

## TIIP Review of

F. M. Scherer, "[The Political Economy Of Patent Policy Reform in The United States,](#)"  
mimeo, Harvard University (2007)

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### Overview

In this paper, Professor Scherer describes a twenty year period of strengthening of patent and copyright enforcement mechanisms, both in the U.S. domestically and abroad. In some instances (e.g. Bayh-Dole and Hatch-Waxman Acts), the policy changes were the result of thorough and sound analysis. But in other instances (e.g. the Federal Courts Improvement Act) they weren't.

An implicit assumption in these policy debates was that intellectual property was a decisive factor in determining the level of private R&D investments. But as Professor Scherer points out, a considerable body of economic research shows that, more often than not, patents are of secondary importance (one exception is pharmaceuticals).

Professor Scherer presents a historical perspective that rarely appears in this literature. The paper is worth reading simply for its references because they remind us how much empirical research on the effects of patent policy has been forgotten by contemporary scholars, especially among theoretical economists and legal scholars. It also offers important lessons about the political economy of policy reform. Legislators can and do choose to ignore important evidence and analyses when it suits them. After the fact, the rationales for enacting such changes are often assumed to be correct. Meanwhile, the contemporaneous research disputing those assumptions gathers dust in the libraries.

### Sketch of the Article

The paper is in seven sections. After the introduction, Professor Scherer briefly sketches the early history of patent systems from the awarding of exclusive privileges in feudal times to the widespread adoption of patent laws in the late 18th and early 19th centuries (section 2). That section concludes with the American experience of the 1930s-1950s, a time in which antitrust settlements frequently involved compulsory licensing of patents.<sup>1</sup> In section 3, professor Scherer reviews his own early research on the effects of compulsory licensing and patents more generally (Scherer et al. 1959, Scherer 1977).<sup>2</sup> These findings were generally replicated by research for the U.K. (Taylor and Silberston 1973) and in a series of surveys conducted by different authors in the U.S. (Mansfield 1981, 1986, Levin et al. 1987, Cohen et al. 2000).

In Section 4, Professor Scherer takes up the "impeti" to the policy changes adopted in the United States in the 1970s and 1980s. The short answer is productivity growth, which

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<sup>1</sup> Scherer notes that literally thousands of patents were affected by these settlements.

<sup>2</sup> This was joint research with eight colleagues; all were students of Georges Doriot, the famous early venture capitalist. They found that, with rare exceptions, whether or not well-established corporations could expect patent protection was typically unimportant in their decisions to invest in research and the development of new products and processes, and that prior compulsory licensing decrees had little or no unfavorable impact on research and development decisions,

decelerated around 1970. At the time, scholars argued that superior technology had provided the United States with a comparative advantage in international trade following World War II, but this advantage had begun to decline with the post-war recovery of Japan and Western Europe. Some argued that U.S. technological leadership could be restored by patent policy reforms to strengthen U.S. patent enforcement.

Section 5 presents an informative history of the major patent policy changes adopted in U.S. after 1979. These include the Bayh-Dole Act, The Federal Courts Improvement Act, and the Hatch Waxman Act.<sup>3</sup> In addition, there were the 1995 revisions to the antitrust guidelines for licensing intellectual property and long lived efforts to increase patent rights in other countries, culminating in the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement adopted in the 1993 Uruguay round of GATT negotiations.

In section 6 of the paper, Professor Scherer investigates how the phrase “intellectual property,” became, over time, the standard terminology of copyrights and patents. Section 7 of the paper concludes by presenting 10 recommendations for policy reform.

### Important Contributions

For the sake of brevity, this summary presents just a few of Professor Scherer’s most important contributions. Hopefully this will encourage you to read the paper and absorb many of the other important points he makes.

We return to section 3 of the paper, where Professor Scherer outlines four conclusions of his early research on the effects of patents, and the numerous studies that followed. First, alternative barriers to rapid imitation leave a substantial class of cases in which innovators can anticipate revenue gains exceeding their innovation and production costs even in the total absence of patent protection. Second, established firms are driven to undertake their own innovations to avoid being overtaken by aggressive rivals. Third, patent protection does enhance profit expectations in some industries, e.g., pharmaceuticals.<sup>4</sup> Fourth, patent protection held by established firms may diminish incentives for innovation by upstart firms and thus weaken incentives to maintain a vigorous innovation pace.

As Professor Scherer points out, quite remarkably, this body of scholarship was largely ignored by the legal community. And it was often ignored by policymakers, even when they sponsored a number of these studies and included them in the official record. Interestingly, among economists contributing to the explosion in theoretical work on patent systems after 1980, most assumed that patent protection was the only or principal barrier to rapid imitation of an innovation, and largely ignored the empirical evidence to the contrary.

An additional conclusion from these studies is that intellectual property was an unlikely explanation of the productivity slowdown of the 1970s (see Section 4). Such an argument clearly overlooked the more complex sources of the decline. While Professor Scherer

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<sup>3</sup> Scherer also mentions the numerous extensions of copyright terms that occurred after 1962.

<sup>4</sup> For example, Taylor and Silberstein (1973) found that the absence of patents might reduce industrial R&D in general by 8 percent, but in pharmaceuticals the decline would be 64 percent.

does not mention it, that argument also neglects the basic fact that the U.S. patent system is equally available to foreign inventors.

It is important to keep these insights in mind when examining the actual policy changes adopted in the U.S. (Section 5). Professor Scherer provides a lengthy discussion of the 15 years of study and political debate culminating in the Bayh-Dole Act and Stevenson-Wydler Acts of 1980. These are the laws that permit private firms to obtain patents on products and processes developed using publicly funded R&D and encouraged government agencies to commercialize technologies they helped to develop. In many instances, the conclusions of this research were embodied in the final legislation and subsequent executive orders. The legislation explicitly reserved the government's right to require wider licensing of a patent if there was a failure to commercialize or there were monopolistic abuses in the technology's commercialization.<sup>5</sup> Professor Scherer points out that this language, which is admittedly confusing, is often forgotten and remains largely unused.

This legislation had significant effects for universities. Many established licensing offices to exploit their newly obtained patent rights and substantially increased their patent filings. Professor Scherer notes that Bayh-Dole may have shifted the focus of some university research away from basic research to applied research, and the process of filing patent applications may be delaying the publication of results from federally funded university research. These remain unanswered questions. He also notes the reluctance of the National Institutes of Health to exercise its march-in rights to address instances of drug pricing that appears excessive relative to firm's costs of production, its own R&D invested, and risk.

Professor Scherer then takes up the creation of a special court for patent appeals, which was adopted in the Federal Courts Improvement Act of 1982. A single court of appeals, with expertise in patent law was supposed to address three problems. The first was an excessive case load of patent cases appealed to the district courts. The second was diversity in precedents which was not resolved, since the Supreme Court only rarely took up patent cases. And the third, following from the second, was a concern over "forum shopping by plaintiffs and defendants seeking the most favorable jurisdiction in which to try their cases.

Professor Scherer points to the Hruska Commission (1975), which examined each of these concerns and made its own proposals for change. Interestingly, that commission found that patent cases comprised less than one percent of the appellate workload, and were not major contributors to the perceived appellate overload. Nor were they a major contributor to conflicting legal doctrines (of 90 such conflicts identified by the commission, only 3 related to patents). What the commission proposed was a nationwide Federal appeals court of general appellate jurisdiction to which other Federal appellate courts, or the Supreme Court, could refer cases for decision. It soundly rejected the notion of a specialized appellate court for patent appeals, arguing it would reduce the quality of decisions and might even be vulnerable to capture.

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<sup>5</sup> Professor Scherer describes these as "march-in" rights.

Nevertheless, there were continued efforts to create a specialized court of appeals. Despite the literature described above, one House Judiciary Committee report suggested it had inquired "deeply into technological innovation as an element of productivity in the American marketplace" and cited witness testimony arguing that the new court would be "one of the most far-reaching reforms that could be made to strengthen the United States patent system in such a way as to foster technological growth and industrial innovation."

Although floor debates concerning the proposed new court asserted it would "not substantively affect current [patent] law," that prediction turned out to be wildly wrong. The new court affirmed the validity of about 2/3 of the patents reaching it, whereas the regular Courts of Appeals had affirmed only about 1/3. This, of course, affected District Courts, which followed suit, and accepted the validity of a higher percentage of patents than previously. The new court also extended patentability to computer software and business methods, and, among other things, revised the principles for determining damages for infringement, resulting in increased damages awards.

The consequence was increased numbers of patent applications and increased numbers of patent attorneys. R&D expenditures however did not increase as a consequence of the changes (see Figure 2 in the paper). Professor Scherer concludes the strengthening of patent protection, although advantageous to patentees (and patent attorneys), was disadvantageous to innovators who faced an increased danger of infringing another's patent.

Professor Scherer then describes the process that led to adoption of the Hatch-Waxman Act in 1984. All interested parties were involved in arriving at the compromises underlying the legislation, and the legislative hearings are characterized by Professor Scherer as "a model of how proposed legislation should be considered." The result was increased share for generic drugs, but significant patent term extensions. Professor Scherer notes that a plausible argument can be made that the Act shaped an ideal compromise in stimulating pharmaceutical innovation in that longer patent protection increased the profitability of patented drugs, while the acceleration of generic competition led to intensified efforts to discover and test new and improved drugs.

Professor Scherer provides a lengthy history of U.S. efforts to harmonize patent laws in both developed and developing countries. He points out that the benefit of such changes to developing countries is ambiguous in theory and the available empirical studies have been equally ambiguous. His own view is that for most low-income nations, granting patents on first-world products would reduce welfare. He argues that first world nations should not retaliate against those countries when they use compulsory licensing to obtain patented drugs from other low-price nations. Instead, he argues that richer nations should generously fund the development and distribution of drugs and vaccines to reduce the burden of diseases common in the third world.

In his conclusions, Professor Scherer summarizes what he thinks are the effects of the American policy changes of the last quarter century:

The patent law profession in particular thrived. But the changes brought negative consequences along with the positive. In particular, by encouraging the proliferation of patents covering inventions of dubious novelty and increasing the statistical probability that knowing or inadvertent

infringement of patents leads to dire consequences, it increased the risks as well as the rewards from inventive activity. It is far from clear that the positive effects outweigh the negatives. Fortunately, as economic studies have shown repeatedly, patents do not play a particularly important role in most fields of industrial innovation, and equally fortunately, those who advise industrial leaders in their journeys through the patent minefield are adept at negotiating solutions that in most instances avoid serious impediments to the pace of technological progress.

### Proposals for Reform

In his conclusion, Professor Scherer outlines a number of possible reforms and some are quite provocative. In particular, he argues the government should be more willing to exercise its “march-in rights” under Bayh-Dole and that, if necessary, the language of these rights should be made more precise. To address the potential asymmetry in patent litigation when the plaintiff does not engage in commercial activity (the so-called trolls) Professor Scherer suggests that damages be limited to reasonable royalties (and not lost profits), ideally determined via arbitration. Professor Scherer supports the idea of an explicit “research” exception to charges of infringement available, at a minimum, for non-profit organizations. He also argues that in instances where the development or commercialization of medicines and other therapies are inhibited by patents on business methods, computer software, natural processes, DNA sequences, or research tools those patent holders should not be permitted to obtain injunctions.

### Conclusion

This is an excellent article, thoughtfully written by a scholar who has made important contributions to the innovation literature for more than 50 years. As a contributor to policy discussions he is also mindful that economic research can, and more often should, lead to better decisions. Unfortunately that does not always happen and Professor Scherer has provided us with many detailed examples of how and why these outcomes emerge. This is an article that should be widely read.

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