifies two extremes along a dimension of the detail with which the agent’s action is specified. In fact, no contract ever specifies a task in the sense of a unique description of the action that the agent must take. Our example in the text of a task of course did not identify how

The buyer's obligations may also specify a task or a performance. The contract may direct the buyer to make payment to an identified person in a fixed location at a given hour of a given day by a certified check drawn on a specified bank. Or the contract may simply require payment on or before a specified date to an identified person to a specified location.

To define our two ideal types of terms, it helps initially to introduce some notation. Recall that  $\Omega$  is the set of all possible states of the world. A contract specifies actions for each party for some subsets (or events) in  $\Omega$ . So our definition of a contract must refer to a set  $A_S$  of actions available to the Seller and a set  $A_B$  of actions available to the Buyer<sup>25</sup>. In principle, each set of actions need only include all possible tasks available to the agent; a performance is simply a set of tasks that will accomplish – or at least usually accomplish – a given performance. The sets of actions will reflect the information available to the agent at the time she must act.

Generally, we unreflectively think of a contract as a mapping from  $\Omega$  into  $A_S \times A_B$ . Certainly, all examples in the literature on economic analysis of law, like the example we began developing in section 2.1, have a very simple structure that elides the difference between a task and a performance; implicitly, we assume that the specified performance is realizable only through the accomplishment of a unique task. I.e., in our example, the Seller's production is uniquely accomplished and the cost realization is independent of her choices.

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the package got to Penn Station or the name of the courier or the mode of transportation she must take to and from Union Station in D.C. Descriptions are thus arrayed along a dimension of discretion left to the agent in performing the contract.

<sup>25</sup>For more complex contracts involving more than two parties, we need to specify a set of actions for each party.

Moreover, we normally have a particular form of contract in mind. For each possible state of nature, the contract specifies an action for the Seller and an action for the Buyer. Notice that the information structure places restrictions on the nature of this simple contract; that is, it places restrictions on the mapping from  $\Omega$  to the sets of actions. In an action-first environment, for example, the contract must specify the same action for all states of nature that the agent cannot distinguish. In an action-last contract, by contrast, the contract may make the agent's obligation a function of each individual state of nature.

Recall our simple example from section 2.1 in which there were two possible realizations of costs and two possible realizations of value; hence four possible states of nature. Suppose that the parties face a pure action-first environment; i.e., the seller must act prior to the realization of either random variable. Then the contract must obligate the seller to produce in all states of nature. In a symmetric, verifiable action-last environment, however, the seller decides whether to produce after she learns both the realized cost and the realized value to the buyer. A contract in this environment will specify that the Seller produce in only those states of nature in which Buyer's value exceeds Seller's cost. (It might also specify different prices in different states of nature.)

Consider now an action-last environment in which Seller learns her costs and the Buyer her value prior to production but cost information is private to Seller and value information is private to Buyer. In the absence of communication between Buyer and Seller, Seller's obligation can only be contingent on her own costs.

Our discussion, and our example, however, is overly simple. It elides the distinction between tasks and performance because there is only one way to perform a task. In most situations, however, Seller may

produce the product in many different ways; each production method, of course, will have uncertain costs. We specify a performance rather than a task when costs are uncertain and likely to be known only to Seller who has an incentive to choose the production method that minimizes her (expected) costs given her information. So the typical contract that specifies performances give the Seller discretion over the tasks she chooses to accomplish the performance.

We may generalize this idea of discretion. Consider again the situation in which production occurs after Seller privately learns costs and Buyer privately learns value. The contract specified Seller's action but we might instead give the Buyer discretion to determine whether production occurs or not. We shall call those clauses that give the non-acting party the discretion to determine the performance control clauses.

We may now define a contract more formally as a mapping from the set  $\Omega$  of states of the world into two ordered pairs; the first element of each ordered pair is a subset  $S$  of actions of a party while the second element of the pair identifies the individual who chooses the element  $\omega$  in  $S$ .<sup>26</sup> In a contingency term, the controlling individual is always the agent who must act; in a control term the controller is someone

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<sup>26</sup>Let  $N$  be the set of parties  $j = 1, 2, \dots, n$  to the contract. Let  $A_j$  be the set of actions available to party  $j$ . Then a control contract  $g$  maps  $\Omega$  into  $\Pi(A_j \times N)$ . Consider some element  $j$  of  $g(\omega) = (S_j, k)$  where  $S_j$  is a subset of the actions available to party  $j$  and  $k$  is the party who has control; i.e., who chooses the action in  $S_j$  that  $j$  must take. Without further restriction, this definition implies that virtually all actual contracts are control contracts as the "action" specified in a typical contingency is a performance that the promisor may accomplish in a variety of ways. Consider, for example, a simple contract to produce a good  $G$  that requires the delivery of  $G$  in every state of the world. This contract permits the seller to produce the good in whatever manner she thinks best and that will, undoubtedly, vary with the state of the world. This contract falls within the definition of a control contract because it identifies the controller in every state of the world as the seller.

To distinguish control contracts from contingency contracts, therefore, that, for some  $j, k \neq j$  so that some party other than the actor  $j$  determines  $j$ 's action.

It is worth noting as well that the definition of control contract can be extended to non-contractual relations. The extension requires that the set  $N$  include non-parties to the contract.

other than the agent.

Normally of course a control term gives the controller the power to specify a performance rather than a task. So in our example, the buyer/controller may direct production and delivery; the Seller nonetheless will have discretion over the choice of task that accomplishes the specified performance.

Contingency and control terms differ significantly. A contingency term specifies the agents' obligations *ex ante*.<sup>27</sup> After all, in a contingency term, the non-performing party in effect specifies the promisor's performance *ex ante*. A contingency term specifies that S does *a* in event E; the promisor then picks a task to accomplish the performance (or she does the specified task). A control term says that in event E, the promisee chooses *a*; the promisor then accomplishes *a*. In effect, the control term specifies the obligation *ex post*, after the event E has been realized (or, put differently, after uncertainty has been resolved and the relevant event realized), the required action is specified.

A natural question now arises: when should we use a control term rather than a contingency term? We shall suggest below that control terms are most appropriate in certain asymmetric, unverifiable action-last environments in which the parties delegate control of certain decisions to the party with asymmetric and unverifiable information; as the uncertainty concerning the state of the world is revealed, the party with control over the given contingency may unilaterally modify the contract. These alterations cannot be characterized as modifications as, in some cases, one party may not consent *ex post* to the change in its obligations or, in some other cases, there will be no consideration.<sup>28</sup>

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<sup>27</sup>Indeed, if the actions specified are tasks, it specifies exactly what the agent will do in each contingency.

<sup>28</sup>For further discussion see the discussion of construction contracts in section ? below.

A contractual instrument may use a contingency clause to govern behavior for some contingencies  $\omega$  and use control clauses to govern other contingencies  $\omega'$ . A fully controlling contract would use a control clause for every contingency.

Notice that control clauses may differ in the extent of control that they grant.  $S_j$  may have as few as two elements – if it only has one, the contingency is governed by a contingency clause – or include every action available to agent  $j$ . Obviously the larger  $S_j$ , the greater the controller  $k$ 's discretion.

The prior literature of the economic analysis of contract law distinguished between discrete and relational contracts.<sup>29</sup> This distinction, however, has always been problematic and unclear because it confused and conflated contractual environments with contractual instruments.<sup>30</sup> We might thus observe relational exchange governed by either contingency or control contracts. Conversely, we might observe “discrete” exchange – the opposite of relational exchange – governed by either contingency or control terms. As asymmetric information among self-interested agents characterizes the context that we consider, however, one might reasonably view control contracts as a rational response to the challenges of an environment of relational exchange. Our analysis, however, differs from prior discussions of relational contracting because we consider formal elements of explicit contracts as the solution to these problems rather than informal norms or reputation as solutions.

### 2.3 Contract Law

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<sup>29</sup>See Macneil,

<sup>30</sup>See, for example, Goldberg, “relational contract,” in Newman (ed.) 3 *New Palgrave Dictionary of Economics and the Law* 289 (1998) who characterizes relational contracting as exchange occurring among self-interested, opportunistic agents acting in an environment of asymmetric information that is not verifiable.

To complete the sketch of our conceptual framework, we must outline the nature and role of contract law. The role of contract law follows directly from the ways in which a contractual instrument may be defective.. First, it may not specify an obligation for each possible state of the world. (When a contractual instrument does specify the obligations of each party in each state of the world, we shall call the contractual instrument *obligation complete*) Second, for some states of the world, the contract may impose conflicting obligations on a party. (When a contractual instrument does not impose any conflicting obligations on a party, we shall call the instrument *obligation consistent*.) Third, in some states of the world, the specified obligation may be impossible to perform. (When the specified obligation in a given contingency is impossible to perform, we shall call that contingent obligation *action-infeasible*; conversely, when the obligation is possible to perform, we shall call the contingent obligation, *action-feasible*.)<sup>31</sup> Fourth, in some states of the world, the specified obligation may not be the optimal action for the obligated party; consequently that party may not act as the contract requires. Phrased differently, contractual parties do not always meet their obligations; we must be careful to distinguish what a contract requires from the actions that the parties take. (When the obligation specified in a given contingency is in fact the optimal action for the agent, we shall call that obligation, *action-optimal*.<sup>32</sup>)

Notice that curing this fourth “failing” characterizes one of the primary justifications of contract law. In the absence of third party enforcement, parties have no incentive to perform executory contracts.

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<sup>31</sup>Note that in an action-first contract, a contingency that specifies a performance rather than a task may impose an obligation that the agent cannot fulfill because of an adverse realization of the state of the world.

<sup>32</sup>The action may be optimal because of the legal sanction for non-performance that is imposed or solely for because of non-legal features of the contractual environment



Indeed, as has often been noted, the parties to an unenforceable contract<sup>33</sup> a prisoner's dilemma in which it is a dominant strategy for each not to perform.<sup>34</sup> In this essay, however, we assume third-party enforcement and consider the role of courts in regulating exchange and resolving disputes.

When a contract exhibits one or more of these failings, a dispute may arise. The parties (or the court) will resolve their dispute in light of contract law which must provide corrective measures for these inadequate contracts. The first two failings – of obligation incompleteness and obligation inconsistency – require the court to interpret the contract. When a court interprets an instrument in a way that makes it obligation incomplete, it must determine what obligations the parties actually do have; in the parlance of the academic literature, the court determines the *default* rule that applies to the uncontracted-over state of the world.<sup>35</sup> When the contract, in the realized contingency, specifies an action-infeasible obligation, the court must determine what obligation the promisor actually has; this inquiry concerns the doctrines of excuse (and frustration). The court must decide whether to excuse the promisor from performance or to impose damages on the promisor. In the fourth case, when the contract specifies an obligation that is not action-optimal, the court must determine the remedy to impose.

Before we turn to the explicit and implicit model of contract law within the two literatures, we briefly provide an abstract characterization of contract law. In a very abstract sense, contract law is a mapping

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<sup>33</sup>“Unenforceable” here means both the absence of third-party enforcement and of long-run first- or second-party incentives such as a (potential) long run relation between the parties or reputational effects that would affect the parties' ability to trade with others.

<sup>34</sup>Citation.

<sup>35</sup>In some instances, the court determines that neither party has any obligations; that, in effect, there was no contract.

from a complex space into a set of actions. The domain of contract law is the product space of the state space  $\Omega$ , the space  $\Psi$  of contractual instruments, and the action spaces of the parties to the contract. So contract law is a function  $k: \Omega \times \Psi \times A_S \times A_B \implies A_S \times A_B$ <sup>36</sup> Contract law that specifies the obligations of parties in light of the realized event, the contractual instrument, and the actions of the parties to the contract.

### 3. The Contingency Approach.

The economic analysis of contract law adopts the complete contingent claims contract as an ideal (and as we have argued, unattainable) drafting benchmark. This benchmark of course assumes a contingency approach to contracts and to contract law.

Most economic analyses of contract law have focused on the effect of remedial rules primarily on the parties' decisions to perform the contract and, secondarily, on their decisions to make transaction-specific investments prior to performance.<sup>37</sup> The common law remedial theory of guaranteeing the promisee's expectation which is usually implemented through some measure of expectation damages or through specific performance generally induces efficient breach.

The second emphasis of the economic analysis of contract largely concerns drafting costs. The choice of the appropriate default rule – the rule governs in the absence of an explicit clause in the contract that addresses the realized contingency. Default rules reduce drafting costs because the parties are

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<sup>36</sup>In fact the law is more complex as it also dictates actions of public officials such as judges, clerks of court, and sheriffs.

<sup>37</sup>These analyses of investment assume that the level of investment is not verifiable and hence cannot be contracted over.

presumed to negotiate in the shadow of the law; they know the outcome of every dispute that might arise under any realized contingency for any contract language. The parties then choose to “contract” around the default rule if the costs of drafting are less than the benefits conferred by a superior clause.<sup>38</sup>

Drafting costs links these two themes. One justification for expectation damages argues that, in a world with high costs of drafting, a default remedy of expectation damages (or specific performance) permits parties to draft shorter contracts that are “completed” by the remedial rule. The literature, however, does not adequately distinguish between complete contingent claims contracts and complete natural contracts. Implicitly, the literature adopts a complete natural contract as a drafting and judicial benchmark.<sup>39</sup>

Recall the simple exchange situation described above. There, the contract might create an obligation on the Seller to produce  $q$  and deliver it to  $B$  in the event “low cost” and an obligation on the Buyer to pay the Seller a price  $p$  in the event “low cost”<sup>40</sup>. Thus, when parties contract in the face of

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<sup>38</sup>Cite to . . . The literature on default rules also includes an extensive debate over “penalty defaults”, the purpose of which is to induce parties to reveal private information when such revelation would permit improved performance. See Ayres and Gertner I and II and Bebchuk and Shavell. For counterarguments see Johnston. In the Ayres and Gertner examples, however, the penalty default is also the majoritarian rule so that it also minimizes drafting costs [confirm this].

In any case the penalty default argument also uses the complete contingent claims contract as its benchmark as the point of the information revelation is to permit drafting and action in light of the appropriate information.

<sup>39</sup>:Presumably the justification for this drafting benchmark is the connection between complete contingent claims *markets* and pareto efficiency.

<sup>40</sup>Contract law only enforces contracts that are sufficiently definite. In our terms, courts will only enforce contracts that specify an obligation sufficiently precisely in a suitable event. To make this notion precise, we introduce the concept of a “state of the world”.

uncertainty, goods are not completely defined by their physical characteristics and the date and location of delivery; we must also specify the state of nature in which delivery occurs. The contract “deliver  $q$  at price  $p$ ” then implicitly specifies the delivery of four distinct goods:  $q$  in each of the possible four states of nature.

A complete natural contract explicitly specifies in each state of nature a transfer between the parties and an action— “produce and deliver” or “do not produce and do not deliver”— for each state of nature. Note that, in our example, Buyer and Seller would not write a complete natural contract that required production and delivery in every state. When the state HL occurs, costs exceed value and it would be in each party’s interest not to produce. Thus rational parties that draft a complete natural contract will structure their transaction to maximize its value in each state of nature contingent on the information available to them at the times they must act.<sup>41</sup> This feature of complete natural contracts is the basis for their use as a normative benchmark and a guide to both the understanding of contracting behavior and contract policy.

Contracting parties face a much more complex world than that of our simple example. Complete natural contracts are correspondingly more complex. There are obviously many more than four states of

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<sup>41</sup>Note that, in some instances, the parties may, in some contingencies, face losses rather than gains. For example, if production must start after costs are realized but before the value is realized, a contract might be “losing” for both parties. For example if the price on the contract satisfies both  $c^H > p > c^L$  and  $v^H > p > v^L$ , then if the state HL – high costs and low valuation – is realized, both parties would lose in the event of production. Of course, if production needn’t occur until after the parties learn which state is realized, they ought to agree to cancel the contract. On the other hand, if production must proceed prior to learning the realization of buyer’s value, both parties might lose.

nature that may arise.<sup>42</sup> Moreover, the likelihood that a particular state of nature will be realized may depend in part on the actions of one or both of the parties. When and what each party learns of the state of nature that actually prevails will also greatly influence the structure of both the actual and ideal contracts. This and other problems that we discuss in section ? below may prevent the parties from writing a complete natural contract, let alone a complete contingent claims contract; as we shall see, some additional features will also undercut the value of a complete natural contract as a benchmark for legal policy.

We can now see how expectation damages reduces drafting costs. Consider the simple contract in which Seller *S* agrees to provide one widget to *B* at a fixed price  $p$ . Suppose *B* values the widget at  $b$ . At the time of formation, seller's costs are unknown but both *S* and *B* know  $b$ . A complete natural contract would specify an action for *S* for every possible realized cost  $c$ ; specifically, it would require that *S* produce whenever  $b > c$ . When the law provides for expectation damages<sup>43</sup>. When the law enforces a rule of expectation damages, a simple contract that specifies only that *S* sells *B* the widget at price  $p$

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<sup>42</sup>Our example is simple in other ways as well. In particular the structure of uncertainty is particularly simple. For example, Seller might have to produce or at least begin production prior to learning his full costs of production or to Buyer's learning her valuation. The contract would then have to specify actions as information is revealed; a complete contingent claims contract might thus specify in some contingencies the abandonment of a project after work has been done. Furthermore, as the above description suggests not all information about the state of the world may be common knowledge – i.e., known to each party and known by each party that each party know the information and so on. If some information is private in this sense, the actual state of the world may not be verifiable by a court. As we discuss in section ? below the problem of unverifiability presents difficult problems for both the parties and the policymaker that a control contract may at least solve in part.

<sup>43</sup>And expectation damages can be accurately measured. In general the Buyer's value  $b$  is not observable so that the Buyer's expectation  $E = b - p$  is not directly observable. Courts have developed numerous rules that either deliver buyer  $E$  even though the court does not know  $b$  or that approximate  $E$ .

induces (from rational contractors) behavior that is equivalent to that which would be specified in a complete natural contract. The obligations in a complete natural contract would be action-optimal, so that the parties in fact would meet their obligations. In the simple contract, when costs exceed value, the obligation imposed is not action-optimal (though it is action-feasible), but Seller chooses not perform. The precise specification of the remedy insures that Seller performs when and only when Buyer's value exceeds her costs. From this perspective, then, contract law reduces the costs of drafting.

A complete natural contract serves as a drafting benchmark in the judicial formulation of default rules; to the extent that courts adopt "majoritarian" defaults they impose the obligation that the majority of parties would have included in their contracts had they negotiated a term. As we argue below, however, default rules are not the only way to minimize drafting costs. Control contracts also reduce the costs of drafting contracts by defining obligations only when needed.

#### 4. *Control Modules.*<sup>44</sup>

We have already defined control clauses as contract clauses that give the promisee the power to specify the promisor's obligation *ex post*, i.e., after the parties entered the contract and the relevant event has occurred. The promisee, of course, may specify a performance or an outcome rather than a task. In this section we briefly address two questions. First, we consider the relative costs and benefits of using a control clause to specify an obligation *ex post* rather using a contingency clause to specify the obligation *ex ante*. This investigation allows us to identify circumstances in which we would expect to observe control

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<sup>44</sup>This section relies on Macleod and Chakravorty, *Authority and Contract*. We have chosen to use the term "control" rather than "authority" which also appears in the economics literature because "authority"

clauses in contracts. Second, we ask whether the use of control clause to govern some event requires additional contractual elements. We begin, however, with some intuitions.

#### *4.1 Common Contracts with Control Modules.*

Control modules are central elements of a number of common, indeed ubiquitous, contracts. We discuss several common contracts – the option contract, the employment contract and requirements (and output) contracts<sup>45</sup> – to strengthen our intuitions about the value of control modules and their structure. In section 5, we examine construction contracts as they have a particularly well-developed control module.

Consider as an example an option to buy Blackacre that B acquires from O at a price  $p$ . The contract has several elements. It identifies a term – the period during which B may exercise her option. It specifies the object to be transferred – Blackacre. Finally, it identifies the conditions that B must meet in order to exercise her option. These conditions will specify at least the price at which B must exercise her option but they might specify other conditions. All of these terms constitute a control module.

The option contract is essentially a pure control contract. Her purchase of the option on Blackacre gives B control over O: it defines a control set for B (during the term of the option) of {sell to B, or do

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<sup>45</sup>The literature on economic analysis of contract law has recently devoted significant attention both to option contracts and to requirements contracts. Indeed, much recent research has recast much contract theory in terms of option theory – viewing termination clauses (see e.g. Scott and Triantis) and requirements contracts in light of option theory. This literature, however, has not understood the importance of those clauses that give control to the promisee and the way in which this shift in control should affect our understanding of the law. Similarly, recent analyses of requirements contracts have been greatly illuminating but they have focused on the doctrinal inadequacy of the obligation to bargain in good faith. See e.g. Goldberg .. Again, we think that these contracts are best understood in terms of control modules; we comment further on requirements contracts in section 6.

not sell to B}.<sup>46</sup> Moreover, specification of O's obligation *ex post* is clearly a more effective way to manage this transaction than to specify it *ex ante*. Any contingency modules would have to condition O's obligation on B's valuation of Blackacre. But B's valuation of Blackacre is private information to B. The option contract provides an effective way to insure that B exercises her option only when she values it more than the option price which O will sit at least as high as his own valuation of Blackacre. Consequently, B's decision to exercise or not to exercise her option partially reveals her valuation.

The recognition that pure option contracts have a control module at their core, coupled with the recent insight that many contract provisions may be viewed options, points to several other broad classes of contracts with control provisions at their core. Termination clauses and requirements (and output) contracts provide two particularly illuminating examples.

Consider first requirements contracts. These contracts leave the output term open; they essentially give control to the promisee to determine the quantity of the good transacted at a given price. In that sense, they parallel a pure option contract.<sup>47</sup> Often, however, the parties provide elaborate machinery

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<sup>46</sup>In Hohfeldian terms, an option contract simply transfers a power from O to B (and creates a correlative liability on O). The option grants B the power, for the term of the option, to change O's legal relations with respect to Blackacre. This observation is quite general; control modules grant the promisee one or more powers over promisor but the module may condition the exercise of power in a number of ways. It may limit the ways in which B may alter O's legal relations; the option contract for example allows B the power to transfer O's fee simple to her but it does not grant B the power to transfer a life estate in Blackacre from O to B. The contract further restricts B's power by requiring the payment of a price.

<sup>47</sup>Requirements face similar legal difficulties if the option price is zero – i.e., there is no commitment to buy any quantity of the good. They risk non-enforcement.



to limit the discretion of the promisee and to insure the promisor against exploitation.<sup>48</sup>

Requirements contracts seem most desirable when two conditions are met. First, the promisee, the buyer, faces substantial *ex ante* uncertainty concerning the value of the good to be provided.<sup>49</sup> A requirements contract assures the promisee that it will meet its *ex post* needs; it thus shifts in whole or in part the risk posed by its uncertain valuation to the promisor. This risk shifting will be desirable when the second condition is met: when the promisor can better bear the risk of fluctuations in buyer's valuation. A seller may in fact be a better risk-bearer if the good it supplies is used by many industries whose valuations of its good vary independently (or negatively). Thus, an energy supplier will often provide a small portion of its output to many different industries whose own demands will fluctuate independently of each other. Limitations on the buyer's discretion, of course, limit the risk that the contract transfers to seller; moreover, pricing provisions such as non-refundable deposits or minimum purchase requirements also compensate the seller for the transferred risk.

Turn now to termination clauses, in some sense the obverse of an option contract. A termination clause constitutes the central element of another control module. Consider, for example, a franchise contract that grants the franchisor the right to terminate the franchisee's franchise under given conditions.

Clearly, this grant to the franchisor gives her control with a limited control set: {continue franchisee's obligations under the contract; abrogate franchisee's obligations under the contract}. Franchisor's control

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<sup>48</sup>Goldberg, cite offers a useful and insightful discussion of the variety of these provisions.

<sup>49</sup>The analysis for output contracts parallels the analysis of requirement contracts with the roles of promisee and promisor reversed. In an output contract the promisee is the seller who faces uncertainty over the value of its production – either the cost or the market price.

is thus limited similarly to the B's under the option contract. Franchisor does not have the unilateral right to modify some or all of the franchisee's obligations; she only has the right to abrogate them completely or to continue them as they are. This limited choice serves to limit franchisor's opportunistic behavior.

Again, in parallel to the option contract, drafting a contingency module that adequately substitutes for a termination clause may be difficult. After all, franchisor's decision to terminate will depend not only the performance of the franchisee but on costs and values private to the franchisor. In the case of termination, however, the risks and harms of opportunistic behavior are greater as the franchisor may easily substitute herself or others for the terminated franchisee and the franchisee will in general have made investments specific to the franchisor's business. Consequently, an adequate termination clause must circumscribe the franchisor's control. Thus, the right to terminate may be triggered only upon the franchisor's ability to show "bad" behavior -- or at least bad performance -- on the part of the franchisee.

An examination of at-will employment contracts underscores this element of the structure of a control module. A well-drafted control module must contain elements that contain the opportunism of the controlling party. Under the common law, employment is at-will. The default rule under the common law thus affords a termination clause to both the employer and the employee. The employment contract itself grants the employer control over the efforts of the employee. But it mitigates this control through the employee's termination clause -- a grant of control to the employee -- that limits the opportunistic behavior of the employer. If the employer assigns the employee a task that the market values well beyond the employee's wage, the employee has the right to abrogate the agreement. Conversely, the employer's termination clause gives the employer leverage to ensure that employee carries out the orders of the employer.

Of course, this two-sided opportunism might be mitigated in other ways. The grievance machinery established in most collective bargaining agreements serves to cabin the employer's opportunism. It limits the range of obligations it may impose on employees. Similarly, a clause that limits the employer's rights to terminate to terminations "for cause" may also provide sufficient incentives for the employee to undertake the obligations the employer imposes *ex post*.

The example of at-will employment contracts highlights a third feature of control contracts. We noted in the introduction that the incomplete contracts literature recognized that renegotiation allowed for *ex post* specification of the obligations of parties. That fact seems to undermine the distinction between contingency clauses and control provisions. At-will employment contracts, however, suggest that a control module may also alter both the disagreement point and the transaction costs of disputing. We examine these points further in our discussion of construction contracts.

#### *4.2 Costs and Benefits of Control Clauses*

A control clause may reduce drafting costs. Suppose that the parties use a control clause to govern an event  $E$ . The event  $E$  includes several distinct states of the world  $\omega_1, \omega_2, \dots, \omega_n$ . Suppose that the promisee prefers a different performance in each of the  $n$  states of the world included in the event  $E$ .<sup>50</sup> A contingency contract would specify the promisor's action in each of the  $n$  states of the world. The control contract requires, by contrast, requires only the single delegation of control; the promisee specifies only the action she prefers in the realized state of the world. The larger the event – i.e. the greater the number of individual states of the world that constitute it – and the greater the variation of the promisee's

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<sup>50</sup>Of course, if the promisee's preferred performance in two or more states of the world is identical, drafting costs in a contingency contract might be less.

preferred actions across the states within the event, the greater the savings in drafting costs.

As we shall argue in the next subsection, a control clause does not merely delegate control to the promisee; it requires a more complex structure that may impose additional drafting costs on the parties. Thus, the parties might only adopt a control clause when the number of contingencies within the event  $E$  is large<sup>51</sup>

The parties might also choose to use a control clause in other circumstances that make the drafting of a contingency clause difficult. Such drafting is difficult when information about which state of the world has been realized is distributed asymmetrically to the promisee (and it is an action-last environment).

Ex post specification of the promisor's obligation has costs as well as benefits. When the promisor's obligation is specified ex post, the parties cannot benefit from pre-performance investments that might decrease the cost of performance or enhance the value of the performance. To illustrate these ideas, consider a contract for the production of a complex good. Production of the complex good requires the Seller to undertake numerous distinct tasks, each of which contributes some value to the good (and hence to the buyer). A control contract includes a specification of the final good to be delivered.<sup>52</sup>

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<sup>51</sup>The choice between contingency and control clauses is complex in part because the cost of drafting is a function both of the nature of the clause and of the nature of the action that the parties will specify. Some actions may be difficult to specify and hence impose high drafting costs. This will be particularly true if the promisee prefers to specify a task rather than a performance; the promisee will prefer to specify a task when she does not trust the promisor.

<sup>52</sup>Of course, a contingent contract also specifies in detail the good to be delivered. In principle, the contract should specify each task that the promisor should undertake under every given contingency. No contract, of course, does this; the contingency approach to contract thus implicitly partially adopts a control approach to contract: the contingent contract allocates control over the performance of the contract to promisor who chooses which tasks to undertake when. This allocation of control is sensible as the promisor has both expertise and asymmetric information concerning

In general, the contract specifies particular tasks that the promisor must undertake.

The Buyer's valuation of the good correspondingly varies with the specification of each task or, more generally, with the specification of particular features of the contracted-for performance.<sup>53</sup> At the time of formation, Buyer's valuations are uncertain; she may, however, learn something about her preferences with some ex ante expenditures. Similarly, at the time of formation, Seller's costs are uncertain; prior to execution of the contractually specified tasks, the Seller may invest in cost-reduction for some tasks. Seller's investment lowers costs for the task as specified in the contract; if the task is changed, the cost-reduction expenditures are wasted.

A complete natural contract would not simply specify a set of tasks to be performed (or a set of performance characteristics for the performance to satisfy).. It would specify a menu of sets of tasks to be performed; one menu for each possible state of the world. In principle, Buyer and Seller would specify a set of tasks for every possible realization of Buyer's preferences and seller's costs.<sup>54</sup> At least two factors prevent the drafting of this complete contingent claims contract. First, the contract would be excessively complex; it would either be too costly to draft or too complicated to understand. Second, under the

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production.

<sup>53</sup>So, the contract may specify the subject matter either in terms of performance characteristics that may be realized in many different concrete ways or in terms of concrete specifications of the real good or service. The Buyer has preferences over the set of performance characteristics that define the good; preferences over concrete specifications derive from these preferences over performance characteristics. Software offers a clear example. The user wants the software do perform various tasks but the user's preferences over particular code that realizes these tasks are derived..

<sup>54</sup>Note that the parties should also specify the extent of Seller's investment in cost-reduction on each task.

information conditions we have specified, the realization of Buyer's preferences are not verifiable by a court. Consequently the complete contingent claims contract would not be enforceable. An appropriate choice of default rule might reduce drafting costs somewhat but no contract would successfully induce truthful revelation of all of the buyer's private information.

A control contract adopts a very different approach. It specifies a single list of tasks to be performed.<sup>55</sup> It then allocates control over the specification of which tasks to perform to the Buyer.<sup>56</sup> Moreover, it insures that Seller complies with Buyer's request by requiring bonding of the Seller. The control contract protects Seller's interests by specifying the price at which Buyer may exercise its control; generally, Buyer must bear the additional costs incurred from a change in the specification of a task.

Construction contracts provide a clear example of the typical transaction governed by a control contract. Generally, the contract forms when the Owner solicits bids on a complex set of design documents.<sup>57</sup> These documents specify in great detail the good – the building – to be provided by the contractor. Construction of course requires the contractor to undertake numerous tasks, each of which contribute to the value of the structure. Unlike in the usual model, however, the Owner may change her

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<sup>55</sup>In fact, a control contract may specify actions in the event of a small number of contingencies. It might, for example, specify that performance is excused in the event of war.

<sup>56</sup>We have assumed that preferences are unverifiable after realization but that costs are verifiable. Our argument certainly goes through in the event that costs are unverifiable after realization while preferences are. Moreover, as we shall illustrate in section 4 below, control contracts may succeed even when neither costs nor preferences are fully verifiable after realization.

<sup>57</sup>The contract between Owner and Architect is also of great interest. It might be understood as a contract for research and development. This contract also has elements of a control contract but it presents additional complexities.

mind about what good she wants. She may make minor or major changes in the design documents either because of exogenous changes in her valuation or because the process of construction reveals new information to her.

#### *4.3 The Structure of Control Contracts*

An effective control contract must do more than simply identify the party that specifies the contractual obligation under specific conditions. A control contracts generally provide for bonding of the party without control both to insure that control is successfully delegated to the relevant party and to structure any renegotiation. We argue that contract law must (and does) enforce control contracts because they serve as an alternative to contingency contracts and renegotiation as a way to solve the problems posed by asymmetric and unverifiable information.

A well-drafted control contract must satisfy at least three conditions. First it must allocate control to the party that has asymmetric, and ex post unverifiable, information about the decision relevant feature of the performance. In many contexts, the promisee has asymmetric information concerning the value of performance to her; moreover, that information will remain private and unverifiable to her even after performance has taken place. Consequently, a control contract should allocate to the promisee the right to direct changes in the specified performance. Various control contracts illustrate this feature. An employment contract allocates control over the tasks of the employee to the employer so that the employer can direct the employee's activities in the most profitable way to her, the employer. Obviously, this information is private and largely unverifiable, even ex post.

Second, the power to exercise control effectively must accompany its allocation. This feature of a well-drafted control contract depends in part on the structure of contract law as the rules governing

damages for breach of contract influence the willingness of the controlled party to perform any directed action. The contract structure, however, may facilitate the exercise of power. The example of construction contracts, developed in section 4 illustrates several ways in which a well-drafted contract will facilitate the exercise of control.

Third, the contract must protect the party subject to control against exploitation. An exercise of control changes, in some sense, the initial terms of the contract; the new obligations on the controlled party may impose additional, and unwarranted, costs. Control contracts will be undesirable and unutilized if they permit one party to extract too much rent from the other party. As noted in the discussion of the grant of the power to exercise control, contract law or the structure of the contract itself might protect against exploitation.

#### *5. The example of construction contracts*

The private construction industry accounts for \$ billion a year in business, roughly % of the GDP. Projects range from very simple renovations to the construction of large complexes of buildings. These projects are generally governed by written contracts. Construction projects provide an excellent context in which to examine the structure and virtue of control contracts. Our discussion proceeds in ?Parts. First, we sketch more fully the features of construction projects that make them suitable for governance through control contracts. We do this by sketching the content of a hypothetical contingency contract to govern a construction project. Second, we turn to the standard AIA forms that govern most construction projects in the United States.

##### *5.1 Contingency Contracts in the Construction Industry*

Construction projects require the coordination of large numbers of workers with different skills to



assemble a complex good on a specified site. The good produced cannot be purchased off the shelf because it is unique in several respects. First, even a “standardized” design, many exemplar of which have already been built, must be modified to meet the constraints of the specific site on which the project will be erected. In general, *ex ante*, the precise character of the site will be unknown and this uncertainty is the source of some of the contracting difficulties. More generally, the costs of production will be uncertain because production occurs over time and involves a large number of different trades, the coordination of which may be difficult and costly. This cost uncertainty will be greater, the less standard the design of the proposed structure.

Second, the project is very complex and difficult to specify completely *ex ante*. This difficulty arises in part because the owner/purchaser may not have a clear idea of her preferences until the project is underway. It is not that the owner’s preferences change, which is also possible; rather, the owner may have difficulty imagining or understanding the two-dimensional description of a three-dimensional space.

Obviously, this uncertainty might be resolved *ex ante* if the Owner is willing to expend sufficient amounts of money and time. But it may be optimal for the Owner to defer decision on some of these questions until the project has progressed.<sup>58</sup>

The uniqueness of the project implies that the good can be provided competitively only *ex ante*. Once the project is let and commenced, the contractor may act opportunistically in many ways. .

A complete contingent claims contract governing a construction contract is almost impossible to imagine. Consider first the cost uncertainty created by unknown subsoil conditions or, in the case of the

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<sup>58</sup>Macleod and Surajeet ?, formally model these two features of the uniqueness of the project and show the conditions under which a control contract is optimal.

renovation of an existing structure, latent structural conditions.. At a minimum, a contingency contract would have to specify a cost for each possible state of the soil or existing structure. The contract would thus have to describe each of the relevant latent conditions and then provide a price for them.<sup>59</sup> An ideal contract, however, would probably also specify a different construction for many different soil conditions. If soil is extremely unstable, the original (or “normal”) foundation work may be inadequate to support the building; the realized soil conditions might require different materials or different technologies. In extreme cases, soil conditions might render construction so costly that abandonment of the project would be appropriate or a radical redesign of the whole project would be required. A contingency contract would provide for this possibility.

Concomitantly, a complete contingent claims contract would have to resolve the problems raised by the uncertainty in the owner’s preferences. As noted, at great cost, the Owner might resolve all the uncertainties *ex ante*. She would not be permitted any subsequent modification in design. Alternatively, the contract might specify in advance the cost of every relevant and possible design change and then specify the time at which the Owner must designate which design choice to implement.

### *5.2 The AIA form contract as a Control contract*

In the United States, many construction relations are governed by forms drafted by the American Institute of Architects. Use of the AIA forms is widespread; the AIA sells roughly 400,000 forms yearly<sup>60</sup> but this number understates its influence. Once purchased, the form is easily copied and it surely serves

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<sup>59</sup>Note that pricing construction under different conditions is itself costly.

<sup>60</sup>Citation

as a model for many other contracts when it is not used explicitly.<sup>61</sup>

The AIA drafts documents to cover the complete construction project from inception to completion. It thus provides a form contract of design between Owner and Architect; forms governing the relation between the Owner and Contractor including form performance bonds, and forms that govern the relation between the Contractor and its sub-contractors. In what follows, we focus on the forms governing the relation between Owner and Contractor.

The AIA form is a control contract. Not all contracts governing that construction relation are control contracts. Federal procurement, for example, is governed by a contingency contract.<sup>62</sup> More interestingly, the predominant standard form in Great Britain is a contingency contract; English experts generally regard this form as inferior to the AIA form.<sup>63</sup>

The AIA first introduced a form construction contract in 1915. Though the form has grown in length, its basic elements and structure have not changed dramatically in the last 90 years.<sup>64</sup> We focus on the sections that delegate control and that provide for bonding. We use the most recent contract form,

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<sup>61</sup>Other forms similar to the AIA form exist. The National Association of Engineers for example provides a form as well. We focus on the AIA form, however, because it was both the first form in the area – the AIA drafted its first form construction contract in 1915 (it drafted a form contract to govern the Owner-Architect relation in 1909). Moreover, the other forms of control contracts in the construction industry are largely parallel to the AIA form.

The AIA form assigns the Architect a prominent role; the Joint Engineering form, by contrast, assigns that role to the engineer. Moreover, the AIA form seeks to protect the architect's interests in a number of ways. This feature of the contract, however, plays no role in the essential features of control

<sup>62</sup>Citation to Fed. Reg. In a future paper, we seek to explain the choice between control and contingency contracts.

<sup>63</sup>Sweet Lectures chap ?

<sup>64</sup>Perhaps the greatest change occurred in — when the AIA introduced an arbitration clause.

drafted in 1997, as our model.

The AIA form has two parts. The first part, AIA document A101 is called the Standard form of agreement between Owner and Contractor. It identifies the parties to the contract – the owner and the contractor as well as the architect who plays a central role in the administration of the contract. This form also identifies the project and incorporates the second form, AIA Document A201, the General Conditions of the Contract for Construction and the drawings and other technical specifications that define the scope of the contractor's work. Form A101 further sets out the term of the contract and the amount and schedule of payments.

Our analysis of the contract focuses on two issues: the control of opportunism and the allocation of control between the two parties. Allocation of control itself raises two issues; first, to whom has control been allocated and second how is control enforced. Phrased differently, the allocation of control itself raises issues of opportunism on both sides. The party with control might exercise its control opportunistically while the other party must have appropriate incentives to act as the controlling party desires lest the controller be held up. We thus focus on three sets of provisions in the contract: the pricing provisions, the provisions that specifically allocate control – those governing changes in the work – and bonding provisions.

We are primarily concerned with the second AIA form: the General Conditions of the Contract for Construction as it delegates control. Article 7, "Changes in the Work" provides the two principal mechanisms for this delegation.<sup>65</sup> Both mechanisms One, the change order, is consensual; the architect

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<sup>65</sup>A third mechanism, the order for a minor change in work, is issued by the Architect to the contractor without the consent of the owner.

prepares a written document, signed by both parties, that specifies the change in the work and the changes, if any, in the contractor's compensation and term of the contract. The change order thus roughly corresponds to a written modification of the contract.<sup>66</sup> Its consensual nature, moreover, renders it problematic as an example of a contractual grant of authority.

A change directive, by contrast, clearly grants authority to the Owner to determine the actions of the Contractor. A change directive is prepared by the architect and signed by the Owner. It specifies a change in the work; it may also specify an adjustment in payments to the Contractor. Paragraph 7.3.3 provides several acceptable procedures for adjustment, all but one of which require consent of the contractor. Article 7, however, does provide for a non-consensual procedure for specifying the price adjustment.

#### 6. *Contract Law for Control Contracts*

Contingency contracts aim to cover every possible contingency. The role of courts, then, is to provide default rules that minimize the costs of drafting and to "price" non-performance of obligations appropriately. In this section, we ask what role contract law should play for control contracts.

Two questions, one explanatory or interpretive, the second normative, arise immediately. First, to what extent does the current law of current reflect a concern for the enforcement of control contracts rather than contingency contracts? Second, how ought contract law reflect the needs of control contracts.

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<sup>66</sup>Of course a contract modification requires consideration but a change order does not. That is, the change order may specify a change in the work without specifying any change in the payment or timing terms of the contract. The change order nonetheless becomes an enforceable part of the contract of construction.

### *6.1 Control Contracts in the Current Law of Contract*

The control perspective on contract allows us to understand various doctrines of contract law more clearly. Here we consider the rules of indefiniteness and ?

#### 7.1.1. Indefiniteness

The law of contract requires sufficient detail and specificity in an agreement to merit legal enforcement: a contract must specify the material terms in a precise matter.<sup>67</sup> The doctrine however itself is vague concerning the necessary degree of specificity and detail. Which terms, for instance, are material? And, what constitutes sufficient specificity? Consider, for example, the quantity term. It is clearly material; but it is not always specified. Under what conditions, does failure to specify the quantity term lead to unenforceability? In some conditions, the omission of a quantity term in a contract will not necessarily render it unenforceable; a court might interpret the contract as an output or requirements contract<sup>68</sup>

The common law of contract imposed a relatively strict and harsh bright line requirement on specificity. The UCC and more recent non-sales doctrine adopts a broader standard that permits the courts to enforce contracts that the common law would have found indefinite and unenforceable.<sup>69</sup> On our account, this broader reach of modern doctrine should consider an agreement with a control clause governing a key element as an enforceable contract.

Consider for example ? v? in which Plaintiff ordered a carload of mason jars from defendant for

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<sup>67</sup>[Restatement \(Second\) of Contracts § 33 \(1981\)](#)

<sup>68</sup>See UCC sections ??

<sup>69</sup>See Scott, Indefiniteness for a general discussion.

delivery on a specified date at a specified price. Though defendant sold mason jars in two sizes, the initial agreement did not specify the mix of jar sizes to be shipped. The court found for plaintiff, imputing a control clause default rule that required the plaintiff to specify the mix of sizes prior to shipment.<sup>70</sup>

### 7.1.3 Penalty clauses

The economic analysis of contract law has been generally hostile to judicial treatment of penalty clauses.<sup>71</sup> The general approach asserts that the standard remedy of expectation damages ought to be understood as a default rule around which the parties are free to contract. The enforcement of liquidated damages clauses is consistent with this default rule approach but the limitation that bars liquidated amounts that constitute a “penalty” runs counter to this default rule approach. On this account, the bar on penalties ought to be eliminated because the parties are better able to assess *ex ante* the appropriate measure of damages than the court.

The perspective of control contracts casts penalty clauses in a somewhat different light. On the one hand, a penalty clause might be understood as a device that facilitates the exercise of control by the controlling party. On the other hand, a penalty clause is a very crude mechanism for doing so; on many occasions, it may also facilitate opportunistic behavior on the part of the controlling party.

A performance bond insures the owner against the default of the contractor without providing the owner with leverage to engage in opportunistic behavior against the contractor. The surety in a performance bond gives the owner recourse against a solvent third party should the contractor not complete

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<sup>70</sup>Citation. Check comments to UCC indefiniteness section.

<sup>71</sup>Citations.

the job or does so incompetently. The amount of the bond is

## 6.2 “Best Efforts” clauses

6.2.1 *Relational Contracts*. The literature on economic analysis of contract law has long distinguished between *discrete* and *relational* contracts. Our analysis illuminates this distinction though our distinction between contingency and control terms does not parallel or reproduce this distinction.

The concept of a relational contract is amorphous. Some authors identify relational contracts with a particular class of contractual instruments. Alan Schwartz, for example, essentially defines relational contracts as *incomplete contracts*; i.e., as ones which have “true gaps” or that provide a partition of the state space that is too coarse.<sup>72</sup> Goetz and Scott, by contrast, define a contract as relational “to the extent that the parties are incapable of reducing important terms of the arrangement to well-defined obligations.”<sup>73</sup>

Our distinction, however, does not depend on the “incompleteness” of the contract nor on the specificity of the obligation but on the timing at which the obligation is specified. A contract replete with control terms may be, in some sense, complete. It provides a well-defined process to specify an obligation in each contingency. Phrased differently, the contract may have a clause governing large numbers of contingencies, indeed every event defined by the realization of each state of nature. This contract will be complete. Moreover, once the contingency triggering a control clause is realized, there need be no ambiguity about the obligation once the promisee specifies the obligation. Indeed, that is the point of a

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<sup>72</sup>Schwartz, JLS

<sup>73</sup>Goetz and Scott, Va L. Rev



control clause.

Our analytical framework, however, does illuminate the distinction between relational and discrete contracts because the definitions of relational contracts, and the surrounding elaborations of these definitions, often refer implicitly or explicitly to the contractual environment in which the agents contract.

These discussions are particularly concerned with asymmetry of information between promisee and promisor or with the lack of verifiability of the promisor's actions. The information structure plays an important role in our taxonomy of contractual environments but we also differentiate among environments in terms of the timing of actions.

Analysts name generic agency relations, joint ventures, distributorships and franchises as paradigmatic relational "contracts". The environments in which these forms arise, however, may differ radically. Often, for example, key elements of the franchise or distributorship relation may be characterized as an action-first environment. The promisor – the franchisee or the distributor – must act prior to the realization of the state of nature. The promisee would like to specify the franchisee's obligation precisely but either asymmetry of information or the unverifiability of the franchisee's action prevents specifying the obligation clearly or precisely. A control term cannot cure this problem; the obligation must be specified *ex ante*.

Other aspects of the franchisor/franchisee relation, however, may occur within an action-second environment. Here a control term would make sense when the realized state of the world is observed by the promisee. If only the promisor observes the realization of the state of nature, a control clause will not improve the promisee's ability to control the promisee's action or to increase the surplus available from the contract.

In other action-second environments, the promisee may acquire information that, if transmitted to the promisor, would increase the joint surplus available to the parties for distribution. In these environments, a control term might indeed be a useful contractual tool.

In the next subsection, we examine a class of terms that has proven problematic for both commentators and courts: “best efforts” or “good faith efforts” clauses. Clauses of this type are common in franchise and other contracts for distribution. A court that reads contracts for their “plain meaning” will likely understand a best efforts clause as a contingency term that imposes *ex ante* obligation on the promisor. On this approach, the clause is problematic because it does not specify clearly or precisely the promisor’s obligation; a best efforts clause is thus a failed, or poorly drafted contingency term.

We shall argue that, in some circumstances, courts should understand best-efforts clauses as control terms that permit the promisee to specify the promisor’s obligation *ex post*. Our argument requires the court to look to the course of the dealing of the parties to determine both the content of the *ex post* specified obligation of the promisor and whether the clause should be understood as a control or contingency term.

*6.2.2. Best Efforts Clauses as Control Terms.* As noted above, best efforts clauses should arise when the realization of the state of nature is private information to the promisor or when the realization occurs prior to action and the agent’s action is unverifiable. In these circumstances, the parties must specify the promisor’s obligation *ex ante* and a contingency term, possibly a vague contingency term, may be the best way to do this.

In action-second environments where the promisee learns the realization of the state of nature, however, a control term might provide a more effective way to govern the relationship. It is possible, of

course, that the costs of using a control term outweigh the benefits relative to the costs and benefits of a “best-efforts” clause. To understand this argument, consider a specific case.

In *Malone v Crown Cent. Petroleum Corp.*<sup>74</sup> Defendant, a gasoline wholesaler, terminated Plaintiff’s franchise after Plaintiff had failed to meet the minimum gallonage requirements for three successive months. The contract permitted termination under these circumstances and Defendant’s termination procedure met both contractual requirements and the statutory requirements of PMPA. The structure of the contract coupled with the course of dealing of the parties suggests that the best efforts clause combined with the termination provisions functioned as a control module.

Plaintiff’s service station competed directly with nearby service stations. As competition increased, its sales volume decreased so that it no longer met the minimum gallonage requirements specified in the contract. Defendant had suggested, prior to termination, that Plaintiff reduce prices on unleaded and premium gas in order to meet the contractual minimum. Plaintiff refused. If we understand the best efforts clause as a control term, then Plaintiff’s refusal to reduce prices would constitute a clear breach; the termination clause provides Defendant/franchisor with a self-enforcing remedy for breach. The court saw the case in a similar light; it justified itself conclusion that Plaintiff had not exerted best efforts by noting its refusal to adopt defendant’s suggestion: . “Had plaintiff actually complied with Crown's request and Then showed that his sales volume remained below the minimum, he would be in a far better posture before this Court.”

## 7. Conclusion

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<sup>74</sup>474 F Supp 306 (DC Md)

