

To: Gillian Hadfield, USC Law School  
From: Joel Watson  
Date: January 28, 2009 (revised from January 8)  
Re: Grant Proposal to The Southern California Innovation Project

**Contract Interpretation by External Enforcers (research with Alan Schwartz)**

I propose a grant from the SCIP to conduct research on interpretive styles for contract enforcement and the implications of multiple enforcement institutions. What follows is a sketch of the project, with preliminary results and notes on the central role of innovation, followed by a brief budget explanation.

Despite the contract-theory literature's progress over the years, it has yet to fully address some fundamental issues regarding contract enforcement. Among these are (a) the meaning and need for the interpretation of contracts by external enforcers, (b) why multiple systems of external enforcement, such as courts and arbitration panels, coexist, (c) why these various systems of enforcement have different interpretive styles, (d) the optimal use or limits on evidence by external enforcers, and (e) whether contracting parties and enforcement institutions have the optimal incentives to innovate on the formulation of contracts and interpretive rules. Related to these issues is the question of whether the contracting parties have preferences over the choice of external enforcer and how they may specify an external enforcer in their contract.

Our goal is to design a model of contracting and enforcement that can provide some insight on these issues. Our thinking centers on the idea that asymmetric information is at the core of contractual problems — in particular, asymmetries between the contracting parties (as a group) and the external enforcer. We emphasize the distinction between *outcome asymmetry* and *contextual asymmetry*. Outcome asymmetry refers to situations in which the parties will have more information than will the external enforcer about productive actions and other events that occur in the contractual relationship *after* a contract is established. Contextual asymmetry, on the other hand, refers to information that the contracting parties have *at the time in which they form a contract* but which may not be fully known to the external enforcer later. An example of contextual asymmetry would be relevant details of the buyer's downstream market that the parties know when they establish a contract but may never be observed by the external enforcer.

Much of the contract-theory literature focuses on outcome asymmetries. In contrast, we focus on contextual asymmetry and we aim to show that its analysis is critical for understanding the issues noted above. At this point, we have the makings of a conceptual model that helps organize intuition. In the conceptual model, each contractual relationship (a buyer and a seller) privately knows its own *type* but cannot easily transmit information about the type (or the optimal way to specify transfers later as a function of verifiable events) to an external enforcer. The external enforcer obtains information in two ways: through the details of the parties' contract and through evidence introduced by the parties in the enforcement phase. Evidence disclosure is an adversarial and costly exercise for the contracting parties; thus, whereas evidence can aid effective enforcement by increasing information, it also wastes resources. The main productive action is an investment that the seller makes. The external enforcer compels transfers as a function of information it receives (including the contract parties write and contextual evidence). The main endogenous elements of the analysis are the contractual specifications of the various

relationships in the population and the external enforcer's interpretive rule, which maps contracts and evidence into transfers. We suppose that the interpretive rule solves the design problem of maximizing social welfare (aggregate welfare across the contractual relationships).

The main exogenous objects of analysis are (1) the size and costs of the available contractual language, (2) the cost of providing strong contextual evidence (about the type), and (3) the external enforcer's level of technical sophistication. Item 1 measures the number of different contracts that can be formed and at what cost. Item 2 measures both the inherent costs of producing evidence and the amount of evidence needed to make the external enforcer aware of the type. Item 3 refers to the external enforcer's capacity for distinguishing between different types of relationships on the basis of evidence produced; for instance, an enforcer lacking in technical sophistication may be unable to distinguish between two given types. Note that both items 2 and 3 measure the *expertise* of the external enforcer to some extent.

Our method of incorporating multiple systems of external enforcement is to represent them as multiplying the contractual language. For instance, a particular set of written contractual terms may be interpreted very differently by two or more enforcement institutions, and thus we view these same contractual terms presented to two different external enforcers as effectively two different contracts. In other words, these contracts are identical except that they specify different external enforcement systems. For instance, one may specify that disputes must be handled by an arbitration panel, whereas that other may prescribe use of the court system. We also wish to examine how external enforcers may vary in their levels of expertise.

We are interested in determining how equilibrium contracts, interpretive rules, and welfare depend on the exogenous items 1-3. Such a comparative statics exercise has both normative and positive implications. On the positive side, we hope to explain some of the differences in contractual specifications and interpretation across industries and jurisdictions, as well as identify sources of equilibrium inefficiency. On the normative side, we want to explore trade-offs between investments to reduce the costs of contract innovation, investments to improve the efficacy of evidence, and investments to improve the technical sophistication of external enforcers. We also would like to suggest policies for reducing externalities, especially those that lead to suboptimal innovation of contractual form and suboptimal adjustment of interpretive rules as the distribution of contractual relationships changes.

At the core of our modeling exercise will be results on how items 1-3 relate in terms of being substitutes or complements in their contribution to welfare in equilibrium. Here are our conjectures: First, the external enforcer's technical sophistication and the size of the contractual language can be either complements or substitutes, but for large shifts in parameter values they are substitutes. Second, lowering evidence costs is a substitute for enlarging the language and is a complement for technical sophistication, at least for large parameter shifts.

These basic results have implications for how enforcement institutions are optimally designed. For example, we expect that raising the external enforcer's technical sophistication will eventually lessen the need to signal type through the contract, so then the enforcement institution and the contracting parties will optimally utilize a coarser contractual language. Likewise, a parameter shift that lowers the cost of evidence production will have the same effect. We also expect a positive relation between the efficacy of evidence production and the sensitivity of

externally enforced transfers to evidence. In other words, the external enforcer optimally shuts down the evidence channel (that is, disallows contextual evidence) when evidence production is sufficiently costly.

At a broader level, multiple enforcement institutions (such as a court and an arbitration system) may be valuable precisely because these offer different interpretive styles, effectively increasing the contractual language. Furthermore, enforcement systems with a high degree of technical sophistication and low-cost evidence will optimally utilize a coarser contractual language than will others. Also, we expect an inverse relation between the ease of providing evidence and the number and breadth of alternative dispute resolution systems.

The modeling exercise will also produce insights on innovation both by enforcement systems and by contracting parties. A case of the former would be the creation of a new dispute resolution system that has an interpretative style that differs from the styles of existing enforcement systems. Another possibility is that an external enforcement system changes its interpretive style. An example of innovation by contracting parties is an attempt to develop new contractual specifications (that is, adopt new terms or language). These various forms of innovation are likely connected and especially relevant in the context of an evolving mix of contractual relationships in the population. Consider, for instance, some new types of relationships such as start-ups in emerging industries. They may benefit from new contractual forms, but this benefit relies on an interpretative rule that recognizes the new contractual forms and tailors enforcement accordingly. Part of the social benefit of a new interpretive rule would accrue to older types, who will find that the new rule offers an interpretation of the older contractual forms that is better tailored to them. Thus, externalities may be present in the decision of whether to develop and support innovative contractual forms. Perhaps this development can be hastened by the creation of a new enforcement system (such as a specialize arbitration panel) targeted to a class of relationships.

At this stage of developing the project, we have put together a preliminary model that lacks key ingredients (it does not include evidence, it overly simplifies productive actions and enforcement, etc.) but has allowed us to begin exploring some of the logical claims made above. We have documented some of the preliminary results sufficiently to convince ourselves that our intuition is on track. We have a great deal of conceptual work to do, a more detailed model to specify and analyze, and empirical connections to explore. Grant support from the SCIP will make a big difference for this project, in terms of both quality and time line. I expect that the project will lead to at least one publishable paper within one year. I also imagine that the project will yield a second paper.