



## What Kinds of Inventive Processes Are Patentable?

### In *Bilski v. Kappos*, the Supreme Court Hits the *Reset* Button, Then Tosses the Baton Back to the CAFC

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On June 28, 2010, the U.S. Supreme Court issued its long-awaited decision in *Bilski v. Kappos*. The case was expected to resolve the hotly contested question of whether business methods could be protected by the claims of a U.S. patent, and there was some trepidation that the decision might adversely impact at least some patents for computer software as well. Because the majority of the Court rested their decision on narrow grounds, they left intact much of the body of case law on patent eligibility, though hitting *reset* by disavowing a legal test known for short as **machine-or-transformation**. Many unresolved issues live on, to be addressed another day.

In a decision written by Justice Kennedy, the Court voted unanimously to affirm the *en banc* judgment by the U.S. Court of Appeals for the Federal Circuit (“CAFC”) that the claims of *Bilski* and *Warsaw’s* patent application are not patent-eligible under 35 USC § 101. The majority opinion rests this affirmance on narrow grounds. Yet a minority of three other Justices joined a separate opinion by retiring Justice Stevens that decries the patentability of “business methods” in general, recognizing that significant factions disfavor such protection.

By this decision, issued on the last opinion day of the Supreme Court’s 2009-2010 term, thus concluded the saga of the most closely-watched patent appeal in history.

**The Legal Framework** – We start by pointing to the provision in the U.S. Constitution (Article 1, section 8, clause 8) that grants Congress the power: “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” In exercise of that power, Congress has enacted laws providing for copyrights and patents.

The patent statute, Title 35 of the United States Code [“35 U.S.C.”], provides that “Whoever 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 therefor, subject to the conditions and requirements of this title.” [35 U.S.C. § 101] Some of the conditions stated in 35 U.S.C. are that the claimed invention be novel (as compared to the “prior art,” generally the information publicly available at the time the invention was made) and that it not have been obvious at that time to a person having ordinary skill in the art. The statute also requires that the applicant disclose the subject matter clearly and completely enough to enable the invention to be made and used by others.

The owner of a patent has the exclusive right to make, use, sell or import the invention as defined by any of its valid claims. The patent’s term is 20 years from the date the first regular patent application disclosing the invention was filed, subject to adjustment in certain situations and to the payment of a maintenance fee every few years.

If an applicant believes that a rejection by a Patent Examiner was improper, he may appeal within the Patent and Trademark Office (“USPTO”) to the Board of Appeals and Interferences (“Board”). Failing to obtain satisfaction there, such an applicant may appeal to the CAFC. Most appeals end there, but a still-dissatisfied applicant might also seek a further appeal to the Supreme Court, and sometimes, as in *Bilski*, the Supreme Court chooses to accept the case.

**Background** – Before 1998, it had been unclear whether an inventive process reciting a method of doing business could be the subject of a patent claim. But that year the CAFC decided in *State Street Bank v. Signature Financial Group* that a claim to an apparatus that implements a **business method** is not for that reason unpatentable. News of the *State Street Bank* decision led some to find opportunity to obtain protection for inventive business methods hitherto considered outside the scope of patenting. Others were shocked to find that the kinds of things they were doing in their offices might infringe a patent granted to another company.

Two years before the CAFC’s *State Street Bank* decision, on April 16, 1996, Bernard Bilski and Rand Warsaw (the “Bilski” applicants) had filed a provisional patent application for a method to be used by an electric utility to hedge against adverse changes in the cost of fuel, so it could provide longer-term fixed pricing to its customers, despite “consumption risk” due to bad weather. Within a year, they filed the requisite nonprovisional application, no. 08/833,892, including the following as its first claim:

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:
  - (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;
  - (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
  - (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

It is typical for claims of a patent application to be rejected for lack of novelty or for obviousness in view of two or more items of prior art, but the examiner rejected each of the 11 claims recited in this patent application solely on the basis that “the invention is not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem without any limitation to a practical application, therefore, the invention is not directed to the technological arts.”

**Appeal to the Board** – Bilski then embarked on what would become a multi-step appeals process by asking the Board to reverse this rejection. On September 26, 2006, a panel of five administrative patent judges declined to reverse the examiner, though they chose to explain the rejection with different language. Stating that the “USPTO is struggling to identify some way to objectively analyze the statutory subject matter issue instead of just saying ‘We know it when we see it.’” they explained that “[n]ot every process in the dictionary sense constitutes a “process” under [35 U.S.C.] § 101” and noted that “[s]ome subject matter, although invented by man, does not fall within any of the four categories of § 101. e.g. data structures, computer programs, documents, music, art, and literature, etc.”

The Board recast the rejection as follows: “Although the examiner rejected the claims as nonstatutory subject matter, in part, because they ‘solve a purely mathematical problem’ our new ground of rejection is not based on the presence of mathematical algorithms, but focuses on the lack of a physical transformation and the lack of a practical application of the ‘abstract idea’ of risk management in the claims as a whole.” The Board added: “We agree with appellants that ‘technological arts’ means ‘useful arts’ as stated in the Constitution, and that apparatus is not required to be claimed in order for a method claim to be a ‘process’ under § 101.” Yet they concluded that: “None of the claims recites a transformation of physical subject matter and the claims recite an ‘abstract idea’ rather than a practical implementation of that idea.”

**Appeal to the CAFC** – Bilski then sought review by the CAFC, and the case was eventually heard by all of its judges, sitting *en banc*. The rejection was upheld by a 9-3 vote. The majority opinion by now-retired Chief Judge Michel asked, as did the Board below, whether the recited method is a patent-eligible “process” within the meaning of 35 U.S.C. § 101, and agreed that it was not. “The true issue before us then is whether Applicants are seeking to claim a fundamental principle (such as an abstract idea) or a mental process. And the underlying legal question thus presented is what test or set of criteria governs the determination by the [USPTO] or courts as to whether a claim to a process is patentable under § 101 or, conversely, is drawn to unpatentable subject matter because it claims only a fundamental principle.”

In the *State Street Bank* case, the CAFC in 1998 had posited a legal test for a patent-eligible process, namely that it produce a **useful, concrete and tangible result**. Ten years later, in *In re Bilski*, the CAFC said “never mind” and articulated the test as follows:

“A claimed process involving a fundamental principle that uses a particular machine or apparatus would not pre-empt uses of the principle that do not also use the specified machine or apparatus in the manner claimed. And a claimed process that transforms a particular article to a specified different state or thing by applying a fundamental principle would not pre-empt the use of the principle to transform any other article, to transform the same article but in a manner not covered by the claim, or to do anything other than transform the specified article.” This concept was then described for short as the **machine-or-transformation test**, which the court held was “the applicable test for § 101 analyses of process claims”. The court pointed out that “it is irrelevant to the § 101 analysis whether Applicants’ claimed process is novel or non-obvious.”

The CAFC concluded that: “Applicants here seek to claim a non-transformative process that encompasses a purely mental process of performing requisite mathematical calculations without the aid of a computer or any other device, mentally identifying those transactions that the calculations have revealed would hedge each other’s risks, and performing the post-solution step of consummating those transactions. Therefore, claim 1 would effectively pre-empt any application of the fundamental concept of hedging and mathematical calculations inherent in hedging (not even limited to any particular mathematical formula). Moreover, while the claimed process contains physical steps (initiating, identifying), it does not involve transforming an article into a different state or thing. Therefore, Applicants’ claim is not drawn to patent-eligible subject matter under § 101.”

Judge Newman dissented, stating: “The court today acts *en banc* to impose a new and far-reaching restriction on the kinds of inventions that are eligible to participate in the patent system. The court achieves this result by redefining the word ‘process’ in the patent statute, to exclude all processes that do not transform physical matter or that are not performed by machines. The court thus excludes many of the kinds of inventions that apply today’s electronic and photonic technologies, as well as other processes that handle data and information in novel ways. Such processes have long been patent eligible, and contribute to the vigor and variety of today’s Information Age. This exclusion of process inventions is contrary to statute, contrary to precedent, and a negation of the constitutional mandate. Its impact on the future, as well as on the thousands of patents already granted, is unknown.”

Judge Rader (who this month became Chief Judge of the CAFC) dissented, stating: “This court labors for page after page, paragraph after paragraph, explanation after explanation to say what could have been said in a single sentence: ‘Because Bilski claims merely an abstract idea, this court affirms the Board’s rejection.’”

**Appeal to the Supreme Court** – After an oral argument November 9, 2009, the Supreme Court waited almost eight months to issue the *Bilski* decision. There is speculation that the opinion had originally been assigned to retiring Justice Stevens, but that the condemnation of business method patents included in the opinion he wrote led to the majority opinion being reassigned to centrist Justice Kennedy.

Justice Kennedy’s opinion of the Court pretty much follows the pattern suggested by CAFC Judge Rader’s dissent (and the Government’s brief). Bilski’s claims were held unpatentable, as they were drawn to an “abstract idea,” which, like laws of nature and physical phenomena, was previously recognized by the Supreme Court as being outside of statutory subject matter under 35 USC § 101.

This opinion also gives a nod to Judge Newman’s dissent in the CAFC case. Looking at the term “process” in the patent statutes, the Court did not find any requirement that a process be  **tied to a machine**  or that it  **transform an article** . Accordingly, the Supreme Court disavowed the  **machine-or-transformation test**  as the sole and exclusive desideratum for patent-eligible methods. Rather, the “‘machine-or-transformation test’ is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101.”

We read this as a sort of “safe harbor,” meaning that a claim that satisfies the machine-or-transformation test is almost certainly patent-eligible, but that if a claim doesn’t meet that test, it isn’t  **automatically**  unpatentable for not reciting statutory subject matter.

**What does this mean for computerized methods and software?** This subject matter remains patentable, provided it does not fall within any of the exceptions to statutory subject matter for processes, e.g., laws of nature, physical phenomena, and abstract ideas. However, further examples of these exceptions were left open for the CAFC to determine in future decisions.

**What about computerized components and systems?** These components and systems remain patentable as apparatus, as has always been the case under the patent law.

**What about business methods?** Business methods are not excluded as a class from patent-eligible subject matter. However, this opinion doesn’t give additional guidance about how to meet the requirement for claiming statutory subject matter, beyond reciting the aforementioned exceptions (e.g., laws of nature, physical phenomena, and abstract ideas).

**What about medical diagnostic methods?** On June 29th, the Supreme Court issued a GVR in the cases of *Mayo v. Prometheus Labs* and *Classen Immunotherapies v. Biogen IDEC*. This means that they granted certiorari to accept the appeals from the CAFC, then vacated the CAFC’s decisions and remanded the cases for further consideration in light of the Supreme Court’s *Bilski* decision. The CAFC will soon have the opportunity to address whether a patent may validly claim a process that involves injecting a subject with a drug or immunogen and then comparing certain results. Because real substances move in the world, the claims in *Prometheus Labs* appear to meet the  **transformation**  prong of the machine-or-transformation test. So it seems likely that the CAFC will continue to find statutory subject matter in these claims. The opposite result was obtained in the *Classen* case. Let’s see what happens when the CAFC catches the baton and runs with it. Stay tuned.

**What about other methods?** Methods that are determined to fall outside the aforementioned exceptions to statutory subject matter remain proper subject matter for U.S. Patents.

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