No. 08-964

In The Supreme Court of the United States

BERNARD L. BILSKI and RAND A. WARSAW,

Petitioners,

v.

DAVID J. KAPPOS, Under Secretary of Commerce for Intellectual Property and Director, Patent and Trademark Office,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF FOR *AMICUS CURIAE* COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION IN SUPPORT OF RESPONDENT

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October 2, 2009

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BRIEF FOR *AMICUS CURIAE* COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION IN SUPPORT OF RESPONDENT

INTEREST OF AMICUS CURIAE

The Computer & Communications Industry Association (CCIA) is a non-profit trade association dedicated to "open markets, open systems and open networks." CCIA members participate in many sectors of the computer, information technology and telecommunications industries and range in size from small entrepreneurial firms to the largest in the industry. CCIA's members use the patent system regularly and depend upon it to fulfill its constitutional purpose of promoting innovation.

CCIA is increasingly concerned that the patent system has expanded without adequate accountability and oversight. While CCIA has no direct financial interest in the outcome of this litigation, reversing the Federal Circuit's interpretation of the scope of patentable subject matter and allowing petitioners' abstract claims to stand would subject CCIA members to increased patent litigation, burden information technology and software, and undermine the legitimacy of the patent system as a whole.[1]

[1] Pursuant to this Court's Rule 37.6, amicus affirms that no counsel for a party authored this brief, in whole or in part, and that no person other than amicus and its counsel made a monetary contribution to its preparation or submission. The parties' letters consenting to the filing of this brief have been filed with the Clerk's office.

SUMMARY OF ARGUMENT

The decision under review is an important step in the right direction. Nonetheless, it leaves standing the *State Street* opinion and much of the damage caused by the Federal Circuit's radical expansion of the scope of patentable subject matter. *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.,* 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999). A virtually unlimited range of activities were swept into the patent system without consent or participation from those affected. Uninhibited inflation of a system that purports to treat all subject matter the same has led to internal tensions, political impasse and practical failure of the disclosure function.

State Street abolished established limits on patentability by purporting to discover congressional intent to expand patentable subject matter in §101 of the Patent Act of 1952. Yet, there is no evidence of any congressional purpose to do so, nor that Congress in 1999 actually intended to ratify the Federal Circuit's approach when it established "first inventor" rights for methods of "doing or conducting business." The limits of patentable subject matter should be drawn clearly for the benefit of all – not "flexibly" for the sake of applicants.

The Court should affirm the "machine-or-transformation" test adopted below in order to provide concrete and judicially manageable limitations on patent-related obligations and liabilities. Since patent infringement imposes strict liability

regardless of the technological environment, it is important to limit the likelihood of inadvertent infringement. Physical subject matter naturally constrains the scope of liability risk, while patents on virtual and abstract subject matters extend potential liabilities and costs in multiple and untoward directions.

While the Court's earlier precedents reserve the option to endorse patent eligibility that is not tied to a physical invention or process, there is no reason to do so. *Gottschalk v. Benson*, 409 U.S. 63 (1972); *Parker v. Flook*, 437 U.S. 584 (1978); *Diamond v. Diehr,* 450 U.S. 175 (1981). Internet-based business models enjoy first-mover advantages that do not, as an economic matter, need bolstering from patent exclusivity. Experience with new models of software development shows that patents are largely unneeded and, instead, pose a threat to lost-cost, Web-enabled models of innovation. Increased economic understanding of the use and effects of patents also cautions against abandoning the physical transformation standard.

Given the acknowledged difficulties of developing comprehensive legislative policy in the patent environment, and in light of the especially limited utility of suspect legislative history which would purport to achieve results that statutory language cannot support, this Court should overrule *State Street*, reaffirm the conservative approach of *Benson, Flook* and *Diehr*, and allow Congress the opportunity to work from a clean slate. Rejecting the false

argument that Congress "endorsed" or codified *State Street*'s construction of §101 is the appropriate result in this case because it correctly puts back into the hands of Congress the basic decision on whether to validate abstract business methods as necessary subjects of patentability.

ARGUMENT

I. THE DECISION BELOW REPRESENTS A MAJOR STEP IN CORRECTING STRUCTURAL AND DOCTRINAL PROBLEMS ARISING FROM THE COURT OF APPEALS' EARLIER "BUSINESS METHOD" DECISIONS

Amicus believes the physical transformation test (the applicable portion of the *en banc* majority's machine-or-transformation test) espoused by the court of appeals is a step in the right direction and clearly in line with this Court's precedent. However, CCIA shares dissenting Circuit Judge Mayer's view that the "patent system has run amok," *In re Bilski,* 545 F.3d 943, 1010 (Fed. Cir. 2008), and that *State Street* should be overruled.

A. *State Street* Sets the Legal and Policy Context For *Bilski*

The Federal Circuit's landmark 1998 opinion in *State Street* made a public spectacle of the patent system by encouraging non-technical patents on

"inventions" that both practitioners and the lay public ridiculed, such as toilet reservation systems and dating methods. *State Street*, 149 F.3d 1368. In the wake of *State Street*, the director of the Patent & Trademark Office (PTO) even supported patenting of legal arguments.[2] Most notoriously, *State Street* has enabled dozens of patents on tax avoidance strategies, creating monopolies on tax advice without legislative process or input from the accounting profession – and heedless of the public policies of the tax system.

Furthermore, *State Street*'s approval of business method patentability elicited large volumes of patents with poorly defined boundaries, of dubious quality, and subject to a uniquely high rate of litigation. In concert with other decisions of the Federal Circuit, *State Street* fueled demand for patents with little appreciation of long-term effects and imposed high costs and risks on business activity far from the areas best suited for patent protection. It forced the patent system – together with its attendant restraints on market competition – on professions, contrary to longstanding expectations and without the consent or participation of those affected.

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[2] Steven Pizzo, *Who's Really Being Protected?,* O'Reilly Network, May 24, 2000, http://www.oreillynet.com/pub/a/policy/2000/05/24/PizzoFiles.html?page=3.

Although there had never before been an articulated legislative or industry demand for patents on business methods, *State Street* created an intensely interested constituency opposed to virtually all limitations on patent-eligible subject matter. It was supported by an examining agency whose mission at the time was, rather perversely, to "help customers get patents."[3] As one treatise dryly observes, "broad notions of patent eligibility appear to be in the best interest of the patent bar, the PTO and the Federal Circuit. Workloads increase and regulatory authority expands when new industries become subject to the appropriations authorized by the patent law."[4]

Following *State Street*, the Federal Circuit further explained in *AT&T v. Excel*, 172 F.3d 1352 (Fed. Cir. 1999), that "this court (and its predecessor) has struggled to make our understanding of the scope of Sec. 101 responsive to the needs of the modern world." *Id.* at 1356. Many of the briefs in this case reflect the simple syllogism that intangibles are important in the modern world, that patents are the only way to protect information, and therefore intangibles should be patentable. There is unfortunately little inquiry into how or why intangible

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[3] U.S. Patent and Trademark Office, *Corporate Plan,* at 23 (2000), http://www.uspto.gov/web/offices/com/corpplan/pt04.pdf.

[4] Roger E. Schechter & John R. Thomas, INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS AND TRADEMARKS 314 (2003).

subject matter is different. Furthermore, as discussed in Section V, this approach of making statutes "responsive" to perceived present-day demands raises a substantial question of institutional competence and separation-of-powers role for the judiciary.

The high-water mark of this ideology occurred at the World Intellectual Property Organization (WIPO) in May 2002. Flanked by patent organizations, the U.S. delegation to WIPO asserted (without evidence) that business method patents had proved a success in the United States and proposed that patents be extended to "all activities," not just technology. Although the delegation threatened to walk out of the negotiations on substantive harmonization if other member nations did not agree, no other delegation acceded.[5]

State Street's requirement of "a useful, concrete, and tangible result" offered a blank slate onto which virtually anything could be read. It was undefined language plucked from the Federal Circuit's earlier decision in *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994), but never applied by this Court. Although "concrete" and "tangible" were obviously ambiguous, the test was never used by the Federal Circuit to reject patentability, perhaps in part because appellate

[5] This episode is graphically recorded in the minutes of the meeting. World Intell. Prop. Org., *Report of the Seventh Session of the Standing Committee on the Law of Patents* (2002), at http://www.wipo.int/edocs/mdocs/scp/en/scp_7/scp_7_8.pdf.

attorneys are naturally loathe to offend the court of appeals with near-final power to determine their clients' fate. Hence *LabCorp* came to this Court with a limited record on issues with far-reaching ramifications, resulting in dismissal of the writ – and thus a missed opportunity for clarification or revision of the court of appeals' expansive, self-aggrandizing approach.[6]

B. The Expansion of Patentable Subject Matter Has Created Unprecedented Tensions Within the Patent System

By sweeping so much into the patent system, the Federal Circuit has created major tensions within a statutory framework that is designed to treat all technologies and industries the same. These tensions arise, in part, because Federal Circuit rulings in other areas such as obviousness and injunctive relief favored traditional industries and the interests of patent holders. As this Court is well aware, the amicus briefs in *KSR* and *eBay* reflected deep divisions in how the issues were perceived, upstream and downstream and across industries.[7]

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[6] *LabCorp v. Metabolite*, 548 U.S. 124 (2006) (Breyer, J., dissenting).

[7] *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007); *eBay, Inc. v. MercExchange*, 547 U.S. 388 (2006).

The scope of inter-industry differences was illustrated in hearings on patents, innovation and competition held by the Department of Justice and the Federal Trade Commission (FTC) in 2002. They are documented in a resulting FTC report[8] for four economic sectors – pharmaceuticals, biotechnology, computers and semiconductors, and software and Internet services – with predominately negative views on the viability of patents in the Internet and software industries. Industry differences have as a consequence plagued legislative efforts at patent reform, especially concerning reasonable royalties for complex products and systems.

Economists have long been aware of differences in how industries value and use patents, primarily through a series of large-scale surveys of R&D managers, mostly recently by Carnegie-Mellon in 1994. These surveys show that patents generally rank low among means of appropriating returns from innovation in most sectors, although they are the most valued means in pharmaceuticals. The report on the Carnegie-Mellon survey comments on the "strengthening" of patent protection:

> Curiously enough, these policy changes have been made despite a forty year legacy of

[8] Federal Trade Commission, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (Oct. 2003), http://www.ftc.gov/os/2003/10/innovationrpt.pdf.

> empirical findings in economics that call into question whether patent protection – no less stronger patent protection – advances innovation in a substantial way in most industries. The work of Scherer et al. [1959], Mansfield [1986], Mansfield et al. [1981], and Levin et al. [1987] suggest that patent protection is important in only a few industries, most notably pharmaceuticals. Mansfield's [1986] survey research study sharpened the issue by finding that the absence of patent protection would have little or no impact on the innovative efforts of a majority of the firms in most industries. Again, pharmaceuticals was a clear exception.[9]

This somewhat surprising gap between policy assumptions and empirical evidence can be explained in several ways. Under public choice principles, pharmaceuticals can be expected to have a disproportionate influence on patent policy and a disproportionate stake in the evolution of patent law. Furthermore, the questions in the economic surveys were directed at R&D managers rather than patent departments; patent lawyers might reasonably be expected to have a stronger view of the importance of patents. In addition, because of its highly technical

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[9] W. Cohen, R.R. Nelson and J. Walsh, *Protecting their intellectual assets: Appropriability conditions and why U.S. manufacturing firms patent (or not)* (Nat'l Bureau of Econ. Research Working Paper No. 7552, at 2 (2000).

nature, patent law and policy is ordinarily made by specialist attorneys, who share the same heightened economic motivations as pharmaceutical firms, regardless of the company or industry in which they find themselves.

C. In a Unitary Patent System, Subject Matter Eligibility Is a Critical Threshold Issue

In the ongoing congressional debate over legislative patent reform, as well as before this Court in *eBay*, much has been made of the difference between discrete products such as pharmaceuticals, where a product may correspond to a single patent, and complex products such as computers and software, where a product may contain thousands of patentable functions or components. There are many consequences. Patents are far more numerous in complex technologies, but they are individually less valuable because value is keyed to product markets.[10] Large companies assemble large patent portfolios, but they cross-license extensively so that each can enjoy freedom to operate.[11] The sheer scope of patentable

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[10] Don E. Kash & William Kingston, *Patents In a World of Complex Technologies*, 28 Science and Pub. Policy 1, 11-22 (2001).

[11] B.H. Hall & R.H. Ziedonis, THE PATENT PARADOX REVISITED: AN EMPIRICAL STUDY OF PATENTING IN THE US SEMICONDUCTOR INDUSTRY, 1979-95, 32 RAND J. of Econ. 1, 102-128 (2001).

functionality combined with the huge volume of patenting creates a high likelihood of inadvertent infringement. Yet at the same time, it makes patent "clearance" searches impractically costly.

As Professor Lemley has observed,[12] the unfortunate answer to this quandary is *ignoring* patents:

> [B]oth researchers and companies in component industries simply ignore patents. Virtually everyone does it. They do it at all stages of endeavor. From the perspective of an outsider to the patent system, this is a remarkable fact. And yet it may be what prevents the patent system from crushing innovation in component industries like IT.

Inevitably, many patents are acquired by speculators and licensing specialists, who produce nothing, need no cross-licenses and so are uniquely positioned to "hold up" deep-pocketed producers. Most importantly, ignoring patents means that the disclosure function of the patent system has failed.

Shoehorning radically different technologies into the same patent system and subjecting them to the same standards results in two distinct equilibria: one centered on pharmaceuticals, where the content of

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[12] Mark Lemley, *Ignoring Patents*, 2008 Mich. St. L. Rev. 19 (2008), quote from abstract at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=999961.

patents is known and the system fulfills its traditional function, and another where disclosure remains mandated by law but is meaningless in practice. The system, while "unitary" in principle, is in fact broken – both because it is functioning as two different systems and because it fails of an essential purpose for complex technologies. In economic effect, it is a (perhaps unintended) industrial policy that ultimately shifts investment capital and innovation activity from sectors where patents work poorly to where they work well.

Complexity is not the primary issue in this case, but the growing problem of market effect (a major focus in a new round of FTC hearings[13]) illustrates the importance of subject matter eligibility as a threshold issue. Once a particular market is within the patent system, it is subject to the same rules as pharmaceuticals. Scholars argue that policy levers, old and new, can be used to adjust the patent system to different technologies.[14] They show that the Federal Circuit already uses some levers, including obviousness, although they also maintain that the court of appeals has applied them wrongly.

Yet at present this kind of standards-based differentiation is not consistent with traditional

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[13] Federal Trade Commission, *The Evolving IP Marketplace* (2009), http://www.ftc.gov/bc/workshops/ipmarketplace/.

[14] Dan L. Burk and Mark A. Lemley, THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT (2009).

interpretation of the statute or with judicially articulated patent principles. Nor is there an institutional mechanism for calibrating the use of policy levers and determining whether they are being used correctly. (That would require collecting data on use of patents and economic analysis of the data.) Finally, explicit disparate treatment appears facially contrary to international obligations – *i.e.,* Article 27.1 of TRIPS – which preclude discrimination among technologies and demand that one size fits all.[15]

II. THERE IS NO EVIDENCE THAT CONGRESS INTENDED TO EXTEND PATENT ELIGIBILITY TO BUSINESS METHODS

Contrary to Petitioners' arguments,[16] there is no evidence that Congress intended to depart from precedent concerning business methods or the meaning of "process" when it enacted the Patent Act of 1952.

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[15] The treaty requires that patents must be "enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced." *Trade-Related Aspects of Intellectual Property Rights* (TRIPS), Annex 1C to Marrakesh Declaration of 15 April 1994 establishing World Trade Organization, at http://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm. The non-discrimination provision with respect to technology was inserted at the behest of the pharmaceutical industry.

[16] *E.g.*, Pet. Br. at 37-38 (Federal Circuit has "retreated from its former technology-neutral position" that §101 was intended not to "place any restrictions . . . on subject matter") (citations omitted).

State Street reads the term "any" in §101 of the Act as overturning historic practice and a longstanding judicial rule despite the fact that the "any" language first appeared in the statute in 1793. *State Street,* 149 F.3d at 1373. The opinion attempts to shore up this claim by citing the infamous mantra, "anything under the sun made by man." *Id.*

Judge Mayer cogently addresses the problems with this argument in his dissent below in criticism of *State Street*. 545 F. 3d at 1000. The phrase is a mere appositive in a sentence that reads in full: "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." Read in context, the passage is plainly not directed at the scope of patentable subject matter, but rather to ensuring that all provisions of Title 35 are complied with. It lay unnoticed for 27 years until Judge Rich, the author of *State Street* and also one of the two principal drafters of the 1952 Act, quoted the phrase in *In re Bergy*, 596 F.2d 952, 987 (C.C.P.A. 1979).[17] This Court affirmed the *Bergy* decision, with Chief Justice Burger repeating the "anything under

[17] Judge Rich credits the statute's legislative history to his drafting partner P. J. Federico, a patent attorney employed by the Patent Office on loan to the House committee. Giles S. Rich, *Congressional Intent – Or, Who Wrote the Patent Act of 1952?*, reprinted in PATENT PROCUREMENT AND EXPLOITATION 61, 73 (BNA 1963).

the sun" *dictum* without the rest of the sentence. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).[18] The phrase would reappear, again out of context and as *dicta* in *Diehr*, even though *Diehr* did not involve machines or "manufacture," as the sentence specifies, but a conventional physical process that did not present patentability questions. *Diehr,* 450 U.S. at 182.

In fact, *Diehr* holds that Congress did not alter the meaning of "process" in the 1952 Patent Act. "Analysis of the eligibility of a claim of patent protection for a 'process' did not change with the addition of that term to §101." *Id.* at 184. The Act was enacted as part of an immense project to recodify U.S. statutes and against a backdrop of established judicial limitations on patentability. If Congress intended to change the business method exclusion in this regard, it was quite capable of doing so explicitly.[19]

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[18] A. Samuel Oddi, *Assault on the Citadel: Judge Rich and Computer-Related Inventions*, 39 Houston L. Rev. 1033, 1074-76 (2002) (recounting history of the phrase).

[19] *Chakrabarty* involved an unforeseen technology rooted in the natural sciences that was neither intangible nor abstract. 447 U.S. 303. In contrast, methods of doing business are neither new nor unanticipated. Business methods had been practiced, unprotected by patents, for hundreds of years when Congress enacted the 1952 Act. As many have argued, they are not technology and so are not within the "useful arts" under *In re Musgrave*, 431 F.2d 882, 893 (C.C.P.A. 1970).

Petitioners seek to invest §101 with a congressional purpose based on language that does not appear either there or, as addressed in the next section of this brief, in other language added to a different section of the Act in 1999. Legislative history of congressional intent of course cannot be used to interpret §101 unless that intent is "clearly expressed." *Reves v. Ernst & Young,* 507 U.S. 170, 177 (1993). When applying legislative history, this Court is rightly skeptical of arguments that would alter the plain meaning of statutory text or elevate views of individual legislators to interpretative prominence.

The limitations of legislative intent are especially evident in this matter. Drawing on his drafting experience, Judge Rich commented not long afterwards that "[m]embers of the Congress wrote only a few words of the Patent Act . . . [which] was written basically . . . by patent lawyers drawn from the Patent Office, from industry, from private practice, and from some government departments." *Rich*, *supra* n. 17, at 73.[20]

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[20] Judge Rich quotes Rep. Crumpacker's assessment that a "good 95% of the members of both bodies [of Congress] never knew that the legislation was under consideration, or that it had passed, let alone what it contained. . . . How can the House, as a legislative body, be said to have any 'intent' with respect to the bill?" He adds:

> The foregoing will, it is hoped, cause you to pause and think when you hear or use the phrase "intent of Congress." Realistically, the "intent," with respect to the Patent Act of 1952, was the intent of a subcommittee to

(Continued on following page)

Although Judge Rich's article discusses some of the changes wrought by the Act, he mentions nothing concerning the definition or scope of "process."[21] Even in *Alappat*, from which *State Street* extracted the "useful, concrete, and tangible result" standard, Judge Rich observed:

> We further note that *Maucorps* dealt with a business methodology for deciding how salesmen should best handle respective customers and *Meyer* involved a "system" for aiding a neurologist in diagnosing patients. Clearly, neither of the alleged "inventions" in those cases falls within any Section 101 category.

In re Alappat, 33 F.3d 1526, 1541 (Fed. Cir. 1994).

> pass the bill prepared by the patent lawyers. . . . You need only compare the bill prepared by the Coordinating Committee with the law as enacted to see this.

See Rich, *supra* n. 17, at 75, 77.

[21] Giles S. Rich, *Principles of Patentability*, 28 Geo. Wash. L. Rev. 393 (1960), *reprinted in* John Witherspoon, ed., NONOBVIOUSNESS: THE ULTIMATE CONDITION OF PATENTABILITY, at 2:8 (1980).

A. *State Street*'s Elimination of the Exclusion of Patents on Business Methods Was Not Endorsed by Congress in the American Inventors Protection Act of 1999

Petitioners similarly seek to invest §273, enacted by the American Inventors Protection Act of 1999 (AIPA),[22] with a congressional intent that simply cannot be found. Pet. Br. at 30-34. Because Congress did not add business methods to the scope of patentable subject matter, its creation in 1999 of a first-user right "defense" is alone not compelling evidence that the Legislative Branch intended anything more than to avoid a politically untenable comprehensive rewrite and to limit the practical damage resulting from the Federal Circuit's unanticipated expansion of patentability in *State Street*.

The limited utility of legislative history, of concern generally in the complex realm of intellectual property, is particularly significant here. First, nothing in the AIPA, including §273, expressly includes business methods (whether or not tied to a machine-or-transformation) within the scope of §101. Second, there is no legislative history whatsoever indicating that by adding a prior-user defense in §273, Congress codified, endorsed or even agreed with the

[22] American Inventors Protection Act of 1999, Pub. L. No. 106-113, 106th Cong. (codified as amended in scattered sections of 35 U.S.C.).

Federal Circuit's *State Street* doctrine. Finally, Congress has very limited attention available, especially for a technical area of the law – as Judge Rich's insider account of the 1952 Act makes clear – and committee staff often rely on outside experts for report language, as appears to have been the case with both the 1952 Act and the AIPA.

The AIPA was the outcome of a long push for legislation directed at international harmonization that began with the 1992 Report of the Advisory Commission on Patent Reform.[23] The Commission advocated prior user rights similar to those available in a number of European countries. But prior user rights were vehemently opposed by small inventors and universities, who saw them as undermining the value of their patents. The legislative package as a whole, which included moving the patent system from first-to-invent to first-to-file, had generated emotional debate and opposition.

As Petitioners note (Pet. Br. at 31), Congress was unwilling to take a close look at the scope of patentable subject matter. This was not because Congress agreed with the *State Street* decision, but rather because initiating a debate over patentable subject matter on top of prior user rights, first-to-file

[23] Advisory Commission on Patent Law Reform, *A Report to the Secretary of Commerce* (August 1992). Edward MacCordy, Association of University Technology Managers, refused to sign the report because of his objections to the recommendations on prior user rights.

and other contentious issues would likely have killed political prospects for the package. Yet *State Street*, by upsetting settled expectations, provided a useful argument for rescuing a framework for prior user rights, restyled as the "first inventor defense." As explained by Representative Manzullo:

> Before the *State Street Bank and Trust* case . . . it was universally thought that methods of doing or conducting business were not patentable items. . . . In recognition of this *pioneer clarification* of the law, we felt that those who kept their business practices secret had an equitable cause not to be stopped by someone who subsequently reinvented the method of doing or conducting . . . business and obtained a patent. We, therefore, limited the first inventor defense solely to that class of rights.

145 Cong. Rec. H6,947 (Aug. 3, 1999) (emphasis supplied). In other words, §273 was essentially damage control.

Inclusion of business methods in what became §273 was not presented, even indirectly, as an endorsement of business method patents. Rather it was a last minute effort to rescue prior user rights by defining "methods" as limited to "methods of doing business." Once this statutory language was added, there were post-hoc attempts to insert snippets of what might charitably be characterized as contrived legislative history on the floor to support a broader view than the traditional understanding of business

methods as outside of the technological arts. These included:

- "[A] method for conducting business such as a preliminary or intermediate manufacturing procedure." 145 Cong. Rec. E1,789 (Aug. 3, 1999) (statement of Subcommittee Chair Coble);
- "It includes a practice, process, activity, or system that is used in the design, formulation, testing, or manufacture of any product or service." 145 Cong. Rec. S14,836 (Nov. 18, 1999) (statement of Sen. Schumer).

There is nothing in the legislative record to show that Congress actually addressed or decided on either the definition of "business methods" or the proper scope of patentable subject matter while enacting the AIPA and §273. Indeed, the reality is that Congress was weary of patent reform after years of increasingly polarized debate about harmonization (including prior user rights) and was in no mood to wade into subject matter issues, especially in the face of opposition from the patent bar. The legislation was watered down and slipped into a consolidated appropriations bill to enable passage (Pub. L. No. 106-113).[24] Shortly thereafter, efforts to address business method patents directly met with a unanimous statement by the influential Intellectual Property

[24] Text available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=106_cong_public_laws&docid=f:publ113.106.

Owners Association advising against legislative action.[25]

In sum, both *State Street* and the proposition that Congress "endorsed" the Federal Circuit's construction of §101 in the AIPA should be rejected. The decision on whether to validate business method patents should be returned to Congress free of the entrenched legal and political interest groups created in the wake of the Federal Circuit's doctrinal expansion. If business method patentability is to be included within the Patent Act, it should properly emanate from the body assigned by the Constitution to establish and implement public policy, a task the judiciary is neither institutionally nor politically fit to undertake.

III. THE LIMITS OF PATENTABILITY SHOULD BE DRAWN FOR THE BENEFIT OF ALL, NOT PATENT SPECIALISTS AND OTHERS WITH VESTED INTERESTS IN EXPANDING THE SCOPE OF THE PATENT SYSTEM

In the absence of a compelling case that Congress intended to abolish it, re-establishing the exclusion of business methods from patent-eligible subject matter

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[25] Intellectual Property Owners Association Board of Directors, June 28, 2000 and reaffirmed on February 26, 2001, http://www.ipo.org/AM/TemplateRedirect.cfm?template=/CM/ContentDisplay.cfm&ContentID=2610.

would easily resolve this case. *State Street*'s rejection of the exclusion as "ill-conceived," with little or no explanation of underlying principles, cannot be justified. *State Street*, 149 F.3d at 1375. The fact that the business method exclusion generated little litigation or controversy, while in place for more than 100 years, speaks in its favor – not as an excuse to jettison it. Unfortunately, *State Street* saw the line-drawing problem only from the inside, that is from the perspective of the patent applicant, and oblivious to the legitimate expectations of those on the outside.

Some *amici* argue for flexibility, citing this Court's rejection of the "teaching-suggestion-motivation" (TSM) test as a determinative rule for obviousness. *KSR Int'l Co. v. Teleflex, Inc.,* 550 U.S. 398 (2007). However, there are critical differences. The TSM standard was a major departure from precedent in favor of the patentee. More fundamentally, the obviousness inquiry, the question in *KSR*, is internal to the patent system. In this case, the Court is reviewing external limits to the system. Subject matter eligibility is the "first door" through which the applicant must pass. *Bergy*, 596 F.2d at 960. Only then should the process proceed to the internal criteria in §§102 and 103. In other words, the subject matter boundary is primary. For reasons of equity and efficiency, those on the outside should have clear notice of what might be patentable so they are not obliged to expend resources avoiding patents with no benefit.

It might be desirable to design limits that are flexible in favor of outsiders by offering multiple exclusions, such as the historic exclusions for methods of doing business, functions of a machine, mental processes, printed matter and algorithms. Collectively, these provided not a single bright line, but at least a collection of relatively explicit signals as to the outer bounds of the patent system. Unfortunately, the exclusions that once provided guidance as to what remained outside the patent box have largely been eliminated or eviscerated by the Federal Circuit and its predecessor.

There is now growing concern with notice failure in the patent system, a problem studied by James Bessen and Michael Meurer in PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK (2008). They explain that "fuzzy boundaries" undermine the effectiveness of patents as property rights by increasing costs and risks for both patentees and alleged infringers. *Id.* at ch. 3. Fuzziness has a number of causes, including ambiguous terms, uncertainty in claims interpretation, prohibitive costs of clearance searches and unpredictable damages, and it is found at all levels from individual patents to portfolios to system-wide rules and standards. *Id.* Ironically, the Federal Circuit was intended to reduce system-level "fuzziness" by creating uniform law; Bessen and Meurer argue that patents have imposed substantial costs on the private sector in part by allowing abstract subject matter that has inherently fuzzy boundaries. *See id.* at ch. 6.

When the limits are clear, patent-intensive firms are best positioned to cross lines and move in. Thus, it has been shown that most financial patents are owned by outsiders, especially firms in information and communications technology, despite the wake-up call that *State Street* provided.[26] Similar patterns have been noticed in software.[27] The result is not only a blurring of industry lines and rebalancing of strategic interests but, as congressional inaction following *State Street* showed, constituencies intensely interested in the newly realized *status quo* who will resist any legislative intervention.

Clear notice of the outer perimeters informs professions, businesses and entire industries where obligations to search for patents, as well as opportunities to secure patents, begin. The machine-or-transformation test as articulated by the Federal Circuit below provides a relatively clear criterion, although it will plainly benefit from further elucidation. The public policy imperative of recognizing the costs and burdens of an expansive patent system, *see Verizon Communications, Inc. v. Law Offices of Curtis J. Trinko*, 540 U.S. 398 (2004) (emphasizing innovation and efficiency costs of antitrust litigation),

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[26] Robert M. Hunt, *Business Method Patents and U.S. Financial Services*, at 4 (Federal Reserve Bank of Philadelphia, Working Paper No. 08-10/R (May 2008)).

[27] James Bessen and Robert M. Hunt, *An Empirical Look at Software Patents*, at 15 (Federal Reserve Bank of Philadelphia, Working Paper No. 03-17/R (March 2004)).

argues for drawing the line conservatively and, therefore, deferring to the more participatory legislative process, with its corresponding public notice and input, before judicially expanding the regulatory scope of the patent system.

IV. THE COURT SHOULD REEVALUATE THE OUTER BOUNDARY OF THE PATENT SYSTEM IN TERMS OF PRECEDENT AND UNDERLYING PRINCIPLES

Today the Court faces questions it last addressed nearly 30 years ago under very different circumstances. The insights of the trilogy of *Benson*, *Flook* and *Diehr,* including the Report of the President's Commission on the Patent System (quoted at length in *Benson*), remain valid today. The Court's teachings can now be recast and refined in the light of experience with the digital environment.

A. The Boundaries of the Patent System Should Serve to Contain Liability

Patents, by virtue of their strength, are capable of imposing enormous costs and risks on others. Potential targets include a range of inadvertent infringers, from independent innovators to unwitting resellers and innocent users. Recent research indicates that fewer than 3% of cases involving infringement of software allege copying, despite the

added damages that result from willful infringement.[28] This suggests that at least 97% of litigated infringements are unintended. Yet, unlike copyright, patent law makes no exception for independent invention.

As long as the patent system imposes strict liability on all activities within its scope, it should ensure that liability does not extend to what is practically unknowable. The disclosure function must work as envisioned; innovators need to find it useful to learn and evaluate patents in their area, rather than ignoring them. Ignoring patents may make sense as a business practice today, or as a design-around for a dysfunctional patent system. However, it creates enormous risks and potential liability that cannot be readily evaluated and reported, and that are likely to grow in time as secondary markets for patents continue to expand. This divergence between operation of law and practice is troublesome and naturally erodes respect for intellectual property.

Tying patentability to physical subject matter is not a perfect solution. However, it limits the reach of patents in important ways that can significantly reduce the risks of inadvertent infringement and the scope of potential liability. The number of competitors, and thus potential blocking patents, will be

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[28] M.A. Lemley and C.A. Cotropia, *Copying in Patent Law*, Feb. 18, 2009, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1270160.

manageable because of the necessary capital investment in materials and R&D. Innovators are likely to be aware of each others' products and intellectual property. Similarly, the scale of distribution (and hence downstream liability) is likely to be manageable because at some point there will be costs of moving physical subject matter.

Although the breakdown of the disclosure function is not limited to software and business method patents, their abstract (and complex) nature exacerbates the notice and search problems in several ways. The terminology used to describe such patents is often ambiguous and changes over time.[29] This makes the claims difficult to read and especially difficult to know when old patents apply to new technologies. For example, the claim of British Telecommunications, PLC (BT) to have invented hyperlinks was asserted in 2000, seven years after the World Wide Web went public and linking had spread rapidly as a non-proprietary standard.[30] But the patent (filed in 1976 and granted in 1989) was based on a very different early videotext environment. Had BT succeeded, it could have held the entire Internet hostage on the basis of patents that contributed nothing to the development of the Web and which BT had apparently forgotten that it owned.

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[29] PATENT FAILURE, *supra*, at 201-04, 210-12.

[30] *British Telecommunications, PLC v. Prodigy Communications Corp.,* 217 F. Supp. 2d 399 (S.D.N.Y. 2002).

B. *Benson* Anticipates the Problem of Complexity and Widely Distributed Liability

Despite frequent misinterpretation, the algorithm in *Benson* was unpatentable not because it lacked practical utility, but because it was too useful in an elemental sense. "Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." *Benson,* 409 U.S. at 67 (emphasis added). In other words, the algorithm could be used in a wide variety of applications. "The end use may . . . vary from the operation of a train to verification of drivers' licenses to researching the law books for precedents. . . ." *Id.* at 68. If patented, all these uses would be in jeopardy since the patent would not be tied to a particular physical use.

The *Benson* Court clearly understood the functional complexity of digital computers. The opinion even makes a little-noticed distinction between analog and digital computers, limiting the decision to digital. *See id.* at 71. The digital/analog distinction is a bright line which, thanks to the personal computer and the Internet, shines much brighter today than it was in 1972. Analog computers are long gone. What was once a distinction between two kinds of computers now looks like a distinction between two worlds: the virtual and the physical.

The scope of functionality required to make useful software goes far beyond the singular function of the algorithm in *Benson*. There are approximately 100,000 "function points" in Windows XP, a measure of code-level complexity more meaningful than lines of code, and that figure does not include the routines, program features and modules found at higher levels of software functionality. Without any external physical framework as in *Diehr* – or a nontechnological framework as traditionally associated with business methods – a computer program is no more than algorithms connected by other algorithms, albeit in very large numbers. We now see that functional complexity leads to liability as long as the process behind a function is patentable.

Benson quotes approvingly from the report of the President's Commission on the Patent System (1966), including the observation:

> The Patent Office now cannot examine applications for programs because of the lack of a classification technique and the requisite search files. Even if these were available, reliable searches would not be feasible or economic because of the tremendous volume of prior art being generated. Without this search, the patenting of programs would be tantamount to mere registration and the presumption of validity would be all but nonexistent.

Benson, 409 U.S. at 73. The Commission recommended against patents for computer programs on

the basis that "all inventions should meet the statutory provisions for novelty, utility and unobviousness and that the above subject matter *cannot readily be examined for adherence to these criteria*."[31]

At the time, the recommendation was criticized as expedient and serving the interests of the Patent Office over applicants. However, the problems the Patent Office faced in 1966 merely foreshadowed practical problems innovators and the private sector as a whole would later confront as patents on the information processes in computer programs were acquired and used in a growing variety of ways.[32]

True, the challenge presented by numerous, sometimes overlapping patents in complex technologies is not new. In the case of aircraft, it was severe enough to warrant government intervention.[33] Unlike sewing machines and aircraft, information technology is a general-purpose technology. It is not

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[31] The President's Commission on the Patent System, "To promote the progress of useful arts in an age of exploding technology" (1966), IV (emphasis added).

[32] A Commission member would later recall: "The commission members were greatly pleased that the Johnson administration accepted all of its recommendations. Regrettably, only a few were enacted into law due to the highly influential Patent Law Bar that opposed most of the commission's recommendations." James W. Birkenstock, *Pioneering: On the Frontier of Electronic Data Processing, a Personal Memoir*, 22 IEEE Annals of the History of Computing, 41 (2000).

[33] R. Merges and R. Nelson, *On the Complex Economics of Patent Scope*, 90 Colum. L. Rev. 839, 891 (1990).

limited or directed to a particular physically defined function; rather it offers an enabling platform that pervades all sectors of the economy – and upon which an infinite variety of services and applications can be built. In digital technology, the problems of complexity have been muted because so many "basic tools" were in the public domain. But unless the threshold for patenting is set very high, unbounded opportunity eventually leads to unbounded liability.

While it may make practical business sense to ignore patents, liability knows no bounds. Conventional wisdom holds that patent owners pursue deep-pocketed operating companies, but an alternative strategy is to litigate against those who cannot afford to defend infringement claims. Even retail websites are vulnerable to attack.[34] Anyone can secure program patents, which can then be sold to specialists in

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[34] An infringement opinion alone costs on average over $13,000. AIPLA Report of the Economic Survey 2007 at I-77. Most attacks on small entities are probably settled before a lawsuit is filed, and in most cases the parties are not newsworthy. *But see* Amy Harmon, *Technology Users: Uneasy on SBC Claim to Patent On Web Tool,* New York Times, Jan. 2003, http://www.nytimes.com/2003/01/28/business/technology-users-uneasy-on-sbc-claim-to-patent-on-web-tool.html; *Retail e-Commerce Lawsuits Are Settled, But More May Be in The Works*, Internet Retailer, May 1, 2004, http://www.internetretailer.com/internet/marketing-conference/81025-retail-e-commerce-lawsuits-are-settled-but-may-be-works.html; Michael Arrington, *Channel Intelligence Just About Everyone Who Offers Wishlists*, TechCrunch, July 2008, http://www.techcrunch.com/2008/07/17/channel-intelligence-sues-just-about-everyone-who-offers-wishlists/.

assertion. In the physical realm, a modest number of patents is held by known competitors; in the virtual realm, a large number of patents are held a by large number of unidentified entities and individuals.[35]

C. The Internet and Web Illuminate the Distinction Between Physical and Virtual Subject Matter

State Street blurred the distinction between business methods and computer programs by subjecting them to the same "useful, concrete, and tangible result" test – with its lack of definition and unexplained focus away from subject matter onto results. Neither pure business methods nor pure computer programs involve physical transformation, and some 80% of business method patents are also software patents.[36] Software operates at many different levels of abstraction and at higher levels may implement particular business methods (such as one-click ordering) or, at the highest level, what may be described as business models (*e.g.,* reverse Internet auctions).

But software implementation alone adds nothing to the tangibility of the business method/model. Nor does a general-purpose computer contribute particularity or any meaningful physical effect. A black box

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[35] Ben Klemens, *The Rise Of The Information Processing Patent,* 14 B.U. J. Sci. & Tech. L. 1, 23-34 (2008).

[36] Robert M. Hunt, *supra* n. 26, at 1.

performing a software application does not make it any more tangible than executing the same program in the dematerialized "cloud" of increasingly popular cloud computing services. It makes no sense to accept the patent in the *State Street* decision merely because digital symbols are manipulated on an identified computer rather than a remote service that is not linked to any particular machine.

Significantly, both business methods and computer software become less physically embodied and more virtual on the Internet. In the case of business models, the Web lowers entry barriers and greatly extends the market. Resultant economies of scale and network effects provide powerful first-mover advantages that are unnecessarily amplified by adding patent protection. Without patents, there is at least an opportunity for competition on implementation before the market "tips" to a dominant firm.

The Web has radically changed the economics of creating, distributing and maintaining software. Under a variety of open source models, software can be produced in modules by globally distributed, differently motivated individuals, some paid by companies and some volunteering their own time. This is possible because servers on the Web help structure and manage collaboration and because Internet distribution of software is nearly instantaneous and practically costless. While the software may be free, market value is generated in other ways, most often through complementary products and services. Open

source software is now used in virtually every major company, often alongside proprietary software.

The success of open source models suggests that patents are an unneeded incentive for software development. The high costs of the patent system pose special challenges to open source software because production is usually uncapitalized, decision-making is often decentralized, code is readily available and fully exposed to view, and widespread use creates widespread potential for liability. Major companies with open source-based businesses have addressed the threat by patenting defensively. Yet defensive patenting is not effective against nonpracticing entities, and anyone can use unfocused claims of multiple infringement to undermine user confidence in open source.[37]

In contrast, copyright imposes no burden on open source software, so long as code is not copied from proprietary applications. In fact, copyright law is used by some open source license models (with "copyleft" or "viral" clauses) to protect against proprietary capture and ensure continuity of terms and access. In general, copyright fits well with the way all software is developed. It is virtually costless, automatic and permits independent creation. It imposes no obligation to search, only an obligation not to take

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[37] Roger Parloff, *Microsoft Takes on the Free World,* Money, May 14, 2007, http://money.cnn.com/magazines/fortune/fortune_archive/2007/05/28/100033867/.

without permission. Whereas patents for software remain controversial in the U.S. and abroad,[38] copyright is noncontroversial and accepted by consensus.

D. Questionable Uses of Patents and Increased Economic Understanding Argue Against Departure From Precedent

In *Benson* and *Flook*, this Court left the door open to sanctioning patentable subject matter not linked to a machine or transformation. However, breaking with precedent cannot be justified by the increased economic importance of software and Internet services. To the contrary, that very economic importance makes it critical that the line be drawn in the right place.

As noted earlier, survey evidence has revealed major differences among industries in how patents are used and valued. In the landmark Bessen and Meurer study,[39] software is by far the biggest loser, showing annual patent litigation burden an order of magnitude greater than annual patent profits.[40] The

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[38] From 2002 to 2005, Europe experienced pointed public debate over a proposed European Union directive on software patents. The directive, which was intended to expand patent protection for software, was finally voted down in a lopsided rejection in the European Parliament. Andres Guadamuz, *The Software Patent Debate*, J. of Intellectual Property L. & Practice 1:3, 196-206 (2006).

[39] PATENT FAILURE, *supra*, at 138-44.

[40] *Id.* at 143-44.

likelihood of a software patent being involved in litigation rises significantly over a 16-year period,[41] and there is a 13.7% chance that a business method patent will be involved in a lawsuit, far higher than the average of 2.0%.[42] Lerner finds that patents on financial services and products are litigated at a rate 27 times the rate of patents as a whole.[43]

The sensitivity of patents (and thus their real-world utility for innovators) to changes in the law seems to be far less than is generally supposed. "Strengthening" patent law has little effect on patent applications of domestic inventors.[44] The advent of business method patents did not increase R&D intensity in financial services industries,[45] nor did it affect the number of new financial instruments.[46]

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[41] *See id*. at 93.

[42] *See id.* at 191.

[43] Josh Lerner, Trolls on State Street?, The Litigation of Financial Patents, 1976-2005, http://www.people.hbs.edu/jlerner/Trolls.pdf.

[44] Josh Lerner, *150 Years of Patent Protection*, 92 American Econ. Rev., 221-225 (2002).

[45] Robert Hunt, *Ten Years After: What Are the Effects of Business Method Patents in Financial Services?,* Federal Reserve Bank of Philadelphia Business Review, Third Quarter 2008, 21, 26, http://www.philadelphiafed.org/research-and-data/publications/business-review/2008/q3/brq308_effects-of-business-method-patents.pdf.

[46] Stefania Fusco, *Is the Use of Patents Promoting the Creation of New Types of Securities?*, 25 Santa Clara Computer & High Tech. L. J., 243 (2009), http://www.chtlj.org/authors/fusco.

Among the larger owners of software patents, increases in patent intensity are associated with a decrease in R&D intensity, suggesting that patents may actually, and ironically, substitute for R&D.[47]

Bessen and Meurer summarize as follows:

> Software patents have been controversial in part because the software-publishing industry grew up largely without patents and most computer professionals oppose patenting software. But judicial decisions during the 1990s eliminated certain obstacles to software patents, and now close to 200,000 software patents have been granted. . . . [D]espite being a relatively new area for patenting, software patents accounted for 38 percent of the total cost of patent litigation to public firms during the late 1990s. This does not appear to be a temporary problem that is dissipating as the Patent Office adapts – the probability that a software patent will be litigated has been *increasing* substantially rather than decreasing.[48]

Since most patents begin life as protection for a specific technology, the impact of secondary markets and new ways of monetizing patent value are only realized over time. Patents are commonly perceived

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[47] J. Bessen and R. Hunt, *The Software Patent Experiment* (March 16, 2004), http://www.researchoninnovation.org/softpat.pdf.

[48] PATENT FAILURE, *supra*, at 23.

as assets when they issue. Yet because patents are negative rights, exploitation of patents as assets ultimately means utilizing the power to impose liability and costs on others. Hence, patents logically end up in the hands of those who can extract the most value from them, frequently nonpracticing entities or other outsiders who have no need for cross-licenses and are free to assert patents against operating companies with product lines at stake.

This arbitrage takes time because the market is so opaque, and the uptake is not without risk since legal outcomes, especially jury verdicts and damage awards, are notoriously unpredictable. Yet as Ron Epstein, CEO of Ipotential, told the FTC: "unpredictability is the only thing that's allowing these patent owners to get the access to capital which allows them to actually try and get a return on the patents."[49] The high risk inherent in this kind of lottery necessarily imposes a commensurate risk back on producing companies. This is a zero-sum game.

V. THE COURT SHOULD REAFFIRM ITS PRECEDENT ON THE LIMITS OF §101 AND RETURN THE INITIATIVE TO CONGRESS.

The development of patent law presents unique problems with which the judiciary should rightfully

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[49] Federal Trade Commission, The Operation of IP Markets, May 4, 2009, http://ftc.gov/bc/workshops/ipmarketplace/.

be concerned. Increasingly diverse economic interests contend with each other within a framework that lacks regular and reliable means for monitoring and analyzing economic activity. Technologies proliferate, along with business models built on the special economic characteristics of different technologies. Product complexity, globalization, competition and rapid change drive patent applications and grants to unprecedented heights. The system is intended to produce innovation, public knowledge and economic results; yet the market remains opaque and ignorance may be the best practice.

Under these difficult circumstances, Congress has historically addressed only a small subset of potential reforms that might require amending the statute, leaving the most contentious issues to the courts. Congress has been especially reluctant to entertain subject matter issues. Prospective restrictions offer little immediate impact from the documented problems in the current system, but are nonetheless vigorously opposed by patent practitioners. Retroactive restriction is politically impossible and presents the serious risk of being deemed, legally and politically, a constitutional taking requiring compensation.[50]

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[50] The Congressional Budget Office estimated a budgetary impact of $1.4 billion for a reform bill passed by the Senate Judiciary Committee because it included a provision of interest to banks that would have eliminated damages for infringing a number of check-collecting patents. Cong. Budget Office, 110th

(Continued on following page)

By improvidently allowing "everything under the sun" into the patent system, *State Street* effectively preempted thoughtful Congressional analysis. The decision below reaches back behind *State Street* to resuscitate the traditional limits on the scope of the patent system, as reflected in *Benson*, *Flook* and *Diehr*. By doing so, it properly gives Congress a clean slate and a fair opportunity, along with a timely incentive, to independently evaluate this judicially-inspired expansion of patentable subject matter. Rejecting the false argument that Congress "endorsed" or codified *State Street*'s construction of §101 (*see* Section II), and thus overruling the Federal Circuit's untoward departure from this Court's patent jurisprudence, is the appropriate result in this case because it correctly puts in the hand of Congress the basic decision on whether to validate abstract business methods as necessary subjects of patentability.

Cong., *Cost Estimate: S. 1145, Patent Reform Act of 2007*, at 6 (2008), http://www.cbo.gov/ftpdocs/89xx/doc8981/s1145.pdf.

CONCLUSION

For all the foregoing reasons, the judgment of the Federal Circuit below should be affirmed.

Respectfully submitted,

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October 2, 2009