**Questions for the Record for Professor Mark A. Lemley**
**Senate Committee on the Judiciary**
**Subcommittee on Intellectual Property**
**Hearing on "The State of Patent Eligibility in America: Part I"**
**June 4, 2019**

## QUESTIONS FROM SENATOR BLUMENTHAL

1. Striking the appropriate balance between encouraging innovation and protecting consumers is a key goal of our patent system.
    a. **What impact will broadening the subject matter that can be patented have on industry?**
    b. **What impact will broadening the subject matter that can be patented have on consumers?**
    c. **Could the proposed reforms increase consumer prices? If so, in what industries or on what products?**

## Responses

The effects of broadening patentable subject matter will likely vary by industry. In the software and information technology industries, the patents that have been invalidated on patentable subject matter grounds mostly deserved to be invalidated. For large technology companies, having a cheap and quick way to invalidate those patents reduces the cost of the patent system and might have a modest effect on prices, but it isn't critical. So broadening patentable subject matter will have modest effects on those companies. But it is likely to have more significant effects on start-up companies that are responsible for many of our most important innovations. Patent trolls have targeted small, innovative companies and sometimes driven them out of business. So there is a risk that broadening patentable subject matter will threaten innovation in those industries.

In the life science industries, by contrast, broadening patentable subject matter may encourage new innovation in medical diagnostics, because diagnostic companies depend heavily on effective patent protection. But broadening patentable subject matter in those industries will also likely increase consumer prices significantly. To give just one example, Myriad charged $3000 for a single-gene test for breast cancer. After its patents were invalidated, numerous competitors entered the market to offer whole-genome testing with dozens of different tests at a fraction of the price. Going back to the pre-*Myriad* world may well lead to higher prices. Those higher prices are worth it only if we actually get new innovation from expanded patent protection.

**Questions for the Record for Mark A. Lemley**
**From Senator Mazie K. Hirono**

1. Last year, Judge Alan Lourie and Judge Pauline Newman of the Federal Circuit issued a concurring opinion to the court's denial of *en banc* rehearing in *Berkheimer v. HP Inc.*, in which they stated that "the law needs clarification by higher authority, perhaps by Congress, to work its way out of what so many in the innovation field consider are § 101 problems."

   **Do you agree with Judges Lourie and Newman? Does § 101 require a Congressional fix or should we let the courts continue to work things out?**

   **Response**

   I agree with Judges Lourie and Newman that the procedural rules for patentable subject matter are unclear after *Berkheimer* and need to be clarified. In doing so, we should keep in mind that the main benefit of having a patentable subject matter rule has been the ability to weed out bad patents early and cheaply. *Berkheimer* makes that harder.

   I don't think Congress needs to be the one to solve this problem. The Federal Circuit en banc or the Supreme Court can and should clarify this issue. But if they don't, Congress may need to step in.

   If the Tillis-Coons bill passes *Berkheimer* will become irrelevant.

2. The Federal Circuit rejected a "technological arts test" in its *en banc Bilski* opinion. It explained that "the terms 'technological arts' and 'technology' are both ambiguous and ever-changing." The draft legislation includes the requirement that an invention be in a "field of technology."

   a. **Do you consider this a clear, understood term? If so, what does it mean for an invention to be in a "field of technology"?**

   b. **The European Union, China, and many other countries include some sort of "technology" requirement in their patent eligibility statutes. What can we learn from their experiences?**

   c. **Is a claim that describes a method for hedging against the financial risk of price fluctuations—like the one at issue in the *Bilski* case—in a "field of technology"? What if the claim requires performing the method on a computer?**

   d. **What changes to the draft, if any, do you recommend to make the "field of technology" requirement more clear?**

**Responses**

The requirement in the draft bill that the invention be in a "field of technology" is an important safeguard if the Tillis-Coons bill is to pass. Without it, there would be no bar to patenting a new song or novel, among other things. Read properly, the requirement could also preserve many of the valuable parts of the patentable subject matter doctrine in disposing of claims to business methods, stickers printed on dice, and the like.

That said, as the questions indicate, the term is ambiguous and will require interpretation by the courts. My personal view is that financial methods are not a "field of technology," but I know there are some who disagree. I think implementing something on a computer does not make it technological. Selling pet food on the Internet isn't a technological invention. To me, the term requires an improvement in the technological area itself, not merely employing technology in a non-technological area.

If the bill proceeds, I think the Committee could give examples to help guide the courts and clarify the intent not to make everything patentable.

3. Sen. Tillis and Sen. Coons have made clear that genes as they exist in the human body would not be patent eligible under their proposal.

   **Are there other things that Congress should make clear are not patent eligible? There are already statutes that prevent patents on tax strategies and human organisms. Are there other categories that should be excluded?**

**Response**

I think it is important to preserve the existing rules against patenting printed matter, mental steps, and other non-technological inventions. Without those restrictions patent law will tread on the subject matter of copyright. As Judge Archer wrote in his dissent in *In re Alappat*, music on a CD would be patentable without some form of limitations.

4. I have heard complaints that courts do not consistently enforce Section 112 with respect to claims for inventions in the high tech space.

   **a. Are these valid complaints?**

   **b. Do the proposed changes to Section 112 adequately address those complaints and limit the scope of claims to what was actually invented?**

   **c. Are you concerned that the proposed changes will make it too easy for competitors to design around patent claims that use functional language?**

**Responses**

Yes, these are valid complaints. I think if the bill advances that the proposed changes to section 112 are an important protection against broad functional claims that assert ownership over any solution to a problem, not just the one the patentee found.

If patents subject to section 112 can be designed around, it is because the defendants actually came up with a different solution to the same problem. That's a good thing, not a bad thing. We want to encourage innovative alternatives to patented technologies. Allowing a single patent owner to lock up all possible solutions to a problem discourages rather than encouraging innovation.

5. There is an intense debate going on right now about what to do about the high cost of prescription drugs. One concern is that pharmaceutical companies are gaming the patent system by extending their patent terms through additional patents on minor changes to their drugs. My understanding is that the doctrine of obviousness-type double patenting is designed to prevent this very thing.

   The Federal Circuit has explained that obviousness-type double patenting "is grounded in the text of the Patent Act" and specifically cited Section 101 for support.

   **Would the proposed changes to Section 101 and the additional provision abrogating cases establishing judicial exceptions to Section 101 do away with the doctrine of obviousness-type double patenting? If so, should the doctrine of obvious-type double patenting be codified?**

**Response**

I do not read the bill as deliberately eliminating obviousness-type double-patenting, but there is a risk that it could be misinterpreted that way since ordinary double patenting arises out of section 101.

The simplest solution would be to cabin the language abrogating judicial exceptions to refer only to those exceptions related to patentable subject matter. That would leave obviousness-type double patenting intact. Alternatively, it is important to codify the doctrine, as it serves a very important purpose in restricting evergreening of patents in the pharmaceutical industry.

6. In its *Oil States* decision, the Supreme Court explicitly avoided answering the question of whether a patent is property for purposes of the Due Process Clause or the Takings Clause.

   **What are the Due Process and Takings implications of changing Section 101 and applying it retroactively to already-issued patents?**

**Response**

I don't think the bill or the *Alice* line of cases raise due process or takings clause concerns. The patentable subject matter exceptions have been part of the law for nearly 200 years. Any patent in force exists subject to those rules. Nor do I think eliminating the doctrine itself creates a takings or due process problem.

That said, it seems clear that any change along the lines of the Tillis-Coons bill should operate only prospectively. Legislation is normally given only prospective effect. Retroactively changing patent doctrine would create a class of "zombie patents" that were invalidated but might come back to life. Bringing those patents back to life would potentially create due process concerns. At a minimum it would create chaos. And it would defeat the purpose of the patent system. We grant patents in order to encourage new innovation. No legitimate policy purpose would be served by retroactively reanimating invalid patents. It couldn't induce new innovation; the innovations in question have already been made. All it could do is serve to enrich those who obtained patents the law did not previously permit.