No. 2007-1130
(Serial No. 08/833,892)

# UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT



IN RE BERNARD L. BILSKI AND RAND A. WARSAW

Appeal from the United States Patent and Trademark Office,
Board of Patent Appeals and Interferences

## BRIEF FOR FINANCIAL SERVICES INDUSTRY AS AMICI CURIAE IN SUPPORT OF AFFIRMANCE

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April 7, 2008

## CERTIFICATE OF INTEREST

Counsel for Financial Services Industry Amici Curiae certifies the following:

1. The full name of every party or amicus represented by us is:

   Bank of America Corporation
   The Financial Services Roundtable
   Lehman Brothers Inc.
   MetLife, Inc.
   Morgan Stanley
   The Clearing House Association L.L.C.
   Wachovia Corporation

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by us is:

   N/A

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the amici curiae represented by us are:

   Bank of America Corporation has no parent corporation, and no publicly held corporation owns 10 percent or more of its stock.

   The Clearing House Association L.L.C. has no parent corporation, and no publicly held corporation owns 10 percent or more of its limited liability company interest.

   The Financial Services Roundtable has no parent corporation, and no publicly held corporation owns 10 percent or more of its stock.

   The Clearing House Association L.L.C. and The Financial Services Roundtable are membership organizations, their members are: ABN AMRO Bank N.V.; AEGON USA, Inc.; Affiliated Managers Group, Inc.; Allianz Life Insurance Company of North America; Allied Capital Corporation; The Allstate Corporation; American International Group, Inc. (AIG); Ameriprise Financial, Inc.; Aon Corporation; Associated Banc Corp.; Assurant, Inc.; AXA Financial, Inc.; BancorpSouth, Inc.; BancWest Corporation; Bank of America, N.A.; Bank of America Corporation; Bank of Hawaii Corporation; The Bank of New York; The Bank of New York Mellon Corporation;

Barclays Capital, Inc.; BB&T Corporation; Brown & Brown Insurance; Capital One Financial Corporation; The Charles Schwab Corporation; The Chubb Corporation; Citibank, N.A.; Citigroup Inc.; Citizens Financial Group, Inc.; City National Corporation; Comerica Incorporated; Commerce Bancshares, Inc.; Compass Bancshares, Inc.; Countrywide Financial Corporation; Cullen/Frost Bankers, Inc.; Deutsche Bank Trust Company Americas; Edward Jones; Federated Investors, Inc.; Fidelity Investments; Fifth Third Bancorp; First Commonwealth Financial Corporation; First Horizon National Corporation; Ford Motor Credit Company; Fulton Financial Corporation; General Electric Company; Genworth Financial; GMAC Financial Services; Guaranty Financial Services; Harris Bankcorp, Inc.; The Hartford Financial Services Group, Inc.; HSBC Bank USA, N.A.; HSBC North America Holdings, Inc.; Huntington Bancshares Incorporated; ING; John Deere Credit Company; John Hancock Financial Services, Inc.; JPMorgan Chase Bank, N.A.; JPMorgan Chase & Co.; KeyCorp; Legg Mason, Inc.; Lincoln National Corporation; M&T Bank Corporation; Marshall & Ilsley Corporation; MasterCard Incorporated; Merrill Lynch & Co., Inc.; Mutual of Omaha Insurance Company; The NASDAQ Stock Market, Inc.; National City Corporation; Nationwide; Northern Trust Corporation; Northwestern Mutual Life Insurance Company; The PMI Group, Inc.; The PNC Financial Services Group, Inc.; Popular, Inc.; Principal Financial Group; Protective Life Corporation; Prudential Financial Inc.; Raymond James Financial, Inc.; RBC Centura Banks, Inc.; Regions Financial Corporation; Safeco Corporation; State Farm Insurance Companies; State Street Corporation; SunTrust Banks, Inc.; Synovus; TD Banknorth Inc.; TIAA-CREF; Toyota Financial Services; UBS; UBS AG; UnionBanCal Corporation; United Bankshares, Inc.; Unum; USAA; U.S. Bancorp; U.S. Bank N.A.; Visa, Inc.; Wachovia Bank, N.A.; Wachovia Corporation; Waddell & Reed Financial, Inc.; Washington Mutual, Inc.; Webster Financial Corporation; Wells Fargo Bank, N.A.; Wells Fargo & Company; Western & Southern Financial Group; Whitney Holding Corporation; Zions Bancorporation; Zurich Financial Services.

The parent company of Lehman Brothers Inc. is Lehman Brothers Holdings Inc. Lehman Brothers Holdings Inc. is a publicly traded company that owns 100 percent of Lehman Brothers Inc. No publicly traded company owns 10 percent or more of Lehman Brothers Holdings Inc.

MetLife, Inc. has no parent corporation, and no publicly held corporation owns 10 percent or more of its stock.

Morgan Stanley has no parent corporation. State Street Bank & Trust Company beneficially owns 12.97% of Morgan Stanley's stock.

Wachovia Corporation has no parent corporation, and no publicly held corporation owns 10 percent or more of its stock.

4. The names of all law firms and the partners or associates who appeared for the party now represented by us in the trial court or agency or are expected to appear in this Court are:

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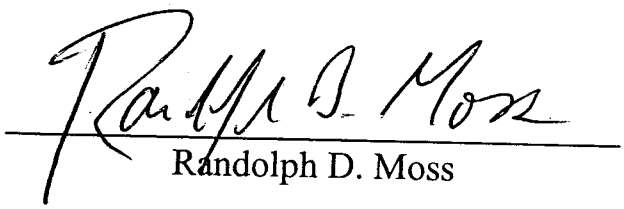

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## INTEREST OF AMICI CURIAE

Bank of America Corporation, The Clearing House Association L.L.C., Lehman Brothers Inc., The Financial Services Roundtable, MetLife, Inc., Morgan Stanley, and Wachovia Corporation (collectively, "Financial Services Industry Amici") are leading financial institutions and organizations that share a grave concern about the threat to innovation, consumer welfare, and economic efficiency posed by the issuance of patents on abstract ideas, like the claim at issue in this case. The financial services industry is substantially affected by patents of this type, which expand the bounds of patentable subject matter beyond what is fairly encompassed by the statutory bases for patent protection. The rise of these patents in recent years has also led to uncertainty over the scope of the patents granted and, more fundamentally, the definition of patentable subject matter itself. Amici seek a workable standard defining the scope of patentable subject matter, one that is grounded in the text and purposes of the Patent Clause, Patent Act, and controlling Supreme Court precedent and that provides clear guidance to the Patent and Trademark Office ("PTO") and the public.[1]

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[1] Amici are authorized to file this brief pursuant to this Court's Order of February 15, 2008.

## INTRODUCTION

The Constitution vests Congress with the power to "promote the Progress of . . . useful Arts" by granting monopolies for limited times to inventors. U.S. Const. art. I, § 8, cl. 8. These limited monopolies are allowed, despite the general aversion to monopolies, because they are counterbalanced by a corresponding incentive to innovate and to enrich the "useful arts." The courts have long recognized, however, that the power to grant patent monopolies does not extend to abstract ideas and mental processes because—most fundamentally—granting a monopoly over the use of an abstract idea hinders rather than promotes innovation.

This core principle has been eroded in recent years. Although this Court—and the PTO through its application of this Court's recent precedents—has attempted to limit the reach of process patents by requiring that a "non-transformative" process produce a "useful, concrete, and tangible result," that standard has proven unworkable and cannot be reconciled with controlling Supreme Court precedent. The absence of a workable limit to ensure that abstract ideas remain outside the realm of patent protection, moreover, has resulted in a rapid, and unwarranted, expansion in the scope of patent protection.[2]

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[2] *See* United States Patent and Trademark Office, Class 705 Application Filing and Patents Issued Data, *available at* http://www.uspto.gov/web/menu/pbmethod/applicationfiling.htm (last modified Jan. 31, 2008) (showing that

This case and the questions posed by the Court can (and should) be resolved by reaffirming long-settled principles of patent law—most notably, the fundamental distinction between unpatentable algorithms, abstract ideas, and mental processes, on the one hand, and patentable processes that perform "a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing)," *Diamond v. Diehr*, 450 U.S. 175, 192 (1981), on the other. To that end, Amici propose that the courts, and the PTO, should consider the following factors in determining whether a patent application addresses patentable subject matter:

(1) Abstract ideas and mental processes are not patentable;

(2) Processes that result in a physical transformation of matter are patent-eligible;

(3) Non-transformative processes may, at times, also be patent-eligible, but only if necessarily tied to a particular apparatus in a non-conventional way—like the invention of the telephone;

(4) The addition of a token post-solution activity—such as a display or printout of data or the triggering of an alarm—or the conventional use of a

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applications for Class 705 (Business Method) patents increased from less than 1,000 applications in 1997 to more than 11,000 applications in 2007).

machine—like using a computer to run an algorithm or gathering data—does not render an otherwise-unpatentable process patent-eligible;

(5) The form of a claim (*e.g.*, whether reciting the conventional use of a machine as part of a process or as a system to carry out an otherwise-unpatentable process) does not affect whether the claim recites patent-eligible subject matter; and

(6) While other factors might come into play in a case involving a technological advancement of the kind the Patent Act may not have foreseen but was intended to foster, there is no reason to depart from settled principles when dealing with subject matter—like how to hedge risks or structure and administer financial relationships—that has existed since the time the Patent Act was first enacted.

In Part I, Amici address Questions 1, 2, 3, and 4 of this Court's Order granting hearing en banc and calling for supplemental briefing. Amici explain when a claim that includes mental and physical steps is patent-eligible; identify the extent to which a method or process must result in physical transformation or be tied to a particular machine; review the relevant factors for assessing when a process or method is patent eligible; and, applying these factors, conclude that the PTO correctly found that claim 1 of the 08/833,892 patent application did not claim patent-eligible subject matter. In Part II, in response to Question 5 of this

Court's Order, Amici respectfully submit that *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999), should be reconsidered and overruled. Those decisions represent a departure from both the constitutional and statutory bases for patentability, are contrary to Supreme Court precedent, and have created substantial deleterious effects.

## ARGUMENT

### I. Abstract Ideas And Mental Processes Are Not Patentable Subject Matter, And Conventional Or Token Use Of A Machine Is Insufficient To Render Such An Idea Patent-Eligible.

Not every process falls within the meaning of 35 U.S.C. § 101. *See, e.g., Parker v. Flook*, 437 U.S. 584, 588-589 (1978). Rather, in identifying patentable "processes," courts must look to the purposes of the Patent Clause of the Constitution and the Patent Act and to controlling precedent, including the Supreme Court's decisions in *Diamond v. Diehr*, *Parker v. Flook*, and *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972). Although "[t]he line between a patentable 'process' and an unpatentable 'principle,' is not always clear," *Flook*, 437 U.S. at 589, these sources provide substantial guidance in answering the questions that this Court has posed.

### A. The Constitutional And Statutory Understandings Of Patentable Subject Matter Set Forth Fundamental Limiting Principles On Patentability

Patents were intended to create a narrow exception to the general public policy against monopolies: "[T]he federal patent power[,] . . . unlike the power often exercised in the sixteenth and seventeenth centuries by the English Crown, is limited to the promotion of advances in the 'useful arts.' It was written against the backdrop of the practices . . . of the Crown in granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public." *Graham v. John Deere Co.*, 383 U.S. 1, 5 (1966) (internal citation and footnote omitted). The Constitution thus restricts the patent power to the promotion of the "useful arts"—what "'today [is] called technological innovation.'" *In re Comiskey*, 499 F.3d 1365, 1375 (Fed. Cir. 2007) (quoting *Paulik v. Rizkalla*, 760 F.2d 1270, 1276 (Fed. Cir. 1985) (en banc)).[3]

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[3] *See also In re Nuijten*, 500 F.3d 1346, 1361 (Fed. Cir. 2007) (Linn, J., concurring in part and dissenting in part) ("[T]he four categories of statutory subject matter have consistently been intended to complement one another and to protect the full scope of technological ingenuity—the 'useful Arts.'"); *In re Alappat*, 33 F.3d 1526, 1552 (Fed. Cir. 1994) (en banc) (Archer, C.J., concurring in part and dissenting in part) ("[P]atent law rewards persons for inventing technologically useful applications."); *In re Musgrave*, 431 F.2d 882, 893 (CCPA 1970) (patentable processes must "be in the technological arts so as to be in consonance with the Constitutional purpose to promote the progress of 'useful arts.'") (citation omitted); Karl B. Lutz, *Patents and Science: A Clarification of the Patent Clause of the U.S. Constitution*, 18 Geo. Wash. L. Rev. 50, 54 ("The term

The first iterations of the Patent Act extended patent protection only to "any new and useful art, machine, manufacture, or composition of matter." 1 Stat. 318, 319 (1793). Consistent with the overall purposes of the Patent Clause, in *Corning v. Burden*, 56 U.S. (15 How.) 252 (1854), the Supreme Court interpreted the statutory reference to "art" to include "methods, or operations, ... called processes," such as the "arts of tanning, dyeing, making water-proof cloth, vulcanizing India rubber, [and] smelting ores." *Id.* at 267. In *Cochrane v. Deener*, 94 U.S. 780, 788 (1876), the Court reaffirmed that conclusion and, again, defined "[a] process [as] a mode of treatment of certain materials to produce a given result." Significantly, the Court explained that a "process"

> is an act, or series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art.

*Id.* (emphasis added).

When Congress amended the Patent Act in 1952 to substitute the term "process" for the term "art" in the definition of patentable subject matter, it did not alter this historical understanding of the scope, and limits, to patent protection. Rather, the amendment was essentially ministerial: "The word 'process' has been used to avoid the necessity of explanation that the word 'art' as used in this place

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'useful arts,' as used in the Constitution and in the titles of the patent statutes is best represented in modern language by the word 'technology.'").

means 'process or method.'" S. Rep. No. 82-1979, *reprinted in* 1952 U.S.C.C.A.N. 2394, 2398-2399. *See also Graham*, 383 U.S. at 3-4. Thus, the 1952 amendment did not expand the scope of patentable subject matter, but merely reaffirmed what the courts had already held. And, the courts had made clear by then that a "process," by definition, is transformative.[4]

Cases subsequent to the 1952 Act make clear that the amendment did not change the standard for assessing when a "process" is patent-eligible, *see Diehr*, 450 U.S. at 184 ("Analysis of the eligibility of a claim of patent protection for a process did not change with the addition of that term to § 101."), and, indeed, those cases reaffirmed the core standard articulated prior to the 1952 Act. In *Diehr*, for example, the Court quoted the definition of "process" given in *Cochrane*—

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[4] Much has been made of a statement in the legislative history of the 1952 Act, which is often quoted as follows: "Congress intended statutory subject matter to 'include anything under the sun that is made by man.'" *AT&T*, 172 F.3d at 1355 (citation omitted). When placed in proper context, however, it is clear that this statement supports the unremarkable proposition that, while all patents represent inventions, not all inventions are patentable. The full statement from the committee report reads:

> A person may have "invented" a machine or a manufacture, which may include anything under the sun that is made by man, *but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled.*

S. Rep. No. 82-1979, *reprinted in* 1952 U.S.C.C.A.N. 2394, 2399 (emphasis added). If anything, this language provides support for the proposition that the Patent Act does *not* protect all inventions, but only those that meet the Act's specific statutory requirements. Moreover, the invention of a "machine or a manufacture" cannot be equated with abstract methods, like those at issue here.

including the requirement that "the subject-matter ... be transformed and reduced to a different state or thing," *id.* at 183—as did the Court in *Benson*, 409 U.S. at 70 (repeating *Cochrane*'s definition of "process"). *Cf. infra* at 17-18.

It was also understood at the time of the 1952 Act that an abstract idea for providing a successful business service, no matter how ingenious or inventive, did not constitute a patentable "method" or "process." As Judge Rich explained in an article published just eight years after the 1952 amendment:

> Of course, not every kind of an invention can be patented. Invaluable though it may be to individuals, the public, and national defense, the invention of a more effective organization of the materials in, and the techniques of teaching a course in physics, chemistry, or Russian is not a patentable invention because it is outside of the enumerated categories of "process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Also outside that group is one of the greatest inventions of our times, the diaper service.

Rich, *The Principles of Patentability*, 42 J. Pat. Off. Society 75, 75-76 (1960) (quoting 35 U.S.C. § 101). That is, although one might describe a method for running a "diaper service" as a "process," it was not—and is not—the sort of "process" that is subject to protection under § 101.

### B. The Supreme Court Has Only Found A Process To Recite Patentable Subject Matter Where There Is A Physical Transformation Or The Process Is Tied To A Particular Machine Or Apparatus In A Non-Conventional Manner.

The key to patentability is the promotion of technological innovation. Instead of creating incentives for competitors to develop better, more specific

applications of abstract ideas, however, granting patent monopolies to abstract ideas removes these general concepts, the building blocks of innovation, from the public domain. Thus, it is well-settled that an abstract idea—even an idea about a "process" or "method"—is not patentable subject matter. "[N]o one can claim in ... [an abstract idea] an exclusive right." *Benson*, 409 U.S. at 67 (internal quotation marks omitted). Similarly, laws of nature and natural phenomenon are not patentable because "they are not the kind of 'discoveries' that the statute was enacted to protect." *Flook*, 437 U.S. at 593. And, since they are like laws of nature, mathematical formulae or algorithms also cannot be the subject of a patent. *Diehr*, 450 U.S. at 186.

To ensure that a process or method patent is not granted for an otherwise unpatentable abstract idea or algorithm, the Supreme Court has repeatedly looked to whether the "process" results in a physical transformation. As the Court wrote in *Benson*, "[t]ransformation and reduction of an article 'to a different state or thing' is the clue to...patentability." 409 U.S. at 70. *See also Diehr*, 450 U.S. at 182-184 (quoting *Benson*); *id.* at 197 (Stevens, J., dissenting) ("[A] patentable process must cause a physical transformation in the materials to which the process is applied."). The Supreme Court has also allowed patents for processes that employ an apparatus, *Telephone Cases*, 126 U.S. 1, 8 S. Ct. 778, 785 (1888), but only where the process is necessarily tied to a machine or apparatus in a non-

conventional way, *cf. Flook*, 437 U.S. at 590 ("post-solution activity" that is "conventional" cannot "transform an unpatentable principle into a patentable process"). In contrast, where the process simply uses a known machine to do what it was designed to do, such as using an existing computer to perform mathematical calculations, use of the apparatus will not bring otherwise unpatentable subject matter within the scope of § 101. *See Benson*, 409 U.S. at 67 ("The mathematical procedures can be carried out in existing computers long in use, no new machinery being necessary.").

The process patent applications that the Court has sustained are illustrative. *Diehr*, for example, turned on the fact that the invention at issue involved more than a "mathematical formula" and more than "'a new method of programming a digital computer in order to calculate . . . the correct curing time in a familiar process.'" 450 U.S. at 193 n.14, n.15 (citation omitted). Rather, the application claimed "a process of curing rubber"—that is, a process that transformed "an article to a different state or thing." *Id.* at 193 n.15; *id.* at 184 (internal quotation marks omitted).

The *Telephone Cases*, in contrast, did not involve a process that "transformed" a particular "article," but the application did claim a "process" that was necessarily, and fundamentally, tied to a particular apparatus that was an essential part of the invention. There, the claim was "not alone for the particular

apparatus he describe[d], but for the process that apparatus was *designed to bring into use*." 8 S. Ct. at 785 (emphasis added). The role of the apparatus, thus, was not simply an afterthought to the process but rather an integral part. The use of the apparatus—the telephone—moreover, was far from conventional, unlike use of a telephone would be in today's world.

Critically, where the patentability of a "process" turns on adding the use of an apparatus, such as a computer, to an otherwise unpatentable abstract idea or mental process, the use of the apparatus must be new and essential to the claimed invention. Accordingly, the addition of the physical step of a conventional computing method to an abstract idea does not, for example, render the abstract idea patentable. *See Flook*, 437 U.S. at 594; *Telephone Cases*, 8 S. Ct. at 781.

Thus, in *Benson*, the rejected process involved the implementation of an algorithm *on a computer*. 409 U.S. at 71-72. The inclusion in Benson's claim of a specific computer component (a shift register) did not alter the conclusion that it was not patentable subject matter. The Supreme Court concluded that granting a patent on this method "in practical effect would be a patent on the algorithm itself," notwithstanding the fact that the process involved a machine. 409 U.S. at 64, 72.

Similarly, the Court held in *Flook* that a method for updating an alarm limit was not patentable subject matter, where "[t]he only novel feature of the method

[was] a mathematical formula." 437 U.S. at 585. Although the process claimed did not specify an apparatus, the "abstract of disclosure" made clear that the invention could utilize computers in its calculation of the mathematical formula. *Id.* at 586. Yet, this conventional use of a computer would be insufficient to render the unpatentable algorithms patentable.

Most fundamentally, it is "[t]he process *itself*, not merely the mathematical algorithm, [that] must be new and useful." *Flook*, 437 U.S. at 591 (emphasis added); *see also Diehr*, 450 U.S. at 187-188. As a result, if a process uses an existing machine or apparatus, the use of the apparatus must be new; it is not enough simply to link an unpatentable process to the conventional use of a computer or other existing machine. *See Benson*, 409 U.S. at 71-72. Indeed, a contrary rule would "exalt[] form over substance," *Flook*, 437 U.S. at 590, and would undermine the proscription on the patenting of abstract ideas and mental processes. "A competent draftsman could attach some form of [apparatus] to almost any mathematical formula" or abstract idea, but "[t]he concept of patentable subject matter under § 101 is not" so malleable. *Id.* (citation omitted).

This principle finds support in this Court's pre-*State Street* decisions as well. For example, this Court has recognized that "the addition of the old and necessary antecedent steps of establishing values for the variables in the equation," is insufficient to bring an algorithm within the ambit of the patent laws. *In re Grams*,

888 F.2d 835, 839 (Fed. Cir. 1989) (citing *In re Christensen*, 478 F.2d 1392, 1394 (CCPA 1973)). Such ordinary steps do not "convert the disembodied ideas present in the formula into an ... application of the formula," *In re Sarkar*, 588 F.2d 1330, 1335 (CCPA 1978), as is required in order to allow a patent on the use of a formula. *See Flook*, 437 U.S. at 591. For the same reason that mere antecedent data gathering is insufficient to bring an otherwise-unpatentable algorithm within the reach of § 101, the conventional step of running an algorithm on a computer is also insufficient. *See In re Alappat*, 33 F.3d 1526, 1557 (Fed. Cir. 1994) (en banc) (Archer, C.J., concurring in part and dissenting in part) ("[T]he mere association of digital electronics or a general purpose digital computer with a newly discovered mathematic operation does not *per se* bring that mathematic operation within the patent law.").

The critical question is "'What did applicants invent?'" *See Grams*, 888 F.2d at 839 (quoting *In re Abele*, 684 F.2d 902, 907 (CCPA 1982)). If the invention, at bottom, is no more than the algorithm, mental process, or other abstract idea, then it is not an invention to which the patent laws extend.[5] Such an

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[5] This Court has more recently stated that "[t]he routine addition of modern electronics to an otherwise unpatentable invention typically creates a prima facie case of obviousness." *In re Comiskey*, 499 F.3d 1365, 1380 (Fed. Cir. 2007). Amici agree that the mere addition of a modern computer to an abstract process does not render it patentable, but submit that the process is not patentable subject matter under § 101, *see, e.g., Benson*, 409 U.S. at 71, and thus the courts need not

invention would involve, as the Supreme Court recognized in *Benson* and *Flook*, at most a conventional use of an existing computer or other apparatus, and not patent-eligible subject matter. As *Flook* and *Diehr* also make clear, this determination can—and should—be made as a threshold matter under § 101. *See Flook*, 437 U.S. at 593; *Diehr*, 450 U.S. at 191.

A slight modification of Judge Rich's example of the idea of a diaper service as non-patentable subject matter (*supra* at 9) helps illustrate the point. Although the idea of a diaper service might, at the right time, have been both inventive and highly useful, it would not have constituted the type of "process" to which patent protection should be extended. Were a patent application to describe a diaper service, and to specify that subscriptions to the service would be taken using a telephone, this fact would not render the process patent-eligible. The same conclusion would follow if the diaper service claim were to include the use of a computer program to take and track orders. In each case, the addition of the

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reach the separate obviousness inquiry under § 103. In *Comiskey*, the Court relied on *State Street* and *AT&T* for the proposition that combining the use of a machine with an unpatentable mental process produced patentable subject matter, 499 F.3d at 1379-1380; however, as described in further detail below, to the extent these cases support such a result, they are wrongly decided. Moreover, the obviousness doctrine is a particularly inadequate gatekeeper to patentability for applications seeking to patent business methods, given the difficulty of searching prior art for these types of applications. *See* Novak, *An Overview and Primer on Intellectual Property for the Insurance Industry*, 902 PLI/Comm 859, 871 (2008). This is all the more reason to ensure that the limitations on patentability embraced by § 101 are not weakened. *See Diehr*, 450 U.S. at 191; *Flook*, 437 U.S. at 593.

conventional use of a telephone or computer would not render the process patentable. *Cf.* Raskind, *The* State Street Bank *Decision: The Bad Business of Unlimited Patent Protection for Methods of Doing Business*, 10 Fordham Intell. Prop. Media & Ent. L.J., 61, 66 (1999) ("[A patent for obtaining magazine subscriptions] comes within the *State Street Bank* rubric if the vendor's communications with publishers is accomplished by means of a computer program. Suppose, however, it involves a telephone call. Does the analysis of *State Street Bank* grant patent protection to a telephone call, which achieves a useful result?").

For this same reason, "conventional," *Flook*, 437 U.S. at 590, *post-solution* activity—application of the process to a specified end use—is also insufficient to establish patentable subject matter. "[T]he Pythagorean theorem would not have been patentable ... because a patent application contained a final step indicating that the formula, when solved, could be usefully applied to existing surveying techniques." *Flook*, 437 U.S. at 590. *See also Diehr*, 450 U.S. at 191-192 & n.14 ("[A] mathematical formula does not become patentable subject matter merely by including in the claim for the formula token postsolution activity."). Just as it is insufficient to make conventional use of an apparatus in an otherwise unpatentable process, it is not enough to tack onto the end of an abstract process the use of a printer or computer monitor to display data produced by the algorithm. Rather, this is the exact type of "token postsolution activity" that is insufficient to

transform an unpatentable formula into a patentable process. *Diehr*, 450 U.S. at 192 n.14.

Although the Supreme Court has never recognized a "process" patent that is not either physically transformative or necessarily tied to the non-conventional use of a particular machine or apparatus, this is not to say that the current state of the law is forever cast in stone. *See Flook*, 437 U.S. at 588 n.9; *Benson*, 409 U.S. at 71. In a field defined by innovation and change over time, to foreclose unknown and perhaps unknowable innovation through absolute rules would run contrary to the very goals of patent protection. Yet, the Supreme Court has also stressed that courts "must proceed cautiously when ... asked to extend patent rights into areas wholly unforeseen by Congress." *Flook*, 437 U.S. at 596.

Here, however, the relevant area or field is not the product of unforeseen innovation or a leap in scientific or technological learning. To the contrary, methods of doing business—and even inventive means of hedging risks, accounting, or structuring financial relationships—have existed since the earliest days of the Patent Act and went for decades without the type of protection Appellants and other similarly situated applicants seek. Indeed, "[t]he framers consciously acted to bar Congress from granting letters patent in particular types of business." *Comiskey*, 499 F.3d at 1375. As recent experience has shown, moreover, extending patent protection to methods of doing business of this type

raises a host of policy difficulties, discussed further below, best left to Congress to consider in the first instance.[6] In this context, there is no reason to go beyond the traditional requirements of patentability, and, in fact, there is compelling reason not to do so.

### C. This Court Should Be Guided By A Factor-Based Test In Assessing Whether A Claimed Process Is Patent-Eligible.

As the discussion above illustrates, the parameters of patentable subject matter are delineated by a series of considerations rather than any one all-encompassing definition. A number of factors can be discerned from the analysis set forth above. Although these factors may not be exhaustive, they provide substantial guidance in assessing patent-eligibility, and should resolve the vast majority of cases involving the application of § 101 to processes:

(1) Abstract ideas and mental processes are not patentable;

(2) Processes that result in a physical transformation of matter are patent-eligible;

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[6] To the extent that Appellants rely on the *First Inventor Defense Act of 1999*, 35 U.S.C. § 273, as suggesting Congressional ratification of the patentability of amorphous business methods, this reliance is misplaced. Appellants' Supplemental Br. 5, 14. In fact, this legislative response to *State Street* is more properly viewed as reflecting Congressional skepticism of the patentability of business methods by protecting businesses from being required to pay license fees "[i]n the wake of *State Street*." 145 Cong. Rec. S14,717 (daily ed. Nov. 17, 1999).

(3) Non-transformative processes may, at times, also be patent-eligible, but only if necessarily tied to a particular apparatus in a non-conventional way;

(4) The addition of a token post-solution activity or the conventional use of a machine does not render an otherwise-unpatentable process patent-eligible;

(5) The form of a claim (*e.g.*, whether reciting the conventional use of a machine as part of a process or as a system to carry out an otherwise-unpatentable process) does not affect whether the claim recites patent-eligible subject matter; and

(6) While other factors might come into play in a case involving a technological advancement of the kind the Patent Act may not have foreseen but was intended to foster, there is no reason to depart from settled principles when dealing with subject matter that has existed since the time the Patent Act was first enacted.

* * *

Measured against these factors, the Bilski patent application was properly rejected. The application merely seeks protection for the principle of hedging in the abstract, tailored only slightly to a particular business application. The process is not tied in a non-conventional manner (or, indeed, at all) to a particular apparatus and does not transform or reduce an article to a different state or thing, nor does it involve technological innovation or the technological arts. The claims

simply do not recite a process that "perform[s] a function which the patent laws were designed to protect." *Diehr*, 450 U.S. at 192. At bottom, Bilski's patent application seeks protection for nothing more than an abstract idea, which this Court has rightly noted is "not in and of itself patentable." *Comiskey*, 499 F.3d at 1379.

## II. *State Street* And *AT&T* Should Be Overruled.

*State Street* and *AT&T* were incorrectly decided and should be overruled. It is appropriate to reconsider these cases now because they have had substantial deleterious effects on both the underlying legal doctrine and the public interest in a workable, fair, and efficient patent system.[7]

### A. *State Street* And *AT&T* Were Wrongly Decided.

*State Street* and *AT&T* are wrong in principle; extending patent protection to pure methods of doing business, such as the hub and spoke process at issue in *State Street* or the billing process claimed in *AT&T*, is contrary to the constitutional and statutory basis for granting patent monopolies discussed above. Although the

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[7] When precedents prove unworkable it is appropriate to reconsider them, notwithstanding the general principles of *stare decisis*. In acting en banc to overrule a panel decision, this Court recently cited "inconsisten[cy] with Supreme Court precedent" and "practical concerns . . . under the current regime" as justifications for overruling a prior precedent. *In re Seagate Technology, LLC*, 497 F.3d 1360, 1370, 1371 (Fed. Cir. 2007) (en banc); *see also George E. Warren Corp. v. United States*, 341 F.3d 1348, 1351 (Fed. Cir. 2003) (en banc court may overrule prior panel decisions).

claim in *State Street* recited a "system," the "invention" was the hub and spoke process; artful drafting cannot turn an unpatentable process into a patent-eligible system. *See Flook*, 437 U.S. at 590; *Benson*, 409 U.S. at 67-68.

Furthermore, the "useful, concrete, and tangible result" formulation of patentability enumerated in *State Street* should be reconsidered. The Supreme Court "has never made such a statement and, if taken literally, the statement would cover instances where [the Supreme] Court has held the contrary." *Laboratory Corp. of America Holdings v. Metabolite Labs., Inc.*, 126 S. Ct. 2921, 2928, 548 U.S. 124, --- (2006) (Breyer, J., joined by Stevens and Souter, J.J., dissenting from dismissal of the writ as improvidently granted) (citing *Flook* and *Benson*).

A test measuring patentability based on whether a process produces a "useful, concrete, or tangible result" is also inconsistent with the Supreme Court's admonition that "useful, though conventional, post-solution applications" are not sufficient to establish patent-eligibility. *Flook*, 437 U.S. at 590; *see also Diehr*, 450 U.S. at 191-192. The result found sufficient to render the process patentable in *State Street*, for example, was no more than a number—a share price. *State Street*, 149 F.3d at 1373 ("[T]he transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price . . . produces 'a useful, concrete, and tangible result'—a final share price."). The conclusion that such a "result" is sufficient to render the process

patentable is directly contrary to the Supreme Court's determination in *Flook* that, where a method is no more than the application of a mathematical formula to produce a number—there, an updated alarm limit—it is not addressed to patentable subject matter. 437 U.S. at 590. *See also Diehr*, 450 U.S. at 191-192 & n.14.

The outcome in *State Street* is also contrary to the Supreme Court's determination in *Benson*: the conversion of binary coded numerals into pure binary numerals was just as "tangible" and "useful" as the transformation of data into a final share price, but the Supreme Court held that the *Benson* application fell beyond the reach of § 101. This Court has also recognized that "'if a claim [as a whole] is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.'" *Comiskey*, 499 F.3d at 1378 (quoting *Flook*, 437 U.S. at 595, in turn quoting *In re Richman*, 563 F.2d 1026, 1030 (CCPA 1977)).

Likewise, the *AT&T* decision is at odds with Supreme Court precedent. In *AT&T*, this Court described the claim as follows: "AT&T's claimed process employs subscribers' and call recipients' PICs as data, applies Boolean algebra to those data to determine the value of the PIC indicator, and applies that value through switching and recording mechanisms to create a signal useful for billing purposes." *AT&T*, 172 F.3d at 1358. This, the *AT&T* court held, was sufficient because it applied a well-known mathematical principle—indisputably not

patentable—to produce a useful result—the call recipient's long distance carrier. Yet, as explained above, this reasoning is inconsistent with *Flook* and *Benson*.

To the extent that the claims in *State Street* and *AT&T* were thought patentable because they were tied to a particular machine, a computer, *see Comiskey*, 499 F.3d at 1379-1380 (citing *State Street* and *AT&T* for the proposition that "[w]hen an unpatentable mental process is combined with a machine, the combination may produce patentable subject matter"), this too is contrary to Supreme Court precedent. The mere fact that what was sought to be patented in those cases involved the unexceptional step of running an algorithm through a computer does not differentiate the claims in *State Street* and *AT&T* from those rejected as unpatentable in *Benson* and *Flook*, both of which also were implemented using computers, *see supra* at 12-13. In *Benson*, the claim included the use of a shift register, and thus a computer process, in its description, 409 U.S. at 73-74, whereas in *Flook* the claim description itself did not include a computer, although the Court observed that "the formula is primarily useful for computerized calculations." 437 U.S. at 586. Thus, the mere addition of the computer to the claim description cannot provide a basis for distinguishing the patent applications at issue in *State Street* and *AT&T* from those rejected by *Flook* and *Benson*.

Artful claim drafting, moreover, cannot make unpatentable subject matter patentable. *Flook*, 437 U.S. at 590; *see also Benson*, 409 U.S. at 67-68 ("the same

principle applies" to product and process claims). Indeed, one can easily rewrite the patent claim in *Flook* to mirror the *State Street* claim, without changing the substance of the claim:

| *State Street* Claim 1 | Modified Flook claim (additions underlined, deletions struck through) |
|---|---|
| 1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising | 1. A ~~method~~ data processing system for updating the value of at least one alarm limit on at least one process variable involved in a process comprising the catalytic chemical conversion of hydrocarbons wherein said alarm limit has a current value $B_o + K$, wherein $B_o$ is the current alarm base and K is a predetermined alarm offset which comprises: |
| a. computer processor means for processing data; | a. computer processor means for processing data; |
| b. storage means for storing data on a storage medium; | b. storage means for storing data on a storage medium; |
| c. first means for initializing the storage medium; | c. first means for initializing the storage medium; |
| d. second means for processing data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds, assets and for allocating the percentage share that each fund holds in the portfolio; | d. second means for determining the present value of said process variable, said present value being defined as PVL; |
| e. third means for processing data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and for allocating such data among each | e. third means for determining a new alarm base B1, using the following equation: $B1 = Bo(1.0 - F) + PVL(F)$, where F is a predetermined number greater than zero and less |

| | |
|---|---|
| fund; | than 1.0; |
| f. fourth means for processing data regarding daily net unrealized gain or loss for the portfolio and for allocating such data among each fund; and | f. fourth means for determining an updated alarm limit which is defined as B1 + K; |
| g. fifth means for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds. | g. fifth means for adjusting said alarm limit to said updated alarm limit value. |

Thus, there is no meaningful difference between the claim upheld in *State Street* and the claim the Supreme Court rejected in *Flook*.

### B. It Is Appropriate To Reconsider *State Street* And *AT&T*.

*State Street* and *AT&T*—and the question of their metes and bounds—are the subject of much confusion and disagreement. As noted by the Board of Patent Appeals and Interferences below, after *State Street* and *AT&T*, "many questions remain about statutory subject matter and what the tests are for determining statutory subject matter." *Ex Parte Bilski*, BPAI Appeal No. 2002-2257, at 7 (Mar. 8, 2006); *see Ex Parte Lundgren*, BPAI Appeal No. 2003-2088, at 54-63 (Apr. 20, 2004) (Barrett, J., concurring in part and dissenting in part) (parsing *State Street* and *AT&T* in an attempt to determine whether the decisions altered prior law and how to apply them going forward). *See also eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 397 (2006) (Kennedy, J., joined by Stevens, Souter, and Breyer, J.J.,

concurring) (noting the "suspect validity" of the "burgeoning number of patents over business methods").

This uncertainty is compounded by the fact that it is often difficult to know what is covered by the patents that ultimately issue, because frequently the claims are broadly-worded and vague. It is also exceedingly difficult to identify prior art for method patent applications. Unlike with more-established patentable subject matter, relevant prior art is unlikely to be found in prior patents or even academic publications, and will often be protected by trade-secret law. *See* Matelan, *The Continuing Controversy Over Business Methods Patents*, 18 Fordham Intell. Prop. Media & Ent. L.J. 189, 203 & n.79 (2007); Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 Santa Clara Computer & High Tech. L. J. 263, 269 (2000). The difficulty in searching prior art also undermines the function of the § 103 obviousness determination as a means of "backstopping" the § 101 determination. *See supra* n.5. For this reason, properly defining the scope of patentable processes is particularly critical—once it is determined that a type of process is a patentable subject matter, other limitations on patentability, including §§ 102 and 103, may be difficult to apply.

All of the above has contributed to an increase in patents sought by and granted to those attempting to secure monopoly protection for methods of doing business to extract rents, as well as those forced to seek patents defensively to

avoid rent-seekers. This increase in patent applications has led to a significant processing backlog in the PTO for these applications—a backlog that is compounded by the fact that the standards for patentability are so unclear. Baird, *Business Method Patents: Chaos at the USPTO or Business as Usual?*, 2001 J.L. Tech. & Pol'y 347, 348 (2001).

The nature of most business method patents—including the relatively low cost of investment and prospects for high licensing returns—also makes them particularly attractive to applicants who do not promote innovation or seek to make use of the patented "inventions," but rather to extract licensing fees from businesses who legitimately use the methods thus "protected." When combined with the difficulty in identifying prior art and the high cost of patent litigation, this type of "rent seeking" poses a unique threat to the financial services industry. *See* Novak, *An Overview and Primer on Intellectual Property for the Insurance Industry*, 902 PLI/Comm 859, 871 (2008) ("The insurance and financial services industries are at particular risk in regards to this type of patent litigation lawsuit. This is due in large fact to the lack of prior art in the business method patent arena[]...[because] innovation was typically protected by trade secrets, not publication as in other industries.").

Finally, and perhaps most critically, business method patents often stifle, rather than promote, innovation, and thus do not possess the usual

counterbalancing justification for allowing the patent monopoly. *See* Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 Santa Clara Computer & High Tech. L. J. at 274-276; Biddinger, *Limiting the Business Method Patent: A Comparison and Proposed Alignment of European, Japanese and United States Patent Law*, 69 Fordham L. Rev. 2523, 2545 (2001). In the apt words of Judge Richard Posner:

> the new "business method" patents create the potential for inventors of new methods of doing business to obtain enormous monopoly power (imagine if the first person to think up the auction had been able to patent it); such patents also create a reward greatly in excess of the cost of the invention.

Posner, *The Law and Economics of Intellectual Property*, Daedalus 5, 5 (Spring 2002). Sweeping monopolies over abstract ideas may greatly "reward" the patentee, but they curtail innovation and thus undermine the very purpose of the Patent Clause and Patent Act.

## CONCLUSION

For the reasons given above, this Court should (1) affirm the PTO's rejection of Bilski's patent application; (2) overrule the decisions in *State Street* and *AT&T*; and (3) clarify that patent protection is unavailable for abstract ideas, even when implemented through the conventional use of a computer or other apparatus.

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## CERTIFICATE OF SERVICE

I hereby certify that on April 7, 2008, I caused two copies of the foregoing Brief for Financial Services Industry as Amici Curiae in Support of Affirmance to be served upon the following counsel of record by overnight mail:

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I further certify that I filed the foregoing brief by causing it to be delivered by hand to the United States Court of Appeals for the Federal Circuit, 717 Madison Place, NW, Room 401, Washington, DC 20439.

Dated: April 7, 2008

Randolph D. Moss

## CERTIFICATE OF COMPLIANCE WITH RULE 32(A)

I hereby certify that the foregoing brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B). The brief contains 6,988 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii) and Federal Circuit Rule 32(b). I further certify that the foregoing brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). The brief has been prepared using a proportionally spaced typeface using Microsoft Word 2003 with a 14-point Times New Roman font.

Dated: April 7, 2008

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