

A *keirestu* approach to patents

Although many of those urging patent reform in the US say they want to increase competition and innovation, what they are proposing could, in fact, have the very opposite effect

By F Scott Kieff

Countless high-profile patent cases such as the recent litigation threatening to shut down the BlackBerry service have long drawn sharp criticism. Many commentators propose reforms to implement a variety of rules designed to weaken patents as a strategy for solving the problems of anti-competitive effects and downstream access while still providing sufficient rewards to inventors. Typical reform proposals include new rules on both patent validity and infringement, each of which would effectively undermine the strength and predictability of patents.

The credible threat that the owner of a valid patent will be able to win a court order is what keeps the patent system operating to bring new technologies and new competitors to market. Weakening patents would keep out competition. Strong and predictable patents are part of the solution, not part of the problem.

Why have patents anyway?

Lord Justice Robin Jacob, a leading English jurist and patent scholar, often reaches across time and the Atlantic Ocean to remind us of Mark Twain's Connecticut Yankee. The Yankee went back in time and found himself in King Arthur's Court, where on the very first day of his new administration he created a patent system in the hope of inducing technological progress. But Lord Justice Jacob also reminds us to be appropriately sceptical of intellectual property, because even the word "intellectual confers a respectability on a monopoly which may well not be deserved ... [a] squirrel is a rat with good PR".

Many see patents as tools for providing direct incentives for inventors to invent. And patents probably have this effect, to some extent. Sure, dangling a carrot in front of a rabbit is more likely to provide an incentive for the rabbit to leap forward than not, all other things being equal. But when the rabbit is being chased by a dog and sanctuary lies off to the side of the carrot, the net impact of the carrot on the rabbit's direction is likely to be greatly attenuated, if even observable.

Designing a patent system to be targeted in providing a direct incentive effect for inventors to invent would be tricky. To what extent does the promise of a patent really have an impact on an individual inventor's decision to invent? Is necessity the mother of invention? Or do the promise of fame and other kudos drive inventors more? How accurate must those offering these inducements be in targeting truly inventive efforts in order to achieve the desired inducement effect?

Substitutes for strong patents may even match the patent system's ability to provide a direct incentive to invent, although there are important reasons to be sceptical that this could be done without imposing other large costs. But most reforms and substitutes – even direct cash payments to inventors – utterly fail to achieve the main goal of a well-functioning patent system.

The late Judge Giles Rich, a principal drafter of the present American Patent System, leading jurist, patent scholar and all-around Dean of Patents, criticised the focus others placed on the incentive to invent. Writing a decade before America's 1952 Patent Act, Rich urged that focus be placed on what he "called the inducement to risk an attempt to commercialise the invention",

Coordination hinges on the credible threat of injunction

referring to “the ‘business’ aspect of the matter which is responsible for the actual delivery of the invention into the hands of the public”.

Patents facilitate commercialisation

When patents are enforced with clear and robust rules, and backed up by a strong right to exclude, they serve an essential coordinating role in facilitating the complex process of getting inventions commercialised. Patents help get inventions put to use broadly and rapidly.

Bringing an invention to market requires coordination among many complementary users of that technology, including capitalists, developers, managers, labourers, other technologists, manufacturers, marketers and distributors. Patents help this diverse group act in a coordinated fashion in at least two distinct ways.

First, the right to exclude associated with a published patent acts like a torch in a dark room in drawing to itself all those interested in the patented subject matter. This beacon effect gets all the diverse individuals to interact with each other and with the patentee.

Second, everyone’s expectation that the patent can be enforced against anyone is exactly what provides these individuals with the required incentive to strike deals with each other. This bargain effect falls apart if everyone knows the patent can’t be enforced.

The profit potential associated with an enforceable patent incentivises everyone in the commercialisation process. Not least of all, for example, the promise of financial payoffs is what brings the essential capital investments to start and sustain businesses.

Strong patents increase competition

Although some may worry that adding patents to an industry could decrease competition, the natural experiment that history has provided in the field of biotechnology shows the opposite result. As the leading jurist Judge Frank stated over 50 years ago, in the context of a David v Goliath battle, successful competition is dependent upon investment in David; and this investment will not occur unless David is armed with the patent slingshot.

The landmark *Chakrabarty* decision by the US Supreme Court in 1980 resolved what some thought was an open question and confirmed the availability of patents in basic biotechnology. The rest of the world made the opposite decision and still has various rules that block effective patent

The credibility of the threat that the patent will be enforced with a right to exclude is at the heart of a well-functioning patent system because it helps the diverse individuals needed to commercialise technologies actually coordinate with each other. Strong patent protection improves the bargaining process by helping both sides of the potential transactions over patents.

When patents are not enforced by a strong right to exclude, the patentee’s incentives to enter into deals are disrupted. Court-awarded damages in general often are seen to under-compensate for harms compared to the price a property owner would receive for selling permission to infringe, which is typically why the infringer decides to infringe in the first place. Under-compensation also can occur even when courts enhance their damages awards to make up for this effect, because many damages awards don’t ever get collected due to the limited liability of the corporate form and protections of bankruptcy. To be sure, some question the magnitude of the under-compensation problem; and it is a topic of debate in the literature over property rights generally.

But totally separate from the under-compensation problem, the use of only a damages award also creates a prisoner’s dilemma or collective action problem among potential infringers in which each individual’s dominant strategy is to infringe in order to garner more of the potential gains from exchange for itself. That is, the threat of an injunction is particularly important for the impact it has in limiting each potential infringer’s incentive to infringe. Without an injunction, the patentee will not have adequate incentive to bargain with each infringer because such bargaining will not yield effective protection from that infringer or other infringers. Ironically, the patentee faces what patent sceptics call an anti-commons problem. The patentee would want to get a binding commitment from each of the many possible infringers about the extent of the infringement, but because none of them can sell such a binding commitment under a regime where only damages are available, they leave the owner facing a thicket of infringers.

Even if we imagine some way to maintain the patentee’s incentives, such as by paying some really big cash payment from somebody, setting aside the problems of determining who that would be and how

much they would pay, the many complementary users of the patented subject matter, among whom we want bargains struck, will face a drop in their incentives even to be drawn together without the threat of an injunction. This incentive is not maintained by replacing the patent injunction with an award of damages.

Often, price is not the only important term in the deals society wants to see struck and courts are woefully inadequate compared to the marketplace in determining and enforcing these other terms. Private ordering among parties can lead to textured contracts having many terms other than price, such as a host of seemingly esoteric and unique provisions including technical support, field-of-use or territory limitations, grant-backs, cross-licences, payment schedules and most-favoured-nation provisions. A quick look at a typical patent licence document shows it is usually much longer than the few lines needed to list the patent, the price and the way the price will be paid. The promise of some share of a possible damage award does little to mitigate risk of loss associated with a breach of contract relating to these many complex terms other than price.

This failure in mitigation is increased the more that the investments surrounding those terms cannot otherwise be insured, hedged, diversified or deployed to other uses. For example, many of these terms are tied to a particular individual’s unique skills, time and relationships. What this means is that the more the players approach each investment decision simply as one item in a large portfolio, the more they will not care whether the investment is in an activity associated with a liability rule or a property rule. Conversely, the more the players are deploying unique assets and the more those investments cannot be insured, hedged or diversified – which is often the hallmark of market entrants – the more they will care whether the enforcement is with an injunction or damages.

Put differently, the more the activity is protected by damages only, the more only large portfolio players will elect rationally to invest in it and the less it will be rational to invest unique skills and unique assets. In this way, avoiding injunctions, which often is urged in the name of increasing competition, has the paradoxical effect of favouring large players, not market entrants.

protection for biotechnology. As a result, only in the US and only since 1980 have patents been available in modern biotechnology.

While the US, Europe and Japan each had large biotechnology companies, often collectively called Big Pharma, before 1980, and still have had them after 1980, and while companies in all three regions have access to comparable technological and capital resources, only in the US and only since 1980 has the biotechnology industry also included a steady pool of roughly 1,400 small and medium-sized companies that is consistently turning over. The unique growth in the biotechnology industry in the US has directly benefited both the basic biological research community, by providing expanded resources such as funding, and the general public, by providing better goods and services in important industries such as healthcare. The data shows that adding patents has spurred the US biotechnology industry to be the most vibrant and competitive in the world.

Keiretsu strategy uses weak patents to keep out competitors

Of course, coordination is something that is not only used in the good way that leads to increased commercialisation. There is a bad type of coordination as well. What is paradoxical about so many of the reforms urged by patent critics is that they would end up facilitating the bad type of coordination that decreases competition and access. This bad effect refers to the coordination among large, established businesses to keep out competitors.

Consider what might be called a *keiretsu* strategy for dealing with patents. The term *keiretsu* refers to the large conglomerates in Japan, where the patent system is well known to be replete with a great deal of essentially weak patents and devoid of strong ones. The transaction costs of litigation and conflict that are likely to ensue in a system populated by only large numbers of low value patents can be of real help to the *keiretsu* because they make it easy to have large numbers of skirmishes while avoiding the threat of death blows.

While large numbers of skirmishes do have high transaction costs, those costs are worth it because they buy a great deal of benefit for those in the battles.

First, they allow the battling *keiretsu* to communicate with each other in a way that may be more forthright than a direct conversation (ie, they solve a trust problem). Seeing where an opponent will spend

resources to fight can communicate more than a direct conversation about what territory is most coveted. And the extensive exchanges of documents and sworn deposition testimony that are so infamous in the US litigation system communicate vast quantities of detailed information.

Second, these lawsuits allow the battling *keiretsu* to communicate with each other in a way that may be more protected from antitrust review than a direct conversation (ie, they solve an antitrust problem). The taking of one territory while yielding up another through a set of court battles and related settlements will more easily escape antitrust scrutiny – and also will more easily mitigate the damages awarded if any antitrust action is brought and won – than would a direct conversation to divide these territories.

Third, having large numbers of patents can be a simple tool for extracting a higher price after regulatory interventions, because in the big antitrust actions brought against large patentees, such as the well-known *IBM* patent litigation in America, the amount the regulators allow the companies to charge is often based in part on the simple total number of patents in its portfolio.

But what is essential to this *keiretsu* model is that only weak patents be available, because strong patents could end up as the slingshots able to take down the Goliaths.

Patent rules that turn on questions of judgment are fundamentally anti-competitive

When it comes to reforms, the large players would far prefer to have a set of rules that depend on the ability to finance expensive lobbying and litigation efforts, because then they will predictably beat the little guys. Legal rules that boil down to the personal judgement of a government official, such as a judge or commissioner, fit the bill perfectly.

For example, much is made of the problems of so-called upstream patents and the benefits of so-called downstream patents. Upstream patents are said to be bad because they block downstream use. Downstream patents are said to be good because they help important industries.

The problem with this dichotomy is that it is entirely false and narcissistic. It takes only a moment to notice that terms such as upstream and downstream are so relative that they simply are synonyms for things to be bought and things to be sold by any individual, who will of course want everything she needs to buy to be free and everything she wants to sell to be protected with property rights. No principled or even

Patents don't cause an anti-commons

objective set of facts is offered as the basis on which to test whether a given patent would pass muster.

In contrast, to the extent the legal rules hang on pure questions of fact, such as whether a particular thing occurred by a certain date, then the information needed to decide the question is available to everyone in the patent game upfront – patentees and infringers. More importantly, the ability to influence a court or agency decision on a question like this hangs less on relative size of the parties' litigation and lobbying budgets. Eventually a true answer can be found.

The bottom line

Most proposals for patent reform are responding to an imagined, but unreal, problem. The data shows that strong and clear patents don't hold up access or cause monopolies. To the contrary, keeping the credible threat of an injunction behind patents is essential for facilitating the type of coordination among complementary users of a technology that is needed to get it successfully brought to market.

Ironically, creating a system of weak patents, as most patent critics urge in the name of increasing access and decreasing competition, would probably improve the large established players' ability to coordinate with each other to keep competitors out and frustrate commercialisation of new technologies. ■

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A great deal of the recent public debate about patents is hugely misled by some academic work on the theoretical problem called the anti-commons. This work is misguided when targeted at patents because there is no anti-commons problem with patents in theory or in practice.

The academic work on anti-commons stresses the degree of fragmentation of interests in an asset – ie, on how many different people have a say over its use. But more important than the number of people who have a say are the type of people and the type of say they have.

Focusing only on the number of patent permissions needed to use some technologies, some patent critics argued that the patent system could create what some academics call an anti-commons. But more recent academic work has explained why the supposed anti-commons problem simply does not apply to a well-functioning system of clear patent rights enforceable by a right to exclude.

The US patent system is fundamentally different from the unused storefronts of the post-socialist economy that were the topic of the initial anti-commons research. When the permission of bureaucrats is required, as was the case in the post-socialist economy, efforts by such bureaucrats openly to trade their permission for personal gain are likely to trigger various forms of legal liability for graft, bribery, public corruption and the like; and the market for buying required approvals from bureaucrats is likely to be relatively thin.

Patent rights are different, because a US patent owner does not have the same incentive to avoid open transactions. Transactions over patents are not only legal, they are important in monetising the value of the patent. In other words, patentees have a strong incentive to encourage use.

Transactions over patents are also different from the deals with post-socialist apparatchiks precisely because the formal legal rules enforce patent-related transactions. Unlike the bureaucratic permissions of the post-socialist state over which transactions so often failed, patents are clear, certain and owned by a person who is easily findable for free on the web at www.uspto.gov and who can openly extract value for trading them.

One could imagine that the number of patent permissions needed to get a business done would lead to difficulties structuring the needed transactions as well as high prices. But even a quick scan of the internet shows that this problem is not real. The typical laptop computer represents a bundle of thousands of patent and other intellectual property permissions, and yet the negotiation to buy one takes only a few clicks of a mouse and costs only one to two thousand dollars.

The proof is not just on the internet or anecdotal. Several rigorous surveys have been conducted of basic scientists to determine as a matter of fact whether patents actually are interfering with their work. Despite there being many patents in basic science, having many diverse owners in academia and in business, there just is no evidence that a significant number of scientists are getting held up by the need for patent permissions. Many are given express permission for free and many others are in effect given permission because the patents simply are not being enforced against them. The empirical data is in and shows that patents just don't block science.

When breakdowns in negotiations do occur, it makes sense seriously to question the charge by patent critics that the patentee is always to blame. Patents are wasting assets, with at most a 20-year term and vulnerability to defences of laches and estoppel. Just because a patentee is not looking to make a deal there is little reason to think someone interested in making one should not make an offer too good to refuse. Imagine a rule that allows me, anytime I see that you are not putting your car to a use I'd like, just to take it and pay later whatever price a court orders, if you elect to sue all the way to final judgment.

Refusing to enforce patents when there is a breakdown in negotiations would suffer a fundamental circularity that would create perverse, harmful incentives. If the ability to avoid the injunction hinged upon the failure of a deal getting done, then there would be a markedly increased incentive for those wanting to obtain use through court-ordered terms to resist striking licensing deals. A legal test that rewards a failure to cooperate would lead to a decrease in cooperation, not an increase.