Intellectual Property as a Bargaining Environment

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Comments very welcome.[1]

This paper explores the notion of treating intellectual property law not as a set of *enforced rules* but as a set of *default rules* from which departures may be privately negotiated. Such negotiation happens, but is far from smooth, and both of those facts are important.

Patent policy relies on the possibility of negotiation. Nobody would suggest that we interpret patent law's grant of an "exclusive right" to really mean that nobody other than the patentee may practice the invention: that would be horribly inefficient (especially when a product calls on multiple patents, as is common), and we recognize licensing and other institutions as (usually) helpful contracting in the shadow of that exclusive right. At the same time, the classic economic analysis of the patent system assumes that licensing will be imperfect and will miss some gains from trade.[2]

A vast literature studies the licensing of an existing patent. In this paper I want to study contracting-in-the-shadow that goes deeper into the innovation and IP system than does a simple license of an existing patent.

The standard approach to private contracting-around-patent-policy, including licenses and licensing practices, is exemplified in the Department of Justice's *Intellectual Property Guidelines*.[3] Their implicit framework is, broadly, that if a license or licensing practice is not fairly clearly harmful, it is permitted. That is, the overall system consists of the *default rules*, plus the *option to negotiate away* from those rules subject to policy review.

While natural from a law-enforcement or broadly laissez-faire perspective, this framework makes most sense as a policy matter if (a) most licenses or licensing practices are beneficial, and (b) there are many defects in the default rules or default outcome that private negotiation could potentially remedy.[4]

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[1] I profoundly apologize for being so slow getting this written. I am a slow writer, but this was much worse than usual. I have felt that I was wrestling with big ideas and finding it hard to get a real grip on them.

[2] And, more fundamentally, if negotiations were always ideally (unrealistically) smooth, then research and innovation might be efficiently sponsored so as to ensure efficient innovation without a need for patent policy.

[3] Department of Justice and Federal Trade Commission, "Antitrust Guidelines for the Licensing of Intellectual Property," April 1995, available at http://www.usdoj.gov/atr/public/guidelines/0558.htm

[4] A third condition that would make the approach sensible irrespective of (a) or (b) would be that (c) one could promptly and reliably diagnose the good private arrangements from the bad ones. While I comment

Many observers would agree with both of these claims. Many expert observers think our patent system has gone quite badly wrong in certain respects. And whether it is well or poorly calibrated overall, the system is (perhaps for good reasons) not finely tuned to different conditions in different industries or contexts, so (b) almost certainly holds in many specific contexts even if not across the board.

But if (a) and especially (b) hold, the overall system importantly relies on private negotiation. If beneficial private negotiation often fails because of what one might broadly call bargaining problems, could policy usefully be more helpful than merely to say, in effect, "Well, if you'd succeeded we wouldn't have stood in your way"? To put this another way, the law-enforcement question is only whether this particular cross-license, grantback, or institution is on balance harmful or good, relative to the default. While that is certainly part of the analysis, I ask in a more open-ended way how public policy should respond to the observation that these private practices develop—but that they are unlikely to be perfect.

In the following sections I discuss three private patent institutions: patent pools, standard-setting organizations, prospective cross-licenses or grantbacks. When such an institution modifies default policy in a helpful way, I discuss how public policy might help it to help us, and in particular help it to overcome bargaining problems that the institution faces. I also ask whether we can draw broader policy lessons from the fact that private parties are motivated to build these institutions. I then address whether negotiations to privately *strengthen* patent protection are fundamentally different from negotiations to privately weaken it, and describe some structural ways of analyzing whether a negotiation is likely to be beneficial.

Patent Pools

When multiple patents controlled by different owners bear on a product, there will generically be a multiple-marginalization problem. If each patent owner negotiates a royalty with producers of the product, the result will tend to be a total royalty higher than the patent holders collectively would have preferred—and the producers and downstream customers presumably would also prefer a lower royalty. It is not unusual for (the prospect of) this dysfunction to prompt the formation of a patent pool.[5]

But patent pools are often incomplete: they include only *some*, not *all*, of the patents needed for a product. This could be because nobody realizes that patent X is also necessary for the product, or it could be because the owner of patent X wants to charge more than the patent pool would allow. Even in the presence of perfect and complete information, there would be a negotiation problem: while the patent pool can make all its

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below on some broad approaches to doing so, and the Guidelines go into more detail, I think it would be unrealistic to rely on claim (c) as a general claim, although of course one might be able to become confident in a particular case.

[5] For a recent study of patent pools see Lerner, Strojwas, and Tirole (2007).

members, as well as licensees and consumers, better off than if there were no pool, a better outcome yet for any one patent holder is to have all the other patent holders form an effective pool.[6] There may not be enough total surplus to give each participant a payoff at least equal to this holdout payoff (even if that would be a good idea). More formally, as Segal (1999) showed, because each participant joining a pool lowers the total royalty, thus raising demand for the product, and so confers a positive externality on non-participating patent holders (holdouts),[7] there will tend to be too little pooling even when negotiation is otherwise perfect.

In practice, patent pools also often adopt a rule of thumb, such as payouts proportional to the number of patents contributed, rather than opening up the question of how much of the total pie each participant should get. While presumably functional in terms of reducing the scope for arguments that "I should get more," such rules of thumb could also be a reason why some patent holders do not participate—although the holdout problem is most severe when each patent holder believes that the pool would form without it, and does not apply to a patent holder who believes that it is pivotal, as the holder of a truly key patent might.

Note moreover that the royalty-stacking problem is apt to be most severe when there are many separate patent owners, which is also where the negotiation problems in forming a private patent pool are apt to be most severe. Thus full reliance on unaided private negotiation may well be insufficient.

Policy Responses?

If the pooled patents truly are complementary and not substitutes, and a pool is an efficient response to the patent-thicket or royalty stacking problem, is the right response simply to *permit* it? Perhaps policy could go further, especially if the royalty stacking problem and/or the frictions of private negotiation are severe.

Policy might try to address the holdout problem either (a) by making participants feel more likely to be pivotal, or (b) by otherwise lowering holdout payoffs.

> (a) A patent holder is presumably more likely to be (or perceived to be) pivotal if a choice not to join would be observable and even publicized, so that participants and potential licensees could at least discuss the matter with the patent holder and take it into account in their participation and market choices. Another possible idea would be for participants to say "we'll participate, but only if X and Y do," or "only if at least 90% of the following set of patent

[6] In a different context, Stigler noted similarly that an oligopolist who tries to organize a competition-reducing merger or cartel "can expect almost every encouragement… except participation" from its rivals.
[7] This is Segal's contracting externality on a potential participant who has not signed up; it is distinct from the (here also positive) externality on consumers. The mechanism-design literature has meanwhile stressed that fundamental and intractable bargaining problems tend to arise when participation decisions are made by privately informed players: see for instance Myerson (2008).

holders do." Transparency of the set of relevant patents (both clarity of the rights and clarity of the list of rights-holders) seems important for making such a plan work, and is an area where policy could improve, as Bessen and Meurer (2007) forcefully argue.[8]

(b) Obviously many policies could limit a holdout's payoff, but merely aiming to *lower* that payoff seems too blunt an approach: one would want instead to try to *bring it closer* to a level commensurate with the patent's normal value, eliminating only the incremental gain from holdout. This would probably be difficult but perhaps not impossible. Thus, suppose that a patent pool forms and makes a major dent in a royalty stacking or transactions cost problem: a producer can license many of the relevant patents for a modest sum and with one payment. Now suppose that a holdout patent holder who chose not to join the pool sues a producer for patent infringement and wins. If the only role of the pool is that it lowers total royalties and thus boosts demand, then a patent holder may have better incentives to join the pool versus stay outside if its prospective damages are based not on the pool-boosted success of the product but on an estimate of sales if there had been no pool. This could give the patent holder incentives to join as if it were pivotal, even if it were not.[9]

A quite different approach might take a cue from other areas of policy such as land law and corporate finance. In land law, the concept of "eminent domain" is sometimes used—with much-debated safeguards, to be sure—so that a project that needs a large chunk of land can acquire some of it through compulsory purchase and not be vulnerable to holdout or to holdup. In corporate finance, when a raider acquires a sufficient share of a firm, it may be able to force remaining shareholders to sell.[10] These policies plausibly seem to be directed at holdout problems.

When there are multiple complementary patents, the default (any patent holder can charge what the market will bear) is apt to be inefficient, and the private solution (any can reserve the right to do so, but they can try to reach agreement not to) is hard to negotiate. If private negotiations break down, or have to be scaled back in scope (for instance, a patent pool might try to persuade each patent holder to charge a somewhat lower royalty than otherwise, rather than fully solve the multiple marginalization problem), one response (as above) is to try to smooth the private negotiations, but another is to learn from their existence: learn that there is a problem, and perhaps modify policy

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[8] This seems a very plausible practical claim, but theoretically it is less clear. In theory negotiation is hampered by asymmetric information, not by shared ignorance. Bringing out *more information* does not necessarily make for *more symmetrically* informed parties.

[9] This would surely be error-prone, but if the goal is to repair the bargaining incentives, it would be enough to get the holdout's *expected* payoff right. Making each patent holder's holdout payoff equal to what it would be if there were no pool should (in theory) ensure that there will be pool shares and prices that make the pool attractive to all members of any set S of patent holders if and only if there are joint gains to the formation of a pool containing S. However, subtle issues of coalition formation may also arise, so at this point I would regard the idea in the text as a hypothesis or conjecture to be worked out.

[10] See e.g. Yarrow (1985).

in response. For instance, recognizing that patent pools are a substantially imperfect solution to the stack and the thicket, it might make sense to issue fewer patents.[11]

Standard-Setting Organizations (SSOs)

An increasingly controversial area of patent policy and competition policy concerns what happens when a compatibility standard turns out to infringe a patent. As consensus leaders in the technology adoption process, standard-setting organizations (SSOs) often try to avoid the problems that can arise when it is belatedly learned that this is the case.[12]

The choice of a compatibility standard is inherently a collective choice, and is typically not easy to reverse once a standard is entrenched. Thus well-informed comparisons of price and performance should be facilitated before entrenchment happens, and this might operate better at a group level than via bilateral negotiations between a patent holder and a single (other) participant or potential licensee.[13] At least the first of these is not unique to standard-setting: for instance, Shapiro and Lemley (2007) have described how delayed timing and the need to sink design costs may interact badly outside that context. But it is often very important in standard-setting, and there is an institution—the SSO—that can try to deal with the problem.

As a private arrangement, however, the SSO is constrained both by contracting problems—for instance, how can one specify and enforce how hard participants should look for patents, and which participants should do so?—and by two negotiation constraints that stem from its voluntary nature: it has no authority over non-members, and membership is a choice.[14]

Perhaps as a result, and also perhaps because of (not necessarily valid) antitrust concerns, SSOs' official policies have tended to be quite cautious about addressing the patent holdup problem.[15] They often require disclosure of patents (and patent applications,

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[11] A classical form of this statement is the simple recognition that the incremental deadweight loss imposed ex post by a given running royalty is higher if there are other royalties already elevating prices above marginal cost. Thus the tradeoff between innovation incentives and ex post efficiency shifts systematically if there will be other patents in the picture.

[12] For discussions of standard-setting organizations' policies, see for instance Lemley (2002), Chiao, Lerner and Tirole (2007), or Farrell, Hayes, Shapiro and Sullivan (2007). As noted in that article, I have consulted in this area, and I am doing so currently, so readers can apply salt to taste.

[13] In a superficially different context, Segal and Whinston (2000) explore how a choice (there, whether to accept an incumbent's inducements to foreclose an entrant) that is inherently collective can be strategically manipulated, or more broadly can be badly made, if negotiations are bilateral.

[14] Rambus perhaps illustrated how this fact may constrain an SSO's ability to control conduct by a patent holder (or applicant) that is undesirable in the standards context: it withdrew from the standards body (JEDEC) during the course of its conduct, on the advice of its lawyer.

[15] An alternative view is that an SSO does not seek to represent final consumers, that direct purchasers of technology may not be terribly concerned about royalties if their rivals must also pay them, and that (in the internal politics of an SSO) patent holders and potential patent holders can therefore keep the rules relatively lax at the expense of downstream consumers. See Farrell et al. (2007, section IV) and Teece and Sherry (2003).

though this is not always stated) but, have often shied away from encouraging patent holders to make specific licensing offers in the course of standards deliberation and selection (although this may be changing: see for instance the Department of Justice's recent Business Review Letter for the VITA standard-setting process). Instead, individual participants can negotiate privately with the patent holder, and the SSO as an official matter often limits itself to asking for an assurance that patents will be licensed on "reasonable and non-discriminatory" terms.[16]

Policy Responses?

If indeed SSOs are indeed wrestling with a potentially severe failure of the normal market test for a patented technology's value (because a standard may be entrenched before royalties are negotiated), but are hampered by their voluntary and consensus nature, what might policy do?[17]

One helpful approach is for the antitrust agencies to calm SSOs' arguably overblown antitrust fears about collective royalty negotiation. Both the Department of Justice and the Federal Trade Commission have taken steps in this direction.

Courts could also try to clarify the meaning and enforcement of the "reasonable and non-discriminatory" (RAND) policies adopted by many SSOs, when patents subject to that promise are litigated. In the spirit of the *Georgia-Pacific* rule on reasonable royalties, it seems to me that the right concept is the royalties that would have been negotiated between a willing licensor and the willing members of a willing SSO at the time the choice to use a (potentially) infringing technology was made.[18] As in the suggestion above about damages in cases involving an incomplete patent pool, the motivating idea is to allow for normal negotiations but stripped of the holdout/holdup element. This could be viewed as simply contract interpretation where there is a "RAND promise."

But from a bargaining point of view, there is a case for going further. If the members of an SSO agree to address holdup by to requiring disclosure and RAND promises, what might public policy learn from that? A relatively simple and optimistic view would be that this is the optimal policy and need only be narrowly enforced. An alternative (and, I think a more credible) inference is that there is a significant problem and that this is as far as the SSO feels able to go in dealing with it, given perceived antitrust constraints and the voluntary nature of the SSO. In the extreme, an SSO might perceive that it could not prevent a non-member from engaging in (or hoping for, or maneuvering for) patent holdup, and thus that any attempt to fully address the problem would just drive ruthless

[16] See the references above for more detail on these policies.

[17] I do believe that generally this is what is going on. But it is worth keeping in mind that an SSO could potentially become a "rogue" organization, acting either as an inefficiently monopsonistic technology buyers' cartel or as a tool of collusion against downstream customers. Thus simply giving SSOs much more power might not be a good answer.

[18] The *Georgia-Pacific* decision talks about a hypothetical negotiation at the time that infringement began. In the standards context this may be quite different from when the choice was effectively made, but it seems to me that the core logic favors looking at the time of choice, not of first legal infringement.

patent holders away from membership. It would then have to choose between risking holdup by non-participants on the one hand, or limiting itself to weak rules on the other. By recognizing the problem and limiting patent holdup by non-participants or by participants exploiting weaknesses in the rules, outside policy could empower an SSO to craft rules that more fully address the problem. For instance, if courts recognize the risk of holdup, they may reduce the incentive to attempt it, by being less willing to issue preliminary injunctions or by applying the concepts of laches or implied license.

These ideas, whatever their practical merits or demerits, illustrate conceptually how policy responses can go beyond merely permitting, when a private arrangement seems beneficial but is constrained by bargaining problems. One might *learn* from the private arrangement something about the nature or severity of the problem or about possible techniques to address it. Relatedly, to minimize holdout in bargaining, one might try to *improve the prospects for successful bargaining* by limiting the extent to which non-participating parties can exploit the problem—especially the extent to which their ability to do so might be enhanced by others' partial solution, as in the patent pool example above.

Negotiating an IP-Free Zone?

Here I briefly describe three cases in which private parties sought to significantly weaken or even undo the effects of default patent policy on a going-forward basis. Most readers of this paper will be familiar with the account of *cross-licensing in the electronics industry* that I recount.[19] Many observers think, at least with hindsight, that that private arrangement was a reasonably good solution, and regret that it has perhaps significantly succumbed to the greater bargaining challenges that arise when there are more, and a more open-ended set of, players. Yet a superficially similar arrangement among auto manufacturers in pollution control technology was challenged by the Department of Justice.[20] Finally, I comment on the FTC's challenge to parts of Intel's intellectual property policy.

Cross-Licensing in Electronics

According to many in the electronics industry, patents are as apt to hinder innovation as to promote it, and for some time, major established players may have largely neutralized the patent system among themselves by agreeing to broad cross-licenses: I'll call this their Big Deal. They were thus able to design products (including innovating) and generally operate with much less role for intellectual property than might have been the case under the default rules. I will defer for now the question of whether this was a good thing.

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[19] See for instance Hall and Ziedonis (2001) and Shapiro (2004).

[20] This is a case from the 1960s and was settled rather than fully litigated, but the Department cited the case in its 1995 *Guidelines*.

Many observers think the Big Deal has broken down—not completely, but substantially. From a bargaining point of view, two plausible hypotheses might help explain how such a system would break down:

-- *Balance of interests/opportunism*: A patent-rich, manufacturing-poor participant might well have an incentive to end its participation in the Big Deal. That is, if different participants have different balances of interest between patent holding and patent use, the simplest form of the Big Deal would be unstable. If this happened over time as each participant's balance of interests shifted, it might acquire a tinge of opportunism. Of course, firms could try to negotiate a more complex system in which patent-rich, manufacturing-poor participants are compensated by means other than patent reciprocity (which they don't particularly value). But this approach would suffer from at least two problems. First, it gets a lot more complicated. Second, it could thrust participants back into rather detailed analysis of patent positions—arguably, one of the problems that the Big Deal might have been trying to avoid.

-- *Open-Ended Set of Participants*: Negotiating with a heterogeneous set of rivals may be difficult, but one would expect that it would be even more difficult to negotiate when new participants may show up unexpectedly at any time. Intuitively, one doesn't know whom one has to negotiate with.[21] Thus it is difficult, perhaps even beyond the sheer impact of actual numbers, to achieve the "design freedom" that the Big Deal may have provided to insiders.

Cross-Licensing in Automotive Pollution Control

While many observers regret the decline of the regime of broad cross-licenses in electronics, a number of automobile manufacturers apparently tried to agree on such a policy in pollution control equipment, and were sued by the Justice Department, on the grounds that the agreement eliminated competition among them in developing such equipment.[22] However, in 2001, FTC Chairman Pitofsky described this as the only federal government challenge to a research joint venture since the passage of the Sherman Act. One might therefore think that, while keeping in mind that liberal cross-licensing could be harmful, policy intervention to stop it is unlikely.

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[21] In a different context, it may be hard to find rights-holders for copyrights on old books. Apparently it is not unusual for copyright to revert to an author when a publisher allows a book to remain out of print, but authors may be dead or hard to locate.

[22] *United States v. Automobile Manufacturers Association*, 307 F. Supp. 617, 618 (C.D. Cal. 1969) (approving consent decree settling charges of conspiracy "to eliminate competition in the research, development, manufacture and installation of motor vehicle air pollution control equipment . . ." in violation of Section 1 of the Sherman Act), aff'd in part and appeal dismissed in part, 397 U.S. 248 (1970).

Intel's IP Practices

The FTC sued Intel over its practice of withdrawing key IP from its customers if they sued Intel for infringing their patents. FTC Chairman Pitofsky described the case as follows.[23]

> In one of the most widely noted antitrust enforcement actions involving intellectual property, the Commission in 1998 issued a complaint against the Intel Corporation alleging that it was a monopolist in the microprocessor market and that it had sought to maintain its dominance by denying essential technical information and product samples of new microprocessors to companies that, because of intellectual property disputes, had initiated or threatened to initiate litigation against Intel or Intel's customers. Intel's goal, according to the complaint, was to coerce other companies not to resort to the courts, but instead to license their intellectual property on terms favorable to Intel. Intel had previously provided the information and samples to many of its customers and customer-competitors, but withdrew these advantages from those who found themselves in IP disputes with Intel. The Commission alleged that anti-competitive effects included discouraging innovation efforts by potential challengers in microprocessor technology.
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> In settling the case, Intel agreed not to withhold or threaten to withhold product or technical information for reasons relating to an intellectual property dispute. The Commission agreed to qualify this provision however, by acknowledging that an intellectual property holder, including a monopolist like Intel was alleged to be, is free not to license its product or information in the first instance, but ought not to be able to curtail its supply when the customer seeks to vindicate its intellectual property rights through a range of legal and equitable remedies. Intel was also free to discontinue a license when a customer or competitor sought an injunction against Intel's sale of its microprocessors. The order gave the challenger a choice of waiving that remedy, or, if it refused to waive, allowed Intel to discontinue providing information or product.
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> The goal of the order was to avoid a "compulsory licensing" regime, even by an alleged monopolist, because of the adverse effects of such regimes on innovation. The order was designed to allow Intel and its challengers to vindicate their rights in court before an independent adjudicator, rather than resort either to self-help (by Intel) in which case the strong would almost always vanquish the weak, or to the kind of injunction (by Intel's challenger) that would threaten Intel's ability to conduct its business.

In other words, the Commission's analysis was that this "self-help" was hostile to innovation by Intel's partners, and that this problem was likely to outweigh any benefits of the injunction-free zone.

Negotiating Stronger Patent Rights

The privately negotiated departures from default rules above are in the direction of less protection, more ex post competition, and perhaps less ex ante incentive to get patents. What about negotiations in the opposite direction—negotiations to strengthen or create

[23] For a different angle, see Shapiro (2004).

"intellectual property"? In general, I think, public policy takes a more skeptical view of such negotiations than of negotiations in the direction of less protection.

> For example, suppose that the top pharmaceutical companies claimed that patent protection should be longer than it is, and all formally agreed that (a) none will challenge any patent held by another, and (b) none will infringe another's expired patent until it has been expired for at least five years.
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> Or suppose that the largest airlines agreed that, to encourage the "innovation" of flying new routes, they would create a private patent-like policy: none would enter a "new" route on which another was offering nonstop service, perhaps defining a "new" route as one on which no such service was offered as of the date of the agreement.

Such agreements would of course face a private negotiation problem in that entrants, who did not sign up front, might later challenge patents or decline to respect the prolonged patent life or the airline route agreement. But even (or perhaps especially) if a group of firms thought those were not fatal problems, I strongly suspect such an agreement would be an antitrust violation. As both ex post competition and ex ante incentives to innovate are good for consumers, why should we view negotiated departures from the default compromise in one direction much more suspiciously than in the other?

One possible answer is that we don't. In the motor manufacturers case, and arguably in the FTC's complaint against Intel, private policies weakening IP have been treated skeptically. And it would be possible to view some justifications for exclusive dealing in antitrust as strengthening incentives to "invest," perhaps in innovation, by agreeing to limit ex post competition.[24] Despite these comebacks, however, I think the general trend stands.

Another possible answer is that such deals are often applied to a substantial installed base, not only prospectively, so that they have more of the adverse ex post effect than of the potentially beneficial ex ante effect. For example, the hypothetical pharmaceutical deal might apply to existing patents as well as to the results of research not yet begun. But while this is a valid point, I doubt that it's the full reason for an asymmetric response, if indeed there is one.

A more intriguing possible answer would be that we should not think of the default rules as correctly (or Congressionally) calibrated for the *average* industry or environment. Despite bargaining difficulties, private parties may well be better able to *weaken* IP by contracting-around than to *strengthen* (or introduce) IP by contracting-around. Or, it might be about equally easy to *do*, but significantly easier for competition policy to *diagnose* as beneficial or not. If so, then up to a point it might make sense for the *default* policy to be calibrated not as an attempt to approximate the best *overall* policy but as something distinctly biased towards strong protection and to allow, and/or expect, many private weakenings but few strengthenings.

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[24] See for instance Segal and Whinston (2000).

Diagnosing Beneficial Agreements

The alert reader will have noticed that I have discussed how to learn from, facilitate, or extend beneficial private orderings negotiated in the shadow of patent law, but I haven't discussed how one would know whether a private ordering is beneficial or not.

A lot is written on how to diagnose the likely impact of a license or licensing practice: the Department of Justice and FTC's *Guidelines* give an accessible quick sample of such analysis. Often it is a very specific and fact-intensive attempt to model the effects of the practice. Thus the analyst might ask what effect there might be on innovation in a particular line of products, decide that any change in incentives for the participants will be modest, and note that there are half a dozen non-participating firms that could well also innovate in that field.

That style of analysis can be helpful, but it risks attempting to model the innovation process. At least as a complement, it seems helpful, and in the spirit of this paper, to ask when we might feel comfortable instead trusting the private interests and even learning from them, without insisting on a direct estimate or model of the effects on innovation and product-market competition. One can identify several circumstances that would push one in that direction, although probably not conclusively:

Unanimity

If all affected parties agree to contract around the default rules, and all could genuinely have said no and been at least as well off as if the deal had not taken place, then the contracting-around is presumably beneficial. Unfortunately this principle may be a bit difficult to apply, for at least two reasons:

First, unless each participant is actually pivotal (the deal would fall apart without them), the "at least as well off" condition means that, in Segal's (1999) sense, the deal has positive (or not negative) externalities on non-participants.[25] But, as we discussed earlier in the patent pool context, such deals are very vulnerable to holdouts, so we are less likely to see successfully negotiated private deals of this sort.

Second, if only from sheer numbers, it will be rare that *all* affected parties actively agree. Thus to apply the unanimity principle one would need to modify it. One reasonable-seeming modification is that it's OK to omit actual consent from some affected parties if one is confident that the deal benefits them. In particular, one might get consent from all "large" players and seek to show that consumers are not harmed. This of course brings us back to standard antitrust analysis.[26]

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[25] As in the patent pool discussion, this refers to the payoff of a potential active participant who stays out, rather than to the payoff of a passively affected consumer.

[26] This, by the way, seems a natural explanation of why antitrust analysis largely considers consumer surplus rather than total surplus.

Market Power Screen

Following on that thread, another staple of antitrust analysis is that if parties to an agreement have no market power, they probably cannot harm consumers via marketplace actions. Thus one might diagnose an agreement or a kind of agreement as likely to be beneficial, without having to assess all its effects, by noting that it is among a group of players without market power, or that similar agreements are found among such groups. Again, the *Guidelines* illustrate.[27]

Internalization

Yet another logic does not claim to sign the effect on passive affected parties, nor argue that there is none, but argues that a firm has salutary incentives to manage its own little corner of the IP world. This view of intellectual property is often associated with Edward Kitch. The idea is to give patent holders broad "prospects" that would control potential improvements and complementary inventions, on the grounds that they would have an incentive for efficient management of that sphere of innovation. In competition policy, this idea is in essence the "one monopoly rent theorem" or, in more accurate language and perhaps a broader perspective, the "internalization of complementary efficiencies (ICE)".[28] In the present context, one might have hoped that this would illuminate the Intel prospect-management practices above, except that the possibility that complements may become substitutes is one of the major exceptions to the ICE intuition.

Conclusion

Private arrangements, both short-run (licensing an existing patent) and longer-run, in the shadow of patent law can be beneficial. The conventional approach permits these (if they do not seem harmful) but does not really try to help them come to fruition. Because private negotiations often face significant bargaining difficulties, there could be scope for policy to smooth their way, potentially informed by modern bargaining theory, and also to learn from both successful and unsuccessful private negotiations where the problems are.

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[27] However, this argument also is harder to apply rigorously than many recognize. Many firms or groups of firms whose attorneys describe them as having "no market power" obviously have some. A deep question is then whether one can extend the argument to infer efficiency of an arrangement among firms who have "not all that much market power really, considering."

[28] For an exposition of ICE and some of its flaws, with primarily telecommunications-based illustrations, see Farrell and Weiser (2003).

References

Bessen, James and Steven Meurer, *Patent Failure*, Princeton University Press (2007).

Chiao, Benjamin, Josh Lerner, and Jean Tirole, "The Rules of Standard Setting Organizations: An Empirical Study," ***RAND Journal of Economics***, Winter 2007.

Farrell, Joseph, John Hayes, Carl Shapiro, and Theresa Sullivan, "Standard Setting, Patents, and Hold-Up," *Antitrust Law Journal* 74:3 (2007) 603-670.

Farrell, Joseph and Phil Weiser, "Modularity, Vertical Integration, and Open Access Policies," *Harvard Journal of Law and Technology* 17 (2003) 85-120.

Hall, Bronwyn and Rosemary Ziedonis, "The Patent Paradox Revisited," *RAND Journal of Economics* 32 (2001) 101-128.

Kitch, Edward, "The Nature and Function of the Patent System," *Journal of Law and Economics* 20 (1977) 265-290.

Lemley, Mark, "Intellectual Property Rights and Standard Setting Organizations," *California Law Review* California Law Review, Vol. 90, No. 6 (Dec., 2002), pp. 1889-1980.

Lemley, Mark and Carl Shapiro, "Patent Holdup and Royalty Stacking," *Texas Law Review* 85 (2007).

Lerner, Josh, Marcia Strojwas, and Jean Tirole, "The Structure and Performance of Patent Pools: Empirical Evidence," *RAND Journal of Economics* (2007).

Myerson, Roger, "Fundamental Theory of Institutions: A Lecture in Honor of Leo Hurwicz," unpublished (2008), http://home.uchicago.edu/~rmyerson/research/hurwicz.pdf .

Segal, Ilya, "Contracting with Externalities," *Quarterly Journal of Economics,* Vol. 114, No. 2 (May, 1999), pp. 337-388

Segal, Ilya, and Michael Whinston, "Naked Exclusion: Comment," *American Economic Review*, Vol. 90, No. 1 (Mar., 2000), pp. 296-309.

Segal, Ilya, and Michael Whinston, "Exclusive Contracts and Protection of Investments," *RAND Journal of Economics* 31 (2000) 603-633.

Shapiro, Carl, "Technology Cross-Licensing Practices: FTC v. Intel (1999)" in John Kwoka and Lawrence White, *The Antitrust Paradox*, Oxford University Press (2004).

Teece, David, and Ed Sherry, *Minnesota Law Journal* (2003).

Yarrow, George K., "Shareholder Protection, Compulsory Acquisition, and the Efficiency of the Takeover Process," *Journal of Industrial Economics* 34 (September 1985) 3-16.