



US Supreme Court Returns Patent-Eligibility Test to Fundamental Principles

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Abstract

The 'machine-or-transformation' test is no longer the only test for determining patent eligibility of processes in the United States.

Legal context

In a Current Intelligence published in January 2009 I reported on the en banc decision by the US Court of Appeals for the Federal Circuit in *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) ('*Bilski II*'), where the majority of a divided court held that a narrow interpretation of the so-called 'machine-or-transformation' test was the sole governing test to determine whether a process claim in a US patent is patent-eligible ('Processes must be tied to machine or transform matter to be patent-eligible in the United States', 2009 *JIP&P* 4:151–153). At the time, *Bilski II* was one of many controversial decisions issued by the Federal Circuit in its effort to provide the US Patent and Trademark Office (USPTO), the district courts and patent system users with more concrete guidance on how to determine whether a claimed invention is patent-eligible subject matter under 35 USC §101. Last year the US Supreme Court granted certiorari to hear *Bilski*. Dozens of *amici* submitted briefs and countless others wrote articles offering a wide range of divergent (and at times impassioned) views as to what should constitute patent-eligible subject matter for US patent claims. This June, in *Bilski III*, the Supreme Court affirmed the Federal Circuit's decision in *Bilski II*, but based on a different rationale. This much anticipated and widely discussed decision is likely to have an impact on the availability of patent protection of information age technologies in the US and around the world for years to come.

Facts

The patent application at issue in *Bilski* has been pending since the mid-1990s, even before the State Street decision originally issued.

In April 1997 Bernard L. Bilski and Rand A. Warsaw filed US Patent Application No. 08/833,892, 'Energy Risk Management Method', claiming priority from US Provisional Application 60/015,756, filed 16 April 1996 (for background see *Ex parte Bilski*, Appeal No. 2002-2257, Application No. 08/833,832, 2006 WL 5738364 (BPAI 26 Sept. 2006) ('*Bilski I*')).



Legal developments before *Bilski I*

Shortly before the *Bilski* Application was filed, the USPTO began to relax its criteria for patent-eligibility. This trend was reflected in a pair of Federal Circuit decisions that confirmed that computer-implemented processes that were tied to a tangible media, like a floppy disk, were patent-eligible: see, eg, *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995); *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994). The reins on patent-eligibility were further loosened in the years immediately following this filing by landmark decisions including *State Street Bank & Trust Co. v Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. 1998) and *AT&T Corp. v Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999).

After *State Street* and *AT&T*, the law seemed settled that any patent claim which produced a ‘useful, concrete and tangible result’ would be patent-eligible. Patentability of such claims would need to be considered under the other provisions of the Patent Act such as novelty (§102), obviousness (§103) and definiteness (§112).

In response to *State Street* and *AT&T*, Congress quickly reacted and created a new form of defence—a so-called ‘prior user right’ under §273—which applied to claims for ‘methods of doing business’. At this point, it was generally recognized that claims directed to methods of doing business (whether written as system claims or process claims) were patent-eligible as long as the claimed subject matter produced a ‘useful, concrete and tangible result’, and that the older tests for determining patent-eligible subject matter that had been developed by the Federal Circuit’s predecessor court, such as the so-called ‘technological arts’ test, were considered defunct.

Despite this apparent clarity in the law, as the number of so-called ‘business method’ patent applications began to grow, the public began to perceive that many such applications were of dubious quality. As the backlog grew, the USPTO began to revive old, discredited doctrines, like the ‘technological arts’ test, to deny claims as not being directed to patenteligible subject matter and to avoid the need for substantive examination on the merits of the claimed invention.

The US Board of Patent Appeals and Interferences appeared to stop this practice of invoking defunct tests for patenteligibility in *Ex Parte Lundgren*, 76 USPQ2d 1385 (BPAI 2005). The Board confirmed in *Lundgren* that ‘there is currently no judicially recognized separate “technological arts” test to determine patent eligible subject matter under Section 101’. At that time, patent practitioners generally considered that the final barrier to patent-eligibility of ‘business method’ patent claims had been removed.

Prosecution and appeal of *Bilski* to the board

Meanwhile, the *Bilski* Application that continued to wind its way through the patent application process presented for examination eleven claims, including representative claim 1 which read as follows:



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.

The eleven pending claims were finally rejected by the patent examiner as summarized in the Final Rejection as follows:

“Regarding ... claims 1–11, 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.”

This rejection, which essentially mimicked a so-called ‘technological arts’ rejection, was made at a time when patent examiners would continue to invoke this type of rejection.

In April 2003 the Board heard argument for the first time on the patentability of the *Bilski* Application claims. No decision ensued from this hearing, and a new hearing before a reconstituted Board led to a lengthy, informative decision (*Bilski I*) which held ‘the examiner’s determination that claim 1, and claims 2-11, which stand or fall therewith, are directed to nonstatutory subject matter under 35 USC §101 is well founded’.

Most observers considered then that although *Bilski I* discussed *Lundgren*, its rationale and holding—written by the dissenting Administrative Patent Judge from *Lundgren*—seemed contrary to the rationale, holding and tenor of *Lundgren*.

With *Bilski I* the relative certainty that patent practitioners had felt with regard to the patent-eligibility of most types of patent application claims after *Lundgren* began to wane, and debate resumed as to what types of patent claims should even be considered patent-eligible.

Legal developments between *Bilski I* and *Bilski II*

After *Bilski I* a number of controversial decisions seeking to limit the scope of patent-eligible subject matter began to issue both from the Board and the Federal Circuit: see eg, *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007); *In re Comiskey*, 499 F.3d 1365 (Fed. Cir. 2007), modified on *reh’g en banc*, 554 F.3d 967 (Fed. Cir. 2009); *Ex Parte Forman*, Appeal No.



2007-1546 (BPAI 21 Dec. 2007); *Ex Parte Brown*, Appeal No. 2007-0575, 2007 WL 3325013 (BPAI 8 Nov. 2007); *Ex Parte Kinzhalin*, Appeal No. 2007-1416, 2007 WL 3114968 (BPAI 24 Oct. 2007); *Ex Parte Rodriguez*, Appeal No. 2006- 3362 (BPAI 21 Sept. 2007). These and other decisions identified patent-eligibility as a threshold requirement for obtaining patent protection, and new rules were being developed to limit what type of inventions could even be considered for patent protection. These decisions fuelled the fire and brought the debate to a head in *Bilski II*. For a contemporaneous discussion of the impact of some of these decisions, see Charles R. Macedo and Peter R. Vogel, *Patentable Subject Matter: Reining in the Boundaries*, IP Law360, 2 November 2007, <http://www.arelaw.com/publications>.

Bilski II

On appeal to the Federal Circuit, after oral argument but before any decision was rendered by the original panel, the Court took the case *en banc* to be heard by the full court, and identified the following five questions:

1. Whether claim 1 of the 08/833,892 patent application claims patent-eligible subject matter under 35 USC §101?
2. What standard should govern in determining whether a process is patent-eligible subject matter under section 101?
3. Whether the claimed subject matter is not patent-eligible because it constitutes an abstract idea or mental process; when does a claim that contains both mental and physical steps create patent-eligible subject matter?
4. Whether a method or process must result in a physical transformation of an article or be tied to a machine to be patent-eligible subject matter under section 101?
5. Whether it is appropriate to reconsider *State Street Bank & Trust Co. v Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), and *AT&T Corp. v Excel Communs., Inc.*, 172 F.3d 1352 (Fed. Cir. 1999), in this case and, if so, whether those cases should be overruled in any respect?

The court's order also set a schedule for amici curiae to submit briefs. Dozens of briefs, submitted from participants in a wide range of industries, took widely divergent views on what is and should be patent-eligible processes. For a summary of the positions taken and by whom in the briefing on for *Bilski II*, see Charles R. Macedo, *In re Bilski Roll Call and Score Card*, IP Law360, 23 April 2008, <http://www.arelaw.com/articles/articles.html>.

On 30 October 2008, the Federal Circuit issued its split decision in *Bilski II*. Nine of the judges joined in the majority opinion written by then-Chief Judge Michel. Four additional opinions were filed. Circuit Judge Mayer wrote a concurring opinion agreeing with the result that the claims of the Bilski Application were not patent-eligible, but offering a differing rationale. Circuit Judges



Newman and Rader each dissented with separate opinions. Circuit Judge Dyk, joined by Circuit Judge Linn, responded in a concurring opinion to the dissenting opinions of Circuit Judges Newman and Rader.

The majority opinion in *Bilski II* rejected prior formulations of what should constitute a patent-eligible process in favor of the so-called ‘machine-or-transformation’ test. In a thoughtful (but ultimately too narrow) analysis, the majority analysed the Supreme Court’s and the Federal Circuit’s prior precedent to formulate (and adopt as the only ‘governing’ test) the so-called ‘machine-or-transformation’ test. Under the majority opinion’s formulation, this test, as taken from historical Supreme Court decisions, provides that:

“[A]n applicant may show that a process claim satisfies §101’ by either

- (1) ‘showing that his claim is tied to a particular machine’ or
- (2) ‘showing that his claim transforms an article’

The majority explained that the purpose of this test is to preclude processes that preempt so-called ‘fundamental principles’ (ie, laws of nature, physical phenomena and abstract ideas) from being patent-eligible. They added the further qualifiers that, under either branch of the test, the analysis should consider that:

1. the use of specific machine or transformation of an article must impose meaningful limits on the claim’s scope to impart patent-eligibility and
2. the involvement of the machine or transformation in the claimed process must not merely be insignificant extrasolution activity.

Significantly, the majority dispelled some misconceptions and confirmed that ‘whether a claimed process is novel or non-obvious is irrelevant to the §101 analysis’, recognizing that the analyses under §§102, 103, etc., should not be commingled with the §101 analysis.

Similarly, the majority ‘made clear that it is inappropriate to determine the patent-eligibility of a claim as a whole based on whether selected limitations constitute patent-eligible subject matter. After all, even though a fundamental principle itself is not patent-eligible, processes incorporating a fundamental principle may be patent-eligible. *Thus, it is irrelevant that any individual step or limitation of such processes by itself would be unpatentable under §101.*’ (emphasis added).

When it came time to apply these principles to the *Bilski* claims, the majority found that the claims failed both parts of the test.

Post *Bilski II* developments in the lower courts and at the PTO

After *Bilski II* issued, the issue of patent-eligibility continued to be addressed at the Board and



in the lower courts, as well as the Federal Circuit, at a much more rapid rate.

The Board began to issue a number of confusing and potentially disturbing opinions regarding the scope of patenteligible subject matter. Some district courts also began to turn to these decisions in finding that certain claims were not patent-eligible. Likewise, the Federal Circuit continued to issue opinions interpreting the ‘machine-or-transformation’ test. A number of these decisions have now been vacated and remanded by the Supreme Court to the Federal Circuit to be reassessed in view of *Bilski III*.

Certiorari to US Supreme Court from *Bilski II*

The applicants, dissatisfied with the results of *Bilski II*, sought review from the US Supreme Court on two grounds:

1. Whether the Federal Circuit erred by holding that a ‘process’ must be tied to a particular machine or apparatus, or transform a particular article into a different state or thing (‘machine-or-transformation’ test), to be eligible for patenting under 35 USC §101, despite this Court’s precedent declining to limit the broad statutory grant of patent eligibility for ‘any’ new and useful process beyond excluding patents for ‘laws of nature, physical phenomena, and abstract ideas.’
2. Whether the Federal Circuit’s ‘machine-or-transformation’ test for patent eligibility, which effectively forecloses meaningful patent protection to many business methods, contradicts the clear Congressional intent that patents protect ‘method[s] of doing or conducting business.’ 35 USC §273.

Analysis

On 28 June 2010 ‘all members of the [Supreme] Court agree[d] that the patent application at issue here falls outside of §101 because it claims an abstract idea’. Despite this universal agreement, the rationale of how the various members of the Court reached this conclusion varied dramatically, resulting in three separate opinions.

Justice Kennedy wrote the majority opinion, in which Chief Justice Roberts and Justices Thomas and Alito joined in full, and Justice Scalia joined with all the parts of the opinion except Parts II-B-2 and II-C-2. Justice Stevens, as his last act as a Supreme Court Justice, filed a concurring opinion in which Justices Ginsburg, Breyer and Sotomayor joined. Justice Breyer also wrote a short concurring opinion, in Part I of which he joined Justice Stevens’ concurring opinion, and in Part II he offered his summary ‘highlight[ing] the substantial agreement among many Members of the Court on many of the fundamental issues of patent law raised by this case’. Significantly, Justice Scalia joined in Part II of Justice Breyer’s concurrence, thus arguably making Part II also a majority opinion.

Since Justice Kennedy’s opinion (except Parts II-B-2 and II-C-2) and Part II of Justice Breyer’s concurrence make up what appears to be the majority view of the members of the



Supreme Court, this Current Intelligence focuses on those analyses.

Justice Kennedy's opinion

While *Bilski III* affirmed the decision in *Bilski II*, the rationale set forth by the majority opinion of Justice Kennedy departed from the Federal Circuit's decision in several important respects:

1. It rejected the notion that the 'machine-or-transformation' test applied by the Federal Circuit was the 'exclusive' test.
2. It confirmed that the statutory definition of 'process' found in 35 USC §100(b) should govern what constitutes patenteligible processes, rather than some judicially-grafted definition. The fact that the Patent Act specifically provides for special defences for patents that cover 'a method of doing or conducting business' (35 USC §273(b)(1) & (a)(3)) confirms that 'business method' patents cannot be per se unpatentable subject matter.
3. While it confirmed that the claims at issue in the *Bilski* Application were not patent-eligible subject matter, this was because the claims were 'attempts to patent abstract ideas,' not because they failed to meet some categorical rule formulated to address inventions from a prior century.
4. It left open the opportunity for the Federal Circuit to carve out new boundaries to patent-eligible subject matter in the future that are consistent with the purposes of the Patent Act and not inconsistent with its text.

Justice Kennedy's analysis of how to determine patent-eligibility of a particular claim focused on the statutory requirements and traditional Supreme Court precedent as explained in *Diamond v Diehr*, 450 US 175 (1981), *Parker v Flook*, 437 US 584 (1978) and *Gottschalk v Benson*, 409 US 63 (1972). In particular, he recognized that 'Section 101 thus specifies four independent categories of inventions or discoveries that are eligible for protection: processes, machines, manufactures, and compositions of matter.' He also endorsed the view that "'Congress plainly contemplated that the patent laws would be given wide scope.'" *Diamond v Chakrabarty*, 447 US 303, 308 ... (1980).'

Justice Kennedy recognized that, despite this wide scope, and consistent with the Section 101's requirement that patenteligible inventions be 'new and useful', '[t]he [Supreme] Court's precedents provide three specific exceptions to §101's broad patent-eligibility principles: "laws of nature, physical phenomena, and abstract ideas." *Chakrabarty, supra*, at 309.' He then rejected attempts to limit the four categories of inventions or discoveries beyond their 'ordinary, contemporary, common meaning' or express statutory definition (as in the case of 'process'):

"Any suggestion in this Court's case law that the Patent Act's terms deviate from their ordinary meaning has only been an explanation for the exceptions for laws of nature,



physical phenomena, and abstract ideas. See *Parker v Flook*, 437 US 584, 588–589 ... (1978). This Court has not indicated that the existence of these well-established exceptions gives the Judiciary *carte blanche* to impose other limitations that are inconsistent with the text and the statute’s purpose and design. Concerns about attempts to call any form of human activity a “process” can be met by making sure the claim meets the requirements of §101.”

A minority portion of Justice Kennedy’s opinion (Part II-B-2, not joined by Justice Scalia) noted that ‘times change,’ and that ‘[t]he machine-or-transformation test may well provide a sufficient basis for evaluating processes similar to those in the Industrial Age — for example, inventions grounded in a physical or other tangible form. But there are reasons to doubt whether the test should be the sole criterion for determining the patentability of inventions in the Information Age.’ How the Courts will develop this issue in the future remains an open question.

With respect to the claims of the *Bilski* Application, Justice Kennedy’s analysis focused on applying the *Benson-Flook-Diehr* trilogy to determine that the method of hedging risk claimed merely sought to patent abstract ideas. After discussing the holdings on *Benson*, *Flook* and *Diehr*, he concluded that ‘[i]n light of these precedents, it is clear that petitioners’ application is not a patentable “process.”’

Using a textbook explanation of the concept of ‘hedging’, Justice Kennedy found that ‘Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk’ and as such seek to claim ‘an unpatentable abstract idea, just like the algorithms at issue in *Benson* and *Flook*. Allowing petitioners to patent risk hedging would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.’ Likewise, he found ‘[p]etitioners’ remaining claims [to be] broad examples of how hedging can be used in commodities and energy markets’ which like the claims in *Flook*, merely seek to limit the ‘abstract idea to one field of use’ or add ‘token postsolution components’.

In sum, the majority analysis adopted a strict interpretation of the Patent Act and rejected a narrow application of the machine-or-transformation test to determine patent eligibility under 35 USC §101 in favour of an analysis under the more fundamental principles from which the Federal Circuit sought to develop the machine-or-transformation test. Justice Kennedy summarized the Court’s holding as follows:

“Today, the Court once again declines to impose limitations on the Patent Act that are inconsistent with the Act’s text. The patent application here can be rejected under our precedents on the unpatentability of abstract ideas. The Court, therefore, need not define further what constitutes a patentable ‘process,’ beyond pointing to the definition of that term provided in §100(b) and looking to the guideposts in *Benson*, *Flook*, and *Diehr*.”

Part II of Justice Breyer’s concurring opinion



Part II of Justice Breyer's concurrence draws four 'fundamental' points of agreement that he indicates 'many' (unspecified) members of the Court agree upon. In particular, 'although the text of §101 is broad, it is not without limit.' Justice Kennedy's analysis likewise recognizes the limits that are placed on patent-eligibility, but notes that it is limited to 'three specific exceptions': 'laws of nature, physical phenomena, and abstract ideas'.

Justice Breyer observed 'in a series of cases that extend back over a century, the Court has stated that "[t]ransformation and reduction of an article to a different state or thing is the clue to the patentability of a process claim that does not include particular machines".' Similarly, Justice Kennedy agreed that the 'machine-or-transformation' test provides an 'important and useful' clue and 'investigative tool' to determining patent-eligibility, but recognized in the minority portion of his opinion that 'there are reasons to doubt whether the test should be the sole criterion for determining the patentability of inventions in the Information Age.'

'Third, while the machine-or-transformation test has always been a "useful and important clue," it has never been the "sole test" for determining patentability.' This fundamental principle is the primary error made by the Federal Circuit in *Bilski II*, as explained by the majority.

Finally, Justice Breyer confirmed that 'although the machine-or-transformation test is not the only test for patentability, this by no means indicates that anything which produces a "useful, concrete, and tangible result," *State Street Bank & Trust Co. v Signature Financial Group Inc.*, 149 F. 3d 1368, 1373 (CA Fed. 1998), is patentable.' Justice Kennedy made this point also when he stated in the conclusion: 'And nothing in today's opinion should be read as endorsing interpretations of §101 that the Court of Appeals for the Federal Circuit has used in the past. See, e.g., *State Street*, 149 F. 3d, at 1373; *AT&T Corp.*, 172 F. 3d, at 1357.'

Practical Significance

The issue of which processes are patent-eligible has become important in many industries lately, including financial services, computer software, the internet, and life sciences. The impact of *Bilski III* and the debate created by the *Bilski* decisions are not fully understood and may not be fully appreciated for years to come. For now, so-called 'methods of doing business' are not categorically precluded from patent-eligibility. No doubt, the scope of what patent laws do and should allow to be patent-eligible subject matter will continue to develop and evolve, and the book is not yet closed on this subject. For now, the strongest 'clue' as to what constitutes patent-eligible subject matter may be the 'machine-ortransformation' test, but efforts to create categorical exclusions should be resisted.



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