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Is the US Patent System Endangering American Innovation?

a Congressional briefing luncheon with

**Adam B. Jaffe, Professor of Economics, Brandeis University
co- author of *Innovation and Its Discontents: How Our Broken Patent
System Is Endangering Innovation and Progress, And What To Do About It***

Susan DeSanti, Director of Policy and Planning, Federal Trade Commission

**David J. Kappos, Vice President, Assistant General Counsel, Intellectual
Property, IBM.**

Moderated by Congressman Jim Cooper (D-TN).

hosted by
Athena Alliance and
the Congressional Economic Leadership Institute

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June 8, 2005

The session began with welcome and preliminary remarks by David Klaus, President of CELI. Next, Kenan Jarboe, President of Athena Alliance, set the stage with a quote from Dr. Jaffe's book:

In the last two decades, however, the role of patents in the U.S. innovation system has changed from fuel for the engine to sand in the gears.

Rep. Cooper then introduced the speakers.

Professor Adam Jaffe began by noting that most of his presentation is discussed in detail in his book, co-authored with Josh Lerner of Harvard University: *Innovation and Its Discontents*. (A shorter summary of the book is available as a paper with the same title.)¹

According to Professor Jaffe, two changes have occurred in the past few years in the patent process. Patents have become easier to get. At the same time, court decisions have made patents easier to enforce, and increased monetary damages and other rewards from enforcement. This combination creates strong incentives to wield patents as offensive competitive weapons, rather than defensive protectors of innovative products.

The result is an increase in market uncertainty – and a less than optimal level of investment. Patent litigation is expensive and uncertain. The *threat* of litigation can force innovators to pay substantial royalties to others, or to abandon development of new products and processes altogether. Companies' attention and resources are diverted from innovation to litigation strategy, thereby undermining U.S. competitive advantage in developing innovative new technology.

The problems stem from both the operation of the US Patent and Trademark Office (PTO) and the incentives for litigation.

Patents are supposed to be granted only if the invention is “novel” and non-obvious. However, the combination of underfunding/understaffing at the PTO and court decisions on legal standards has resulted in significant dilution of these standards over the last 15 years.

The underfunding problem is exacerbated by the diversion of funds (in the form of patent fees) from the PTO to other uses (see Chart 1).

The main problem is not just “silly” patents, e.g. the self-buttock-kicking-machine. More important than silly patents are patents granted to “inventions” which are obvious. This creates uncertainty for investors and inventors facing possible infringement claims.

As a result, a vicious cycle has been created: an overwhelmed PTO, along with lower standards, means that patents are easier to get. Since patents are easier to get, there are greater incentives to file for more and more patents (for things that would not have been patented before). As a result, the PTO is even more overwhelmed (with dubious applications).

Until 1984, there was a decline in the number of patents per capita. Since then, patents have dramatically increased (see Chart 2). Some of this is a real increase in invention; a major source of the increase, however, is more marginal patents.

The review process should be strengthened and the quality of patents improved, so that only truly innovative inventions are granted patents. Two steps toward reforming the

¹ See <http://www.nber.org/~confer/2005/IPes05/jaffe.pdf>

patent granting process are more resources for the PTO and the injection of more information into the process (from the outside world).

The key to patent quality is information. In today's complex and fast-changing world, patent examiners simply cannot, acting on their own, adequately "search" to determine if a pending patent should be granted. There is a need for incentives and opportunities for third parties to come forward with information showing that the idea behind a pending patent is not new or was obvious to people in the field. This could occur both in a pre-grant submission of what is called "prior art" (evidence that the invention existed before) and a post-grant re-examination process.

Reforming the "continuations" process, which allows applicants to keep patent applications going and continually modify them over time to keep the application pending even though it was originally denied, would be another improvement.

The other part of the problem is litigation. The litigation process aggravates the problem because of the presumption that a PTO-issued patent is valid. It is harder to invalidate the patent than it is to prove infringement. "Clear and convincing evidence" is needed to prove invalidity; only "preponderance of the evidence" is needed to prove infringement. But the evidence is clear that patents cannot necessarily be assumed to be valid. Given this presumption, there is a greater danger of attempting to fight an infringement claim. In addition, the alleged infringer is subject to triple damages for "willful infringement," even if no copying occurred, and may be subject to injunctions which shut down entire operations.

The playing field between parties in patent litigation needs to be level, so that the threat of litigation based on dubious patents is not so frightening. Some ways of doing that include: switching to "first to file" rule while requiring publication after 18 months, so people can know what patents are out there; increasing protection for people who unknowingly use patented technology (protection for "prior use"); and creating a right to request re-examination within the PTO to permit more cost-effective and reliable determination of the validity of contested patents.

However, there will always be patent litigation. Mistakes will occur and there are inevitably close cases in which no one can know for sure if a patent will be held valid. Because of this, there is a need to reduce the financial danger posed by pursuing new products in the shadow of murky patent situations. This would include strictly limiting triple damages and creating some notion of apportionment of damages so that a small component does not endanger entire product investments.

Professor Jaffe closed by noting that these are difficult issues involving important trade-offs. Making it easier to prove patent invalidity levels the playing field between patent holder and alleged infringer. But it also undermines the value of patent protection for those who really deserve and need it. Making it harder to get injunctions shutting down infringers reduces the risk associated with threats of litigation. But it also alters, perhaps fundamentally, the meaning of patents as "intellectual property." These are the important balances that need to be reached as the process of patent reform moves forward.

Susan DeSanti then described the work of the FTC. The FTC got involved in the issue of patents because of the rising importance of intellectual property as a business asset. After an extensive set of hearings, the FTC came out with a report, *To Promote Innovation, The Proper Balance of Competition and Patent Law and Policy* in October 2003.² During early 2005, the FTC co-sponsored a series of three town meetings with the National Academies' Board on Science, Technology, and Economic Policy (STEP) and the American Intellectual Property Law Association (AIPLA). STEP had published its own report on patent reform, *A Patent System for the 21st Century* in April 2004.³ The AIPLA had issued extensive comments on both reports. This series of meetings was to conclude with a conference in Washington, D.C., on June 9, 2005. (A summary of those town meetings can be found at the FTC Website.)⁴

From the FTC's perspective, the issue is innovation. There are two competing mechanisms for promoting innovation: competition and patents (which are anti-competitive grants of limited monopolies). Public policy should be to only grant monopolies when there is an overall gain to society. Since granting patents limits competition, there needs to be a clear understanding of the trade-offs involved.

The problem from the FTC perspective is that right now there are too many questionable patents – which get in the way of competition in those areas.

She then gave examples of how patents work in two different sectors: biotech and software. In biotech, a company faces a tough set of options if it wants to get into a new area of research where there may be questionable patents:

- 1) It can do nothing – not do the research;
- 2) Since it can't question the validity of the patents until there is an infringement case, it can go ahead but face the risk that it will be involved in costly litigation later on; or,
- 3) It can license the questionable patents – which is in effect a tax on innovation.

The situation is more complex in software. In biotech, everyone generally knows what all the patents are. Software companies operate in an environment where there are hundreds of overlapping patents. The only way to know what is out there is to go ahead with product development and see if an infringement case appears. At that point, the companies can negotiate their way through the patent thicket.

These differences point out the problems in crafting solutions. Software and biotech companies agree on the need for a post-grant review process (as advocated by Jaffe and others). They disagree on the length of time that the process should be open. Biotech would like a 9- month period for post-grant review challenges. After 9 months, patents can no longer be challenged in the administrative process, but only through litigation in

² See <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>

³ See <http://books.nap.edu/catalog/10976.html>

⁴ See <http://www.ftc.gov/opp/intellect/050601summarytownmtg.pdf>

infringement cases. Biotech wants this certainty so that they can take their patents to investors for financing.

Since software companies don't know all of the patents that are being issued in the area and whether they might be infringing or not, they want the post-grant review process to be more open-ended. In this case, the process would be an alternative to litigation that can be used whenever an infringement claim pops up.

David Kappos then spoke from the perspective of a company that is involved in both sides. IBM has the world's largest patent portfolio (which it seeks to protect) but is also facing a record number of infringement claims and litigation.

He sees the topic becoming more and more important worldwide with growing international tension between intellectual property rights and the needs of innovative economies?. He stressed the need for balance. There should be strong patents that are enforceable – but they need to be correct patents.

From IBM's perspective, the innovation system is changing. There are still the two models of innovation that we normally think of: scientists working in university, government or corporate labs and individual inventors. But there is also a new model of collaborative innovation. This new model comes about because of the complex nature of the problems. No individual or company has the ability to address all aspects of the problem. So companies and individuals are forced to work together. The classic case in point is the open source movement, which has been successful in software development and is now moving into other areas.

However, the intellectual property system is not in tune with this model of innovation.

The patent system is not completely broken, but it does need reform. A few of the areas he suggests for reform include a post-grant review to ensure quality and a pre-grant submission of "prior art" to create better information for the patent examiners. He noted that these changes will likely create a mini-industry on patent research and information brokering – which will also create better information for the system.

However, even with pending patent reform ideas, the patent system will still be in conflict with the open collaboration model. Therefore, IBM is taking steps to strengthen that model. These include pledging to donate 500 patents to an open source commons (a "patent commons") and pushing for royalty-free use of patents that are part of standards for software interoperability, through OASIS (Organization for the Advancement of Structured Information Standards).

He concluded by noting that in the end legislation will be difficult because of different needs of different industries.

Congressman Cooper then moderated a short question and answer period. The first question from the audience concerned the differences between biotech and software. It was stated that software does not follow all the patents issued in their area. Is this because the standard of obviousness is too low? And is the result of this unitary system of patents (same rules for all industries) a bias of investment to biotech (where they know the patents) away from software (where they don't)?

Professor Jaffe answered that the obviousness standards are too low – the Amazon one-click patent being the classic example. But he is unclear as to how to fix that specific problem. The post-grant review and the pre-grant submission of prior-art will help. These processes will also create a system where people will pay attention more.

Ms. DeSanti mentioned that companies have been reluctant to use the existing system of submitting prior art. Currently, they don't know if examiners will pay attention to it. And they don't want to take the chance later on during litigation that the court will rule since the prior art was submitted, the patent must have taken it into account already and it therefore can't be used in an infringement case.

Mr. Kappos noted that this is exactly why legislation to change the process is important. Companies need to be able to submit commentary on why the prior art is relevant to a patent – not just the existence of the prior art.

Two audience members made brief comments. One noted that the key issue was disclosure, reminding the audience that the purpose of granting a patent is to disclose information to the public that would otherwise be treated as a tradeseecret.

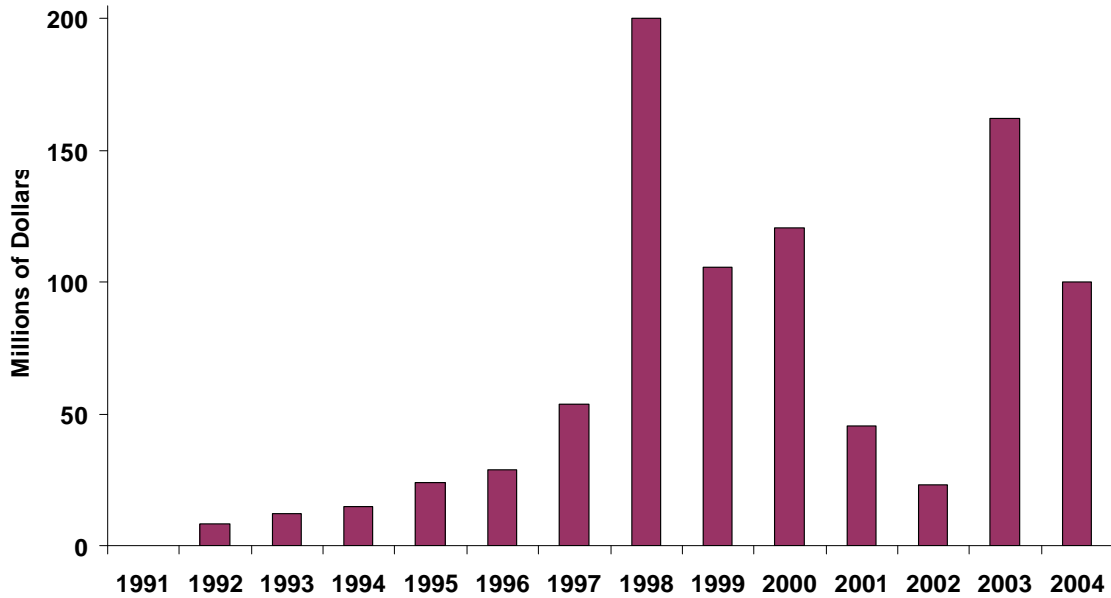
The other, who identified himself as a former patent examiner, noted that more funds for the PTO would not necessarily solve the problem. Because examiners need to use the prior-art to determine obviousness, the key is not just getting the prior art but learning how to determine obviousness.

A question was asked about proposed solutions. What was the appropriate mix of legislative solutions versus changes in PTO practices?

Professor Jaffe answered that the legislation must be predicative. Legislation can result in behavior changes. For example, increasing submission of prior art with commentary and other changes to bring in relevant information from outside the PTO will help change examiner behaviors by giving them better information.

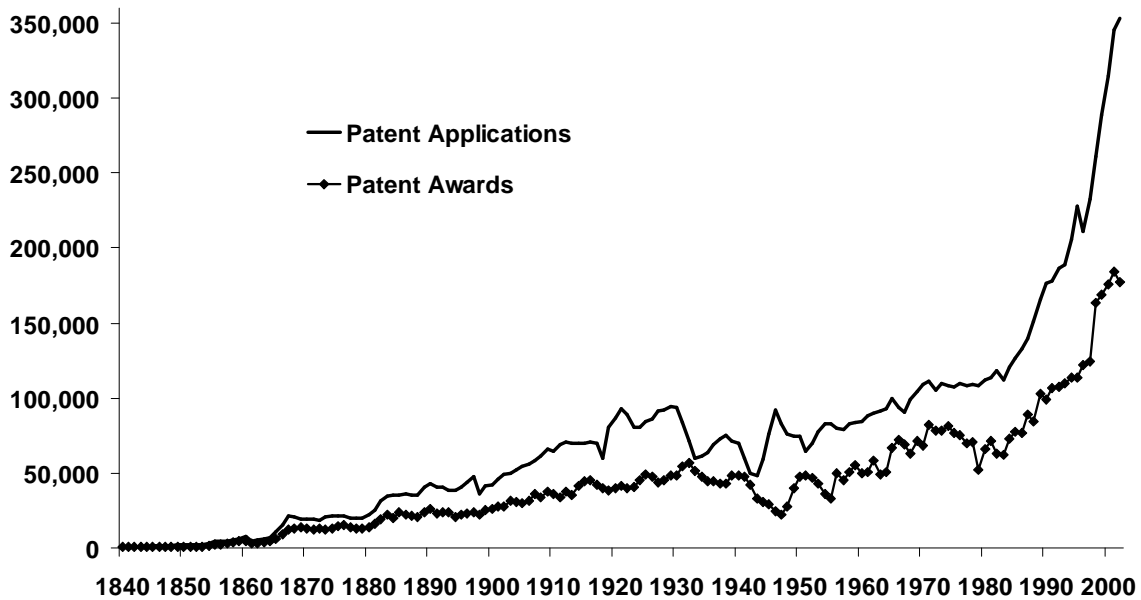
With that question, Congressman Cooper noted that time for the session had run out, and thanked the panelists and audience for their participation.

Chart 1: Fees collected by USPTO, but diverted by Congress to other uses



(Source: Adam B. Jaffe and Josh Lerner. *Innovation and Its Discontents*)

Chart 2: The Increase in Patent Applications and Grants



(Source: Adam B. Jaffe and Josh Lerner. *Innovation and Its Discontents*)