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## Legally Speaking

# Revisiting Patentable Subject Matter

*Is everything under the sun made by humans patentable subject matter?*

**A**RE BUSINESS METHODS and software algorithms patentable? Many of us think they shouldn't be. However, under a 1998 U.S. Federal Circuit Court of Appeals decision in *State Street Bank Bank v. Signature Financial Group*, they seem to be. That case opined that business methods could be patented and regarded any process conforming to a dictionary definition as patentable subject matter, as long as it produces a "useful, concrete, and tangible result." This would include program algorithms.

Because of *State Street Bank's* very broad interpretation of patentable subject matter, the U.S. Patent and Trademark Office (PTO) has been flooded with applications for patents on methods of all kinds, including business methods, methods of meditation, dating methods, sports moves, tax strategies, and even plots for novels. This capacious view of patentable subject matter may, however, be about to change.

This past February, the Federal Circuit decided to hear en banc (with the full court, not just the usual panel of three judges) an appeal by Bernard Bilski of a decision by the PTO Board of Patent Appeals and Interferences (BPAI) denying Bilski's application for a patent on a method for managing energy consumption risks owing to vagaries of the weather for failure to claim patentable subject matter.

The order announcing the en banc review invited interested parties to file amicus curiae (friend of the court) briefs to address not only whether Bilski's patent application should be granted, but also what test or standard should be used for judging what processes are eligible for patent protection. The order even asks whether the *State Street Bank* decision should be overturned.

### Bilski's Claim

Claim 1 of Bilski's application sets forth three steps of his method for energy risk management: initiating a series of transactions between a commodity provider and consumers of the commodity whereby consumers would purchase the commodity at a fixed rate based on historical averages (setting the risk position of the consumers); identifying market participants for the commodity who have a counter-risk position to that of consumers; and initiating a series of transactions between the commodity provider and market participants having a counter-risk position at a second fixed rate such that transactions of the market participants balance out the risks to consumers.

Bilski relies upon the *State Street Bank* decision in support of his claim. He asserts his claim recites a process and this method produces a useful, concrete, and tangible result. To understand why BPAI rejected Bilski's claim, a brief historical review is in order.

### The Supreme Court on Process Patents

The Supreme Court first considered whether computer program processes could be patented in its unanimous 1972 decision in *Gottschalk v. Benson*. Benson had applied for a patent on a method for transforming binary coded decimals to pure binary form. One claim called for implementing this algorithm in a programmed computer; a second was for the algorithm as such.

Section 101 of U.S. patent law states that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore." Benson's algorithm was a process in the dictionary sense of the word, but that didn't necessarily mean it was a process within the meaning of section 101.

Under the Court's past decisions, patentable processes had been those that transformed matter from one physical state to another. Benson's process didn't do this. Past decisions had also excluded laws of nature, mathematical and scientific principles, mental processes, and abstract ideas from patent protection. Because Benson's method could be carried out in a person's head or with aid of paper and pencil, it seemed like a mental process or abstract idea, and perhaps a mathematical principle. The Court was also disturbed that Benson's

claims would cover (and therefore preempt) all uses of the algorithm, not just those applied to particular industrial ends.

In 1978, the Court revisited *Benson* in *Parker v. Flook*, which considered the patentability of a process for calculating and updating alarm limits for catalytic conversion plants. By a 6–3 majority, the Court rejected Flook’s claim because the only new thing about it was an algorithm onto which had been tacked conventional post-solution activity (updating the alarm limits).

Three years later, in *Diamond v. Diehr*, the Court once again considered the patentability of a process involving a computer program. In *Diehr*, the Court ruled by a 5–4 majority that a process for curing rubber, one step of which involved a computer program that continuously calculated temperatures inside the mold to determine when the rubber was properly cured, was a patentable process. Because *Diehr* did not abrogate *Benson* or *Flook* and involved a conventional process that transformed matter from one physical state to another, *Diehr* was initially viewed as a narrow decision for patenting software innovations.

The Federal Circuit, however, construed *Diehr* more broadly by focusing on its dicta that everything under the sun made by man should be considered patentable subject matter. For the past 27 years, this court has fashioned its own conception of patentable subject matter, culminating in the *State Street Bank* decision. Its recent willingness to reconsider *State Street Bank* and its approach to determining patentable subject matter may well be due to its sense that the Supreme Court is not satisfied with its rulings.

### Renewed Supreme Court Interest in Patents

In the past few years, the Supreme Court has reviewed several Federal Circuit decisions and reversed that court’s rulings every time. In *eBay v. MercExchange*, for example, the Court rejected the Federal Circuit’s rigid rule that courts must issue injunctions in virtually all patent infringement cases. In *KSR v. Teleflex*, the Court reinvigorated the nonobviousness standard for invention by rejecting the Federal Circuit’s approach to judging obvious-

ness. In *Microsoft v. AT&T*, the Court overturned a Federal Circuit ruling that Microsoft was liable for offshore patent infringement based on its shipment to another country of a disk of software containing a component that infringed a U.S. patent.

The Supreme Court has also signaled renewed interest in the Federal Circuit’s approach to patentable subject matter. In 2005, it accepted Lab Corp’s appeal from a Federal Circuit ruling that it had induced patent infringement by providing test results about levels of homocysteine in patients’ blood to doctors who then correlated elevated levels of this amino acid with vitamin deficiencies and enhanced risks of heart disease, thereby infringing Metabolite’s patent. Justice Breyer dissented from the decision to drop the *Lab Corp.* appeal because in his view, Metabolite’s patent claimed a process that “is no more than an instruction to read some numbers in light of medical knowledge.” He believed this ran afoul of the longstanding rule that laws of nature and natural phenomena cannot be patented.

A year later, during oral argument in the *Microsoft v. AT&T* case, five members of the Court asked questions about the patentability of computer programs, even though that issue was not before the Court. These questions revealed that patentable subject matter was on many Justices’ minds.

Given the Court’s renewed interest in patentable subject matter, the BPAI seems to have decided that it was time to push back on the Federal Cir-

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cuit’s overbroad conception of patentable subject matter. So it rejected Bilki’s claims.

### BPAI on Patentable Subject Matter

*Bilski* sets forth a series of propositions about patentable subject matter. The first is that the constitutional subject matter for patent protection is inventions in the “useful arts,” by which the founders meant what today we would call “technological arts,” or more simply, “technology.” Section 101 names four kinds of technologies that are eligible for patent protection: processes, machines, manufactures, and compositions of matter.

BPAI thinks that Congress intended to make every human-made machine, manufacture, and composition of matter eligible for patent protection, but doubts it intended everything under the sun made by humans to be eligible for patent protection. Computer programs, documents, music, art, and literature are innovations made by humans; yet, none is eligible for patent protection.

Technological processes that transform matter from one physical state to another (for example, chemical A mixed with chemical B to produce chemical C) are clearly patentable, as are processes that are tied to specific mechanical implementations. But if processes do not transform matter and are not tied to technical implementations, BPAI thinks they are not technological enough to be patentable. Such methods should be considered “abstract ideas” that are excluded from patent protection, as was the algorithm in *Benson*.

*Bilski* questions the Federal Circuit’s “useful, concrete, and tangible result” test for patentable subject matter as lacking an authoritative basis and a sound rationale. *Bilski* observes that Justice Breyer’s dissent in *Lab Corp.* questioned the “useful, concrete, and tangible result” test for patentable subject matter as not having been endorsed by the Court. (Indeed, this test is inconsistent with *Benson* and *Flook*.)

Because *Bilski*’s method wasn’t tied to an implementation in a specific device and didn’t transform matter from one physical state to another, the BPAI concluded it was an unpatentable

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process and an abstract idea. BPAI indicated its conclusion would be no different even if Bilski altered his claims to mention use of some technology, such as a telephone or computer, to carry out the method because the method was essentially still an abstract one akin to the claim in *Benson* for implementing the algorithm in a programmed computer.

### What Will Happen?

The Federal Circuit has the opportunity in *Bilski* to clarify the standard by which to judge what processes are eligible for patent protection and why this is the right standard. It also has the opportunity to give substance to the abstract idea exclusion from patent protection.

If the Federal Circuit affirms the BPAI rejection of Bilski's application and rules that Bilski's method is unpatentable as an abstract idea and/or as a non-technological process, the Supreme Court will probably be satisfied that the Federal Circuit has gotten the message that it should pay closer attention to the Court's prior rulings and narrow the scope of patentable subject matter.

If, however, the Federal Circuit reverses the BPAI's ruling in *Bilski* or is deeply split and issues multiple opinions expressing divergent theories about patentable subject matter, the Supreme Court will probably review the *Bilski* case to clarify what standards the PTO and Federal Circuit should apply in judging which processes are eligible for patent protection.

A decision upholding the unpatentability of Bilski's process will not do away with all software patents because some do claim technological processes, but many patents issued under the *State Street Bank* test, whether for software innovations, business methods, dating methods, and the like, would then be rendered ineffectual. As things go, this would be progress. This is another patent reform that can and should be carried out through the courts. ■

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