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Title
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Permalink
https://escholarship.org/uc/item/5mx6q75x

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Publication Date
2007-04-06

Interpreting Boilerplate

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April 6, 2007

1. Introduction

This article is about the methods that adjudicators – judges, juries, arbitrators etc. – use to interpret contracts. The 'methods of interpretation' in which we are interested are simply the rules that adjudicators use to determine the legal obligations that flow from any given contractual document. We shall examine how alternative methods of interpretation can, to put it crudely, allow parties to get the best possible legal results using the cheapest possible documents.

This paper focuses on situations involving 'boilerplate' contractual documents, that is to say, documents that are widely used. In situations that do not involve boilerplate documents it seems reasonable to presume that minimizing drafting costs mainly entails helping parties to use documents that appear on their face to be relatively simple, to draft more 'complete' contracts, that is to say, contracts that provide relatively detailed descriptions of the performance required from the parties and that tailor the performance required to the circumstances that have arisen. This approach is not necessarily warranted when it comes to interpretation of boilerplate. Boilerplate documents are often both cheap – anyone who has drafted a contract knows that it is typically much easier to proceed by copying an existing document, even one that generates a very detailed contract, than to draft even a simple contract from scratch – and detailed enough to generate very complete sets of legal obligations if interpreted literally.

Taking into account the distinctive features of boilerplate has at least three implications for the appropriate method of interpretation. First, in principle, minimizing drafting costs might require that adjudicators treat the provisions of detailed standard form documents as "mere boilerplate" and decline to interpret them literally. Second, since the costs of drafting any given contractual document will depend upon the documents that have been produced in the past and the extent to which the relevant parties have access to them, the optimal method of interpretation will be path dependent and will vary depending on the timeframe being analyzed. Third, building on this idea, the optimal method of interpretation for any given society will depend upon its stage of development. Fourth, since parties' drafting choices in one period may have spillover effects in other periods it may not be desirable to grant contracting parties freedom to choose their preferred method of interpretation.

The general approach in this paper closely follows Shavell (2006) but, because of the emphasis on boilerplate documents, several of the conclusions are very different. The conclusion that there may be dangers associated with allowing parties to choose their preferred method of interpretation is also inconsistent with Schwartz and Scott (2003: 569). The idea that features of the 'language' parties must use to communicate with adjudicators can be an important determinant of the level of detail with which parties specify their contractual obligations is discussed by Battigalli & Maggi (2002: 812-813).

Section 2 provides a series of simple examples designed to illustrate the main arguments. Section 3 introduces a formal model inspired by Shavell (2006). Sections 4 and 5 use the model to identify some of the basic characteristics of the optimal method of interpretation, showing that it is sensitive not only to the pattern of demand for various types of contracts but also assumptions about the costs of producing various types of documents. Section 6 extends the model to consider the case in which there are multiple periods of contracting so that the stock of existing documents becomes endogenous to the method of interpretation applied in earlier periods. Section 7 concludes by discussing the validity of an underlying premise of the model, namely that drafting costs are influenced in a material way by the methods of interpretation employed by adjudicators.

2. Examples

Suppose that you have to hire a plumber to provide plumbing for your new house. Suppose that there are two different actions that can be taken to perform this contract corresponding to two types of pipe that can be used, steel and copper. There are also several possible contingencies that might arise. For instance, it might turn out to be the case that steel pipe is significantly more expensive than copper pipe. Or steel pipe may be unavailable for the next six months. Under these circumstances several different types of contractual documents might be produced. For instance, one document might simply say "Provide pipe." Another document might state, "use steel pipe." Yet another document might say "use steel pipe unless steel pipe cannot be obtained in a timely fashion in which case use copper pipe."

Suppose that an adjudicator is asked to interpret the first document, that is to say, to determine what actions qualify as performance of the contract evidenced by the agreement. One interpretation, the one we shall call the literal interpretation of the document, seems to permit the plumber to perform by using either steel or copper pipe, regardless of what contingency arises. Of course there are other methods of interpretation. For instance, one can imagine a court interpreting a document that says "provide pipe" to mean "use steel pipe." Or it might interpret the document to mean "use steel pipe unless it is unavailable."

For present purposes we will presume that social welfare is determined by some combination of the gains that parties obtain from contracting, which are in turn determined by whether their contract contains optimal terms, less the drafting costs that

parties incur in the process of contracting. The question in which we are interested is: Which method of interpretation is likely to be socially optimal?

As is now well recognized, the right answer to the question need not be the literal method of interpretation. Suppose that most contracting parties want a contract that requires steel pipe to be used so long as it is available. Suppose however, that is relatively costly to draft a document that, if interpreted literally, generates such a contract, perhaps because the draftsperson is being paid by the word. Under these circumstances, most contracting parties will prefer that adjudicators abandon the literal method of interpretation in favor of a non-literal method of interpretation in which the relatively cheap document that says "provide pipe" is interpreted to mean "use steel pipe so long as it can be obtained in a timely fashion etc." Under these conditions, the non-literal method of interpretation allows most parties to get the contract they want by adopting a document that is cheap to draft compared to the document they would have to use under the literal method of interpretation to get the same legal result. This method of interpretation will, however, impose some costs, in the form of either thwarted purposes or additional drafting costs, upon the minority who want contracts that grant plumbers more discretion. Of course, the situation would be different if the distribution of contracting parties were to changed so that most of them come to prefer a contract that grants plumbers discretion over which pipe is used.

Notice though how this argument in favor of non-literal interpretation depends upon our assumptions about the costs of drafting the various documents. Those assumptions need not hold. Imagine, for example, the case in which the relevant parties have access to a standard form of agreement for plumbers which contains a provision stating that steel pipe should be used unless it is unavailable. Let us assume that, as is typically the case, it is cheaper to adopt the standard form than to draft a document from scratch. Under these circumstances, literal interpretation will allow most parties to get the contract they want by adopting a relatively cheap document. A non-literal interpretation of the standard form would either frustrate the purposes of most parties or force them to draft a customized document that, under the non-literal method of interpretation, achieves the same effect as a literal interpretation of the standard form.

Of course the situation would be different again if the demand for contracts was different. For instance, let us continue to assume that the standard form represents the cheapest available agreement but now suppose that most parties' preferred contract is one that gives the plumber unfettered discretion to select pipes. Under these circumstances, the optimal method of interpretation will be a non-literal one that interprets the standard form so that it has the same effect as a literal interpretation of the document that says "provide pipe."

It is also worth noting that drafting costs can vary over time and moreover, are likely to change in response to the method of interpretation selected by adjudicators. For example, suppose that we return to our initial scenario in which there is no standard form and a majority of parties want contracts that require steel pipe to be used unless it is unavailable while the minority prefers that plumbers enjoy discretion. However, we will

expand our illustration to encompass two periods of contracting. Under these conditions, in the first period, examined in isolation, adopting the literal method of interpretation may be sub-optimal because it will encourage a large number of parties to incur the relatively high costs of drafting document that say "use steel pipe unless it is unavailable…" However, before rejecting this interpretive approach out of hand, it is important to notice that the documents it induces parties to draft in the first period may become standard forms in the second period that if interpreted literally will allow the majority to contract on their preferred terms at a relatively low cost. This gives rise to the possibility that in the second period the literal method of interpretation will be optimal. Thus, the result of treating writing costs as endogenous in this fashion means that the method of interpretation that is optimal in the short term may not be optimal over the longer term.

This last point also implies that it may not be optimal over the long run to allow parties to choose their method of interpretation. To see this, consider the two-period example from the preceding paragraph. To illustrate the next point as starkly as possible, let us assume that none of the parties expect to contract in both periods. Under these circumstances, if given the choice, in the first period the majority of contracting parties might well choose a non-literal method of interpretation. As a consequence they would fail to create a standard form document that would ultimately serve to reduce drafting costs in the second period. Simply put, the standard form is a positive externality that parties who contract in period one can generate for parties who contract in period two and as such is something that the parties in period one have little incentive to create. In this example, limiting parties' ability to opt out of the literal method of interpretation would force them to create the positive externality and so would be socially optimal.

The literature on contract law has long recognized that the optimal method of interpretation will be contingent upon patterns of demand for various types of contracts. The preceding examples are designed to show that the optimal method of interpretation will also be contingent upon the availability of standard form documents and may as a result be endogenous to the prevailing interpretive regime. This observation has significant implications for analyzing both the merits of alternative interpretive regimes and whether contracting parties ought to be free to choose between those interpretive regimes.

The following sections present a model that illustrates these claims in a more formal and general fashion.

3. A model of contractual interpretation

This model treats a contract as a set of mutual contingent obligations derived from a particular document using a particular method of interpretation. It is assumed that the contracting parties jointly choose the document in which to embody their legal relationship in light of the method of interpretation selected by a lawmaker.

The building blocks of the model are as follows:

a an *action* where $a \, \varepsilon \, A$, the universe of possible actions. Since the relevant actors are pairs of contracting parties this can be interpreted as a vector with elements consisting of sets of alternative modes of performance that might be undertaken by each of the contracting parties;

θ_i a *contingency*, where $\theta_i \, \varepsilon \, \Omega$, the set of n possible contingencies;

E_m an *event*, which is a subset of the contingencies in Ω;

O_m is an *obligation*, which defines a subset of the actions in A.

A *contract*, K, is a correspondence between a list of m events and m obligations. Therefore, the contract defines the modes of performance that will be acceptable – i.e. not lead to a finding of breach of contract – in any given contingency. Each element of this correspondence is a *term* of the contract.

$$K = \{(E_1, O_1), \ldots (E_m, O_m)\}$$

This definition implies that a contract may associate a number of different actions with a single contingency. For example, supplying either copper or steel pipe may be permitted. The greater the number of actions associated with a particular contingency the more *flexible* the term. As a practical matter, every contract seems likely to incorporate a certain amount of flexibility.[1] In the extreme case where no obligation is specified for a particular event, the entire universe of actions is permitted. In this situation we shall say that there is an *open term* in the contract. An example of a contract containing an open term would be one which specifies "use steel pipe so long as it is available," thereby leaving open the obligations that apply in the contingencies where steel pipe is unavailable.

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[1] For further discussion see Battigalli & Maggi (2002); Kornhauser & MacLeod (2007). The modeling strategy used here also resembles Hart & Moore's (2004) suggestion that contracts can be described as either ruling out or ruling in certain actions. However, Hart & Moore's contracts determine the actions that are ruled in or ruled out as a matter of fact, whereas the contracts in this paper only determine what actions are ruled in or ruled out as a matter of law. What is permitted by law may diverge from what actually occurs because legal obligations can be breached or renegotiated.

A contract may also associate a single set of actions with more than one contingency. For example, steel pipe may be required regardless of the relative price of copper pipe. The smaller the number of contingencies associated with a given obligation the more *state-specific* the term.

In the literature on incomplete contracts a contract is often said to be more "complete" if it is relatively detailed, which we can interpret as meaning that the contract contains a relatively large number of terms that are relatively inflexible and state-specific.[2] What we have said so far establishes that the contracts in this model can manifest varying degrees of completeness. It is worth noting, however, that in this model the parties' obligations are defined for all possible contingencies that might arise. As a result, all contracts in this model manifest what is sometimes called "obligational completeness" (Ayres & Gertner 1989), although in some contingencies an open term applies so that the 'obligation' imposes no effective constraint upon actions.

A contract is derived from a *contractual document, d, d ε I* (the set of feasible documents) using a *method of interpretation*, which is a function $M(d)$ that maps the document onto a particular contract. Thus,

$K = M(d)$.

For present purposes we will set aside a number of potential obstacles to useful interpretation of contractual documents by assuming the following:

> *Assumption* 1: The feasible methods of interpretation are known to the parties with certainty. This means that for any given contractual document the parties will be able to predict with perfect accuracy the set of actions that the relevant adjudicator will permit them to undertake in any given contingency under any method of interpretation.

> *Assumption* 2: Among the feasible methods of interpretation is one that is universally recognized as the *literal* method of interpretation. This assumption reflects the idea that labeling a particular method of interpreting a document the literal method or the "plain meaning" method is simply a convention.

> *Assumption* 3: There is at least one non-literal method of interpretation.

> *Assumption 4*: The set of feasible contracts is identical regardless of the method of interpretation.[3]

Following Shavell (2006), we will focus on the effects of contracting on the joint utility of contracting parties, ignoring the details of the process by which the benefits and costs of contracting are allocated between them. We will also ignore the details of the process by which parties' contractual obligations are translated into decisions to perform,

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[2] Battigalli & Maggi (2002).
[3] See Ben-Shahar (1999).

breach, litigate, settle, or renegotiate, with their associated costs and benefits. Instead we will simply assume that the expected payoffs from adopting a given contract vary only depending on the parties' type, t, where,

$t \in T$, the population of types;

$F(t)$ is the probability distribution of type t;

$V(K, t)$ or, equivalently, $V(M(D)), t)$ is the expected payoff of being subject to K to parties of a given type.

We shall call the costs of adopting a particular contractual document *drafting costs*, which are represented by $\alpha(d, t)$. Consequently, the (expected) value to any given pair of contracting parties from adopting a particular contractual document, given the prevailing method of interpretation, is,

$$W(M, d, t) = V(M(d), t) - \alpha(d, t) \qquad (1)$$

Each round of contracting (initially we shall assume there is only one round) involves two stages. First, the lawmaker selects a method of interpretation. Second, each pair of contracting parties selects a document. We shall assume that the parties choose d to maximize (1). In other words,

Assumption 5: The parties choose choose $d = D(M) = \text{argmax}_d \ W(M, d, t)$.

In light of this assumption, going forward we can write the value any given pair of contracting parties derives from contracting as a function of the method of interpretation selected by the lawmaker.

The final component of the model is a social welfare function. We shall presume that social welfare is determined solely by the aggregate value of contracts entered into by the population of contracting parties,

$$S(M) = \int_T W(M, t) \, dF(t) \qquad (2)$$

Implicit in this definition of social welfare is an assumption that we can ignore any costs associated with the process of interpreting contracts.[4]

4. Literal versus non-literal methods of interpretation

There is a longstanding and as-yet-unresolved debate among scholars of contract law about whether adjudicators should adopt literal as opposed to non-literal methods of interpretation (Scott 2000). Our model confirms that from a social welfare perspective, choosing the literal as opposed to a non-literal method of interpretation involves a tradeoff.

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[4] Posner (2005) argues that in practice these costs are likely to be insignificant.

Proposition 1: A non-literal method of interpretation will be the socially optimal method of interpretation if the benefits associated with reduced drafting costs for parties who prefer the non-literal interpretation outweigh the costs associated with increased drafting costs imposed upon parties who prefer the literal interpretation.

Proof: From (1) we know that moving to a non-literal method of interpretation, M', from the literal method of interpretation, M^l, will benefit parties for whom (suppressing the indicator of type to avoid cumbersome notation),

$$[V(M'(D(M'))) - \alpha(D(M'))] > [V(M^l (D(M^l))) - \alpha(D(M^l))]$$

This will occur if,

$$\alpha(D(M')) < \alpha(D(M^l)) \text{ and } M'(D(M')) = M^l(D(M^l)) \qquad (3a)$$

or,

$$[\alpha(D(M')) - \alpha(D(M^l))] < [V(M'(D(M'))) - V(M^l (D(M^l)))] \text{ and}$$

$$M'(D(M')) \neq M^l (D(M^l)) \qquad (3b)$$

Similarly, moving from M' to M^l will reduce the welfare of parties for whom,

$$[V(M'(D(M'))) - \alpha(D(M'))] < [V(M^l (D(M^l))) - \alpha(D(M^l))]$$

This will occur if,

$$\alpha(D(M')) > \alpha(D(M^l)) \text{ and } M(D(M')) = M(D(M^l)) \qquad (4a)$$

or,

$$[\alpha(D(M')) - \alpha(D(M^l))] > [V(M'(D(M'))) - V(M^l (D(M^l)))] \text{ and}$$

$$M'(D(M')) \neq M^l (D(M^l)) \qquad (4b)$$

Let the set of all parties for whom 3a or 3b are satisfied be labeled A, distributed according to $B(t)$. Let the set of all parties for whom 4a or 4b are satisfied be labeled B, distributed according to $C(t)$. The difference between social welfare under M^l as opposed to M' will be,

$$S(M^l) - S(M') = \int_A [W(M^l, t) - W(M', t)]\, dB(t)$$

$$- \int_B [W(M^l, t) - W(M', t)]\, dC(t) \qquad\qquad (5) \;\blacksquare$$

The intuition behind the first part of Proposition 1 is that moving to the non-literal method of interpretation M' benefits parties who adopt the same contracts they would adopt under the literal method of interpretation but are able to do so using less costly documents (3a). The alternative regime also benefits parties who adopt different contracts than the ones they would write under the literal method of interpretation but derive greater net benefits than they would under the literal method (3b). In this scenario, the non-literal method of interpretation allows the parties to adopt a new contract (K') using a document that is cheaper than the one they would have to use to generate that contract under the literal method of interpretation (a proof of this last remark, Remark 1.1., is provided in Appendix A).

The second part of Proposition 1 suggests that moving to M' harms parties who write the same contracts they would write under the literal method of interpretation but find it more costly to do so (4a). This move also harms those who write different contracts than they would write under the literal method of interpretation and derive lower benefits than they would under the literal method. This occurs when the non-literal method of interpretation increases the cost of drafting the contract the parties would have written under the literal method of interpretation (a proof of this last claim, Remark 1.2, is provided in Appendix B).

The final part of Proposition 1 claims that the non-literal method of interpretation will only create greater social welfare than the literal method of interpretation if the benefits to parties who benefit from a reduction in the costs of drafting certain contracts outweigh any costs imposed on parties who find it more costly to write certain contracts. This proposition is perfectly general in the sense that it does not depend upon which method of interpretation is designated the literal method of interpretation.[5]

The intuition underlying these results is that a non-literal method of interpretation can improve the welfare of certain parties by allowing them to draft their preferred contract using a cheaper document. This idea can be stated as follows:

Proposition 2 If a non-literal method of interpretation M′ is optimal then $\alpha(D') < \alpha(D^*)$ for at least some parties.

Proof: This follows directly from (3a) and Remark 1.1 (proven in the Appendix).

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[5] [Compare Shavell (2006: 301)].

5. Optimal methods of interpretation for boilerplate

It seems to be widely assumed that the principal benefit of non-literal methods of interpretation is that it makes it easier for parties to draft more complete – in the sense used above – contracts. (See, for example, Battigalli & Maggi 2002.) In other words it is assumed that conventional methods of interpretation make it costly to draft complete contracts. This may have something to do with the fact that relatively complete contracts tend to be, in strictly physical terms, relatively long. This implies that when lawmakers require adjudicators to deviate from literal methods of interpretation it should be in order to make contracts more complete. That is to say, adjudicators should provide more detailed specifications of performance or make performance more sensitive to contingencies. This approach to contractual interpretation is sometimes called 'gap-filling' and is reflected in legal doctrines such as the implied duty of good faith in performance, impracticability and mistake.

To capture these ideas let us suppose that we can measure the completeness of a contract with a measure called $c(K)$. (As we have seen, constructing such a measure without arbitrariness may be no easy task as it will involve taking into consideration, in some way, the number of terms in the contract as well as their degree of flexibility and state-specificity). Also suppose that the cost of drafting documents is a strictly increasing function of the completeness of the resulting contract under the literal method of interpretation. This would be consistent with the idea that under the literal method of interpretation more complete contracts require relatively long documents and that longer documents are more costly to draft. In other words,

$$\alpha(d) = g(c(M^l(d))) \text{ where } dg/dc > 0. \tag{6}$$

When this condition holds it is clear that the only way that adopting a non-literal as opposed to a literal method of interpretation will increase social welfare is if it helps parties to reduce the cost of drafting contracts that are more complete.

> *Proposition 3*: When drafting costs are determined solely by the completeness of contracts under the literal method of interpretation, if there is an optimal non-literal method of interpretation it involves using a document to make a contract that is more complete than the one that would be made using the literal method of interpretation.

> *Proof:* From Proposition 2 we know that if there is an optimal non-literal method of interpretation then $\alpha(d') < \alpha(d^*)$. Given Proposition 2, when equation (6) holds, $c(M^l(d')) < c(M^l(d^*))$. In other words, under the optimal non-literal method of interpretation d' will generate a more complete contract than it does under the literal method of interpretation

In practice though there may not be a particularly tight connection between drafting costs and completeness under the literal method of interpretation. Contracting parties frequently have access to highly detailed 'standard form' documents which, if

interpreted literally, generate very complete contracts. As the literature on contractual innovation emphasizes, it is often less costly to adopt an existing standard form document than to create and adopt a more novel document (Goetz & Scott 1985; Klausner 1995; Kahan & Klausner 1997; Choi & Gulati 2004). Putting these ideas together implies that in practice parties may find it cheaper to draft a standard form document than a more novel document, even if when interpreted literally the standard form generates a more complete contract (Battigalli & Maggi 2002: 812). In other words, in practice equation (6) may not hold.

If the literal method of interpretation makes it costly to draft novel contracts, then deviating from the literal method can be justified in welfare terms as a means of allowing parties to reduce the costs of drafting contracts that are more novel rather than more complete. For instance, suppose we assume that under the literal method of interpretation drafting costs are a strictly increasing function of the 'novelty' of the contract. Under these circumstances, reasoning analogous to the proof of Proposition 3 will show that if there is an optimal non-literal method of interpretation it will involve causing at least one document to generate a more novel contract than it would under the literal method of interpretation. This may or may not involve generating a contract that is more complete.

This analysis provides an economic justification for interpretive methods that involve not only gap-filling but also overriding the express terms of written agreements on the grounds that they represent "mere boilerplate." These methods are commonly employed in the adjudication of contractual disputes. For example, courts frequently decline to enforce terms contained in the detailed standard forms that merchants have used to confirm a prior oral agreement.[6]

6. Extension to multiple periods of contracting

The idea that having access to similar documents can reduce the cost of producing any particular document has far-reaching implications when contracts are drafted at multiple points in time. The model presented above can readily be extended to allow for contracts that are drafted in multiple periods and drafting costs that vary over time depending upon the documents drafted in previous periods. In this extended model, in each period the costs of drafting any given contract will depend not only on the method of interpretation prevailing in the current period but also, because of the relevance of previous drafting choices, on the methods of interpretation that prevailed in previous periods.

To extend the model in this fashion we can define an *interpretive regime*, Λ, as a sequence of methods of interpretation, one for each of a potentially infinite number of periods. In other words,

$$\Lambda = (M_1, \dots M_\tau)$$

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[6] [Cites to cases under UCC 2-207].

The value of a contract in period τ to any given parties will be a function of the drafting costs in τ, which will in turn be a function of the sequence of methods of interpretation adopted in periods 1 to τ, which we can label $\Lambda_{1,\tau}$. Therefore,

$$W_\tau(\Lambda_{1,\tau}, t) = V(M(D), t) - \alpha_\tau(\Lambda_{1,\tau}, t)$$

Social welfare over any given number of periods will reflect the sum of the discounted values of the contracts adopted across the population and over time. For the sake of convenience we will ignore discounting so that,

$$S_{1,\tau}(\Lambda) = \sum_{z=1,\tau} \int_T W_z(\Lambda_{1,z}, t) \, dF(t)$$

Notice that for $x < \tau$,

$$S_{1,\tau}(\Lambda) = S_{1,x}(\Lambda) + S_{x,\tau}(\Lambda)$$

6.1 Long-run versus short-run benefits of non-literal interpretation

We can now use this extended version of the model to show that the optimal interpretive regime, for either the entire population or some sub-group within it, will vary depending upon the timeframe over which social welfare is being calculated if the value derived from contracts in each period changes at different rates under each regime. More precisely,

> *Proposition 4*: The optimal interpretive regime will vary with τ if social welfare under the interpretive regime that is optimal in the short run increases sufficiently slowly over time relative to social welfare under another interpretive regime.

> *Proof*: If the optimal interpretive regime varies depending on τ it must be the case that for two interpretive regimes, Λ^1 and Λ^2, where Λ^1 is optimal in the short run but Λ^2 is optimal the long run, for $x < \tau$,

> $$S_{1,x}(\Lambda^1) > S_{1,x}(\Lambda^2) \quad \text{but} \quad S_{1,\tau}(\Lambda^1) < S_{1,\tau}(\Lambda^2)$$

> This implies that,

> $$S_{x,\tau}(\Lambda^1) < S_{x,\tau}(\Lambda^2) + S_{1,x}(\Lambda^2) - S_{1,x}(\Lambda^1)$$

> Therefore, Proposition 4 will be valid if $S_{x,\tau}(\Lambda^1)$, which represents the change in social welfare from period x to period z under the interpretive regime that is initially optimal, is sufficiently small relative to the change in social welfare under another interpretive regime and the difference in social welfare under the two regimes at the end of period x.∎

Although this proposition is valid for all sorts of interpretive regimes, for present purposes we shall focus on interpretive regimes that involve consistently choosing one method of interpretation or another (*consistent interpretive regimes*). That is to say, we will compare the effects of choosing either the literal method of interpretation in every period (Λ^l) or some other method of interpretation (Λ') in every period.[7]

The benefits of the method of interpretation that is optimal in the first period relative to the leading alternative will decline relatively rapidly if the welfare of parties who are initially disadvantaged by the alternative method of interpretation increases relatively rapidly under that alternative. In this model, the only reason why parties' welfare increases over time is because the costs of drafting documents that they value have decreased. There are several reasons to believe that drafting costs faced by parties who are initially disadvantaged by a particular method of interpretation – in fact, so disadvantaged that the method of interpretation is not optimal for society as a whole in the initial period – will decline relatively rapidly under the corresponding consistent interpretive regime.

> *Hypothesis 1*: Drafting costs are likely to decline relatively rapidly for parties who value documents that, under the applicable interpretive regime, produce contracts with a high social value.
>
> *Rationale:* This may be the case if drafting costs decline over time because copies of documents drafted in early periods are deliberately distributed, at some cost, by actors such as law firms, publishing companies, and trade associations. There may well be fixed costs associated with distributing each type of document. In this situation it will be prohibitively costly to distribute certain low-value documents and so, ultimately, high-value documents are more likely to be made available.
>
> *Hypothesis 2*: Drafting costs are likely to decline relatively rapidly for parties who value documents that have been widely disseminated.
>
> *Rationale*: This may be the case if access to copies of documents is determined not by their original owners' investments in distributing them but instead by potential users' investments in searching for the documents. It seems reasonable to assume that the ease of finding documents will depend on how widely they have been circulated. Therefore, documents that are widely disseminated in early periods will tend to be more readily accessible in subsequent periods than other documents.

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[7] This restriction on interpretive choices is not only convenient but also plausible if we assume that lawmakers select interpretive regimes with a view to maximizing social welfare. This is because extracting the maximum social benefits from documents drafted under a given method of interpretation seems likely to entail maintaining the method of interpretation under which those documents were drafted in subsequent periods – documents drafted under one method of interpretation may not have any value under another method of interpretation.

Hypothesis 3: Drafting costs may decline relatively rapidly for parties who value documents that were relatively costly to draft in earlier periods.

Rationale: Suppose that having access to a document from an earlier period reduces the cost of drafting the same document in the current period to some constant value that is the same for all documents. Alternatively, suppose that the value is reduced by an amount that is proportional to the original drafting cost. In each case the absolute decline in drafting costs from one period to the next will be greatest for documents that were relatively expensive to produce in the earlier period.

These hypotheses suggest that from one period to another the decline in drafting costs and concomitant increase in welfare for parties who are initially disadvantaged by a method of interpretation will be relatively large where those parties initially face high drafting costs, where the contracts that are costly to draft also generate large payoffs for the parties, and where the parties are numerous. Of course, when these conditions hold the method of interpretation in question seems likely to be sub-optimal from the perspective of society as a whole as well as for this particular class of parties. Therefore, when these conditions hold and if Hypotheses 1, 2 and 3 are valid, according to Proposition 4 the optimal consistent interpretive regime is likely to vary depending on the number of periods over which social welfare is being analyzed.

These considerations suggest, for example, that the case for adopting non-literal methods of interpretation might be weaker if one takes a long-run as opposed to a short-run perspective. That would be consistent with the argument that the costs of a formalist interpretative regime decline over time as contracting parties and entities such as trade associations draft standard form contracts that are adapted to the formalist regime (see generally, Scott 2000).

6.2 Implications when societies are at different stages of development

[To follow.]

6.3 Welfare implications of giving parties freedom to choose their interpretive regime

Some law and economics scholars have suggested that the best response to difficulties in determining the optimal method of interpretation is to give contracting parties the freedom to choose the method of interpretation to be applied to their relationship (Schwartz & Scott 2003; Katz 2004; Shavell 2006).[8] This idea builds on the familiar notion that contracting parties are best positioned to know what set of legal obligations maximizes their gains from trade. The extended version of our model can be used to analyze the welfare implications of this proposal in a dynamic setting where parties' drafting choices in earlier periods influence drafting costs in subsequent periods.

In this setting it is important to take into account the following corollary to Proposition 4:

> *Corollary 4.1*: The optimal interpretive regime for a subset of the population will vary with τ if that group's welfare under the interpretive regime that is optimal in the short run increases sufficiently slowly over time relative to the group's welfare under another interpretive regime.

> *Proof*: This can be demonstrated by substituting the group's welfare for social welfare in the proof of Proposition 4.∎

Corollary 4.1 undermines the claim that it is always desirable for contracting parties to be allowed to choose the method of interpretation to govern their document. The issue arises whenever parties who choose the method of interpretation in any given period do not fully internalize the welfare of parties of their type in future periods. For instance, imagine a scenario in which only a limited number of parties of each type contract in any given period and, crucially, each set of parties only expects to contract for a limited number of periods. The fact that parties do not take into account the welfare of similarly situated parties in all future periods gives rise to an externality. In the initial period the parties will select the method of interpretation that maximizes their welfare in the current period even if choosing an alternative method of interpretation would yield greater welfare for parties of their type over several periods (because of how rapidly their drafting costs would decline under the alternative method). This choice will be repeated in subsequent periods. As a result, self-interested parties' sequential choices of methods of interpretation will not necessarily result in an interpretive regime that maximizes their collective welfare.

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[8] Parties will only be able to do this if there is some mandatory method of interpretation that maps the contents of their documents onto various interpretive regimes (Katz, 2004).

7. Conclusion

The analysis in this paper is premised on the notion that relative drafting costs are the primary factor to be considered in analyzing the consequences of adopting alternative methods of interpretation. Within that framework, the only justification for adopting an alternative method of interpretation is to help parties draft contracts that would be costly for them to draft under the conventional (literal) method of interpretation. The main argument presented above is that under the conventional method of interpretation, given that contracts are often drafted by referring to standard form documents, it will not necessarily be costly to draft complete contracts and will often be costly to draft novel contracts. This implies that any deviations from the conventional method of interpretation should not necessarily be focused on helping them to draft more complete contracts and ought perhaps to be focused on assisting parties in drafting more novel contracts. This argument also implies that the optimal method of interpretation will be sensitive to the drafting choices that have been previously made in the jurisdiction, a fact which in turn has implications for whether methods of interpretation ought to vary across jurisdictions and whether contracting parties ought to be permitted to choose their preferred method of interpretation.

This analysis still leaves significant room for additional research on optimal methods of contractual interpretation. To begin with, further research is required to justify the implicit assumption that interpretation can be a significant influence on drafting costs. In the model set out above the term "drafting costs" encompasses a broad range of costs, including the costs of identifying the relevant contingencies and feasible actions, calculating the payoffs from various contracts, and producing the document that generates the preferred contract given the applicable method of interpretation. It seems plausible that adjudicators' interpretive decisions will help parties mitigate the last category of costs, namely the costs of physically producing documents. It is less clear that adjudicators' behavior will have a significant impact on the costs parties incur in exploring the contractual environment and identifying the optimal contract. Nonetheless, there is some basis for believing that cues provided by background law can help parties perform the essentially cognitive tasks of determining what contingencies they ought to condition their performance on and what sorts of obligations they might want to assume.

Further research is also warranted on other factors that may bear on the implications for social welfare of alternative methods of interpretation. These factors have been set to one side here by making the strong assumptions that the applicable method of interpretation at any point in time is common knowledge and can be applied without cost. In reality though, some methods of interpretation will be less transparent than others and may be more costly for contracting parties and courts to adopt. The uncertainty and administrative costs associated with alternative methods of interpretation may be more significant than the drafting costs.

Appendix A

Remark 1.1: For parties who are better off under a non-literal method of interpretation, the contract they prefer to draft under the non-literal method of interpretation would be more costly to draft under the literal method of interpretation.

Proof: This is obviously true when (3a) holds. More generally though, let $d^l = D(M^l)$ and $d' = D(M')$. Also, define d^* such that $M^l(d^*) = K'$.

If the parties in question are better off under M' than under M^l then we know that,

$W(M', d') > W(M^l, d^l)$

From Assumption 5 we also know that,

$W(M^l, d^l) > W(M^l, d^*)$

Therefore,

$W(M', d') > W(M^l, d^*)$

Or,

$V(M'(d')) - \alpha(d') > V(M^l(d^*)) - \alpha(d^*)$

Since $M'(d') = M^l(d^*)$, this implies that $\alpha(d^*) > \alpha(d')$. ∎

Appendix B

Remark 1.2: For parties who are worse off under a non-literal method of interpretation, the contract they prefer to adopt under the literal method of interpretation is more costly to draft under the non-literal method of interpretation.

Proof: This is obviously true when (4a) holds. Generally though, let us define d' and d^l as in the previous remark and d^{**} such that $M'(d^{**}) = K^l$.

If the parties in question are worse off under M' than under M^l then we know that,

$W(M^l, d^l) > W(M', d')$

From Assumption 5 we know that,

$W(M', d') > W(M', d^{**})$

Therefore,

$W(M^l, d^l) > W(M^{'}, d**)$

Or,

$V(M^l(d^l)) - \alpha(d^l) > V(M'(d**)) - \alpha(d**)$

Since $M^l(d^l) = M'(d**) = K^{'l}$, we know that $\alpha(d**) > \alpha(d^l)$. ∎

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