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Patenting the Curve Ball: Business Methods and Industry Norms

Gerard N. Magliocca*

Inevitably, any policy to restrict abstract patents amounts to drawing a line between what is patentable and what is not, and, unfortunately, such lines are drawn in the shifting sands of words....

We thus do not know what it will take to appropriately restrict abstract patents in general or software patents in particular.

James Bessen & Michael J. Meurer¹

Candy Cummings is not a household name, but he is credited with inventing a vital part of American civilization—the curve ball.² The ongoing controversy over whether, and to what extent, business methods should be patentable raises a fascinating question: Could a modern-day counterpart of Cummings who comes up with the next breakthrough pitch patent that invention?³ Under the test set forth

^{*} Professor of Law, Indiana University – Indianapolis. Many thanks to Carlo Andreani, Dan Cole, Kevin Collins, Michael Risch, and the attendees at the conference on "Patents and Fostering Entrepreneurship" at George Washington University Law School for their comments. Special thanks to my colleagues at the Roosevelt Study Center in Middelburg, The Netherlands, who hosted me while I worked on this paper during my sabbatical.

^{1.} James Bessen & Michael J. Meurer, Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk $244 \, (2008)$.

^{2.} See MARTIN QUIGLEY, THE CROOKED PITCH (1984). As with many great leaps in technology, there is a dispute over who really invented the curve ball. Cf. United States v. Am. Bell Tel. Co., 128 U.S. 315, 354 (1888) (addressing a claim that Alexander Graham Bell was not the first inventor of the phone). Some give the nod to Fred Goldsmith, a contemporary of Cummings who pitched for the oddly named London Tecumsehs. See QUIGLEY, supra at 22. Nevertheless, the Veterans' Committee of the Baseball Hall of Fame inducted Cummings into Cooperstown based on its conclusion that he was the rightful claimant. See id. at 33. On this sort of matter, the Veterans' Committee is the final authority.

^{3.} See State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1373–77 (Fed. Cir. 1998) (holding that there is no "business method" exception for patents). The patentability of the curve ball is not an original hypothetical. See, e.g., Rochelle Cooper Dreyfuss, Are Business Method Patents Bad for Business?, 16 SANTA CLARA COMPUTER & HIGH TECH. L.J. 263, 276 (2000) ("What, for example, if Candy Cummings had patented the curve ball or Dick Fosbury, his high jump 'flop?'"); Keith E. Maskus & Eina Vivian Wong, Searching for Economic Balance in Business Method Patents, 8 WASH. U. J.L. & POL'Y 289, 292–93 (2002) ("Suppose that a pitching coach on a minor-league baseball team developed an effective new pitch, the 'split-fingered curveball.' Perhaps the pitch itself would not be eligible

by the Federal Circuit in *In re Bilski*,⁴ any process that "is tied to a particular machine or apparatus" or that "transforms a particular article into a different state or thing," is patentable so long as it is novel and nonobvious.⁵ When it was first thrown, the curve ball was novel, was nonobvious in the sense that it revolutionized baseball (so much so that Cummings was inducted into the Hall of Fame for his idea), and could be considered a process that was tied to a particular apparatus (the ball) or that transforms the ball into a different state.⁶ Accordingly, if a pitch as groundbreaking as the curve ball were developed today, then its inventor probably (or at least plausibly) could obtain a patent.⁷

The problem with this conclusion is that most people would think it absurd to allow a player to patent a pitch, and it is unlikely that baseball leagues would let this happen. Gamesmanship is a part of sports, but there is a deeply rooted ethic among athletes (save for some cheaters) that competition should occur on a level playing field based on individual ability. Moreover, allowing one team or player

for a patent, but the coach should be able to protect his instructional technique." (internal citation omitted)). Indeed, the issue was raised at oral argument in *In re Bilski. See* Christopher A. Harkins, *Throwing Judge Bryson's Curveball: A Pro Patent View of Process Claims as Patent-Eligible Subject Matter*, 7 J. MARSHALL REV. INTELL. PROP. L. 701, 723–24 (2008) (discussing these comments).

- 545 F.3d 943, 954 (Fed. Cir. 2008) (en banc), cert. granted sub nom. Bilski v. Doll,
 192 S. Ct. 2735 (2009).
- 5. *Id.* at 954; *see* 35 U.S.C. §§ 102–103 (2006) (laying out the novelty and nonobviousness requirements). There are some additional elements that must be met for patentability, most notably the enablement rule of 35 U.S.C. § 112, but it is fair to say that nonobviousness and novelty are the most important statutory factors.
- 6. See supra note 2. In other words, gripping and throwing a rock or a bowling ball like a curve ball does not produce the same effect, and thus the "curve ball process" is limited to a particular device. As for whether this transforms the ball into a different state, ask anybody who tries to hit a breaking pitch.
- 7. See Harkins, supra note 3, at 734 (concluding that a curve ball could be patentable subject matter under 35 U.S.C. § 101). During the oral argument in Bilski, Judge Bryson stated that "[a] curveball is a baseball which has been, you could say, transformed into a baseball that has a great deal of spin on it and is being thrown at a pace which it didn't have at the time it was in the pitcher's hand." Id. at 724.
- 8. A sports league could address this problem by barring players from enforcing patents or by imposing a compulsory license for a nominal fee. See Carl A. Kukkonen, III, Be A Good Sport and Refrain from Using My Patented Putt: Intellectual Property Protection for Sports Related Movements, 80 J. PAT. & TRADEMARK OFF. SOC'Y 808, 828 (1998). If, however, the inventor was not a member of the league, then the only options would be to ban the pitch entirely or pay the fee demanded for its use as long as the license was open to all players.
- 9. See Dreyfuss, supra note 3, at 276 ("[S]porting events are interesting because they pit humans against one another to determine whose abilities are superior. For that competition

to hold a monopoly on a key aspect of the sport would allow the patentee to dominate in a way that would hurt fan interest. ¹⁰ Put another way, there is a norm in the sports community that disseminating and using knowledge is more important than creativity. Consequently, patent law is not helpful or necessary for that business. ¹¹

This Article argues that there should be a presumption against considering a process patentable subject matter under 35 U.S.C. § 101 when a norm can be found in the relevant industry against patenting the class of innovations at issue. The curve ball example encapsulates my view that the Patent Office and the courts would do better by being norm-followers rather than norm-entrepreneurs with respect to process patents. With the Supreme Court's grant of certiorari in *Bilski* to clarify § 101, the time is ripe for a reconsideration of the entire subject.

to be true, participants need to compete—literally—on a level playing field. Allowing one athlete to use a move that is denied to others would destroy the essence of the event."). This varies depending on what sport is involved. Golf is on one end of the spectrum (cheating there is almost unheard of), whereas soccer is on the other end (consider all of the players who flop and try to get the referee to award a penalty kick). Baseball is closer to soccer in this respect, with spitballs, stealing signs, and steroids as the leading examples, but this does not mean that the norms of baseball would tolerate the open advantages for a particular player or team that a patent would grant.

- 10. See Kukkonen, supra note 8, at 828 ("If Dick Fosbury had been granted a patent on his revolutionary style of high jumping, he could have dominated the sport for years."). Fans are not especially interested in seeing games that are fixed by gamblers, and it is doubtful that they would be any more enthusiastic about a contest where patent law gives one side a huge edge.
- 11. See John R. Thomas, The Patenting of the Liberal Professions, 40 B.C. L. REV. 1139, 1176 (1999) ("[T]raditionally patent-free professions may resist the prospect of extensive appropriation of their techniques.").
- 12. See 35 U.S.C. § 101 (2006) (providing the definition of patentable subject matter). There is considerable evidence that courts take industry practices into account in tailoring the requirements of patent law, see Dan L. Burk & Mark A. Lemley, Policy Levers in Patent Law, 89 VA. L. REV. 1575, 1577–79 (2003), but this Article takes that thought one step further by arguing that patentability itself ought to be conditioned on business norms.
- 13. This Article builds on recent scholarship about how norms interact with intellectual property. See, e.g., Thomas F. Cotter, A Burkean Perspective on Patent Eligibility, 22 BERKELEY TECH. L.J. 855, 858 (2007) ("[A] Burkean-inspired approach to patent law—one that respects, though it does not worship, tradition and that generally prefers gradual to radical change—suggests that we consider again some traditional, but now dormant, restraints on patentable subject matter that may have embodied a degree of wisdom."); Jennifer E. Rothman, The Questionable Use of Custom in Intellectual Property, 93 VA. L. REV. 1899, 1967—80 (2007) (evaluating when custom should and should not be used for IP).
- 14. See In re Bilski, 545 F.3d 943, 956 (Fed. Cir. 2008) (en banc) ("[W]e agree that future developments in technology and the sciences may present difficult challenges to the

There are three benefits that come from replacing the current standard for process patentability, which ignores industry customs unless there is a statutory command to the contrary, with a test that utilizes those norms. First, fewer business method patents would be issued under this modified standard, and this would be a positive reform because of the poor notice and costly litigation now associated with these patents. Second, using norms to define the scope of patentability can help solve the vexing problem that any attempt to craft a formal definition of a business method or process leads to confusion. Third, the current view of process patents empowers those who seek to defect from a community ethic (e.g., the cheating athlete) and imposes an unjustified burden on many industries.

Rather than reject or accept business method patents outright, therefore, this analysis steers a middle course that says they should be patentable subject matter as long as the relevant community believes that is not inappropriate. Naturally, this is bound to upset scholars who argue for a business method patent exclusion or those who believe that no restriction on these patents can be applied in a principled way.¹⁸ Likewise, those who seek a clear answer to the

machine-or-transformation test, just as the widespread use of computers and the advent of the Internet has begun to challenge it in the past decade. Thus, we recognize that the Supreme Court may ultimately decide to alter or perhaps even set aside this test to accommodate emerging technologies."), cert. granted sub nom. Bilski v. Doll, 192 S. Ct. 2735 (2009).

- 15. On the efforts of tax lawyers to get an exemption passed barring tax shelter patents, see Dan L. Burk & Brett H. McDonnell, *Patents, Tax Shelters, and the Firm,* 26 VA. TAX REV. 981, 1002 (2007) ("[S]ince the interpretation of the patent statute by courts and by the Patent Office has led to the 'let it all in' approach to subject matter, there have been calls for Congress to intervene, at least with regard to tax shelter patents."). The Patent Reform Act of 2007, which was passed by the House of Representatives but died in the Senate, did contain a tax shelter exemption. *See* H.R. Res. 1908, 110th Cong. § 10 (2007).
- 16. See BESSEN & MEURER, supra note 1, at 150–55 (presenting empirical evidence that business method patents have much higher litigation rates than other patents); see id. at 187 (stating that these patents "often have unclear boundaries and give rise to opportunistic litigation").
- 17. See, e.g., John R. Allison & Starling D. Hunter, On the Feasibility of Improving Patent Quality One Technology at a Time: The Case of Business Methods, 21 BERKELEY TECH. L.J. 729, 765 (2006) ("All attempts by courts and Congress to arrive at a workable definition for business method patents have encountered intractable difficulties.").
- 18. Compare Jay Dratler, Jr., Does Lord Darcy Yet Live? The Case Against Software and Business-Method Patents, 43 SANTA CLARA L. REV. 823, 833–36 (2003) (arguing that business method patents are contrary to the policies underlying Anglo-American patent law) and Michael J. Meurer, Business Method Patents and Patent Floods, 8 WASH. U. J.L. & POL'Y 309, 310 (2002) (calling for the reversal of State Street Bank and the return of the business method

question of whether software should be patentable may be disappointed, since that turns on a factual inquiry into the views of communities that are often divided on the issue. ¹⁹ Adopting a norm-sensitive approach towards business methods, though, would at least restrict patent's domain to those areas where it can do some good.

Part I of this Article explores the background law about business method patents and criticizes the Federal Circuit's view that groups who are not receptive to patents must seek relief from Congress. Part II lays out an alternative model that borrows from the obviousness analysis under 35 U.S.C. § 103 and examines (either as the actual test or as a secondary factor) whether an "ordinary person skilled in the art" would view the claim as falling within a class of patentable subject matter before granting a process patent.

I. PATENTS WHETHER YOU LIKE THEM OR NOT

This Part examines the statutory text and case law related to business method patents in light of the compelling arguments made by advocates for and against these patents.²⁰ Unfortunately, a careful review of the relevant sources yields almost no helpful guidance. As a

exception), and Leo J. 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, 101 (1999) ("The broad sweep of the State Street Bank opinion remains a cause for concern."), with John R. Allison & Emerson H. Tiller, The Business Method Patent Myth, 18 BERKELEY TECH. L.J. 987, 1021 (2003) ("[T] reating different technologies differently places too great a premium on ex ante definitions, such that the definitional scheme will be at least partially defeated because of the significant transaction costs associated with attorney efforts to opt into or out of a definition by carefully tailoring invention descriptions and patent claims."), and Burk & McDonnell, supra note 15, at 1001–02 (arguing that any limit on business method patents would be futile because it could be evaded through clever claim drafting).

19. See BESSEN & MEURER, supra note 1, at 244 ("The empirical evidence makes us quite sure that some change is needed [for software patents]; however, we are uncertain what change is best."); Gerard N. Magliocca, Blackberries and Barnyards: Patent Trolls and the Perils of Innovation, 82 NOTRE DAME L. REV. 1809, 1811–13 (2007) (comparing modern patent trolls to nineteenth-century patent sharks and suggesting the abolition of software and business method patents).

20. My analysis focuses on business methods because these are the process patents that receive the most scrutiny. The discussion in the text, however, does not define a business method, other than to say that it is a process rather than a machine, a manufacture, or a composition of matter. See 35 U.S.C. § 101 (laying out these categories of patentable subject matter). In part, this is because the term "business method" cannot really be defined with any precision. See infra text accompanying notes 52–57. Moreover, the cases or statutes about business method patentability do not define the term. This may seem illogical—how can one assess if something is patentable without knowing what that something is? Patent law, unfortunately, is riddled with these sorts of inconsistencies.

result, the discussion turns to policy considerations and argues that the current statutory interpretation, which holds that most business processes are patentable unless Congress makes an exception, hurts innovation and provides the wrong incentives for many industries.²¹ The en banc opinion of the Federal Circuit in *Bilski* nibbled around the edges of this problem, but did not resolve the matter.

A. Wrestling with Indeterminacy

The point of departure is the text of 35 U.S.C. § 101, which defines patentable subject matter: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent "22 Since the statute states that "any new and useful process" and "any new and useful improvement" is patentable, the text does not appear to contemplate a categorical exception for so-called "business methods." This reading is buttressed by a statement in the legislative history of the 1952 Patent Act, which is frequently quoted by proponents of broad patentability, that § 101 was intended to "include anything under the sun that is made by man."

^{21.} The policy discussion is premised on the principle that patents serve a utilitarian purpose and are supposed to promote innovation. *See* U.S. CONST. art. I, § 8, cl. 8 (giving Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries")

^{22. 35} U.S.C. § 101 (2006); see Diamond v. Diehr, 450 U.S. 175, 182 (1981) (stating that in 1952 Congress revised this section by replacing the word "art" with the word "process").

^{23.} See Kevin Emerson Collins, Claims to Interpretation Qua Information and a Structural Theory of Section 101, J.L. & POL'Y FOR INFO. SOC'Y 11, 15 (2008) ("[A] plain-meaning textualist . . . might merely note that there is little to no statutory support for the exclusions as Section 101 merely states that 'any new and useful process, machine, manufacture, or composition of matter' is a patentable invention."); see also In re Bilski, 545 F.3d 943, 1012 (Fed. Cir. 2008) (en banc) (Rader, J., dissenting) ("The language of section 101 conveys no implication that the Act extends patent protection to some subcategories of processes but not others. It does not mean 'some' or even 'most,' but all."), cert. granted sub nom. Bilski v. Doll, 192 S. Ct. 2735 (2009). The courts do hold that "laws of nature, natural phenomena, and abstract ideas" are ineligible for patents, id. at 977, but those exclusions can be explained on the grounds that they are discovered, rather than invented, or are not useful within the meaning of the statute.

^{24.} Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980) (quoting S. REP. No. 82-1979, at 5 (1952); H.R. REP. No. 82-1923, at 6 (1952)). *Compare* State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1373 (Fed. Cir. 1998) (citing this line for the proposition that "it is improper to read limitations into § 101 on the subject matter that

Supporters of a business method exception have a robust response to these points, which is that when § 101 was last amended in 1952, and for decades thereafter, it was considered hornbook law that business methods were not patentable.²⁵ Even Judge Giles Rich, who wrote the crucial Federal Circuit opinion in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*²⁶ declaring that the business method exception never existed, relied on the exception in an earlier law review article.²⁷ This consensus began to unravel in 1980, when the Supreme Court quoted the "anything under the

may be patented where the legislative history indicates that Congress clearly did not intend such limitations"), with BESSEN & MEURER, supra note 1, at 27 ("[W]e are troubled by the expansionist view of the courts that 'everything under the sun made by man' should be patentable, including software, business methods, and even mental correlations. . . . We are quite sure that the patent system needs to recognize the limits of its grasp, even if we are not sure of the best way to implement those limits.").

Some of the opinions in *Bilski* challenged the broad interpretation of the legislative history in the 1952 Act. For instance, Judge Dyk contended that the phrase "made by man" referred only to manufactures. *See Bilski*, 545 F.3d at 976 (Dyk, J., concurring). Likewise, Judge Mayer pointed out that the "anything under the sun" language was qualified in the report from Congress. *See id.* at 1000 (Mayer, J., dissenting) (noting that the report also said an invention "is not necessarily patentable under section 101 unless the conditions of the title are fulfilled").

25. See In re Patton, 127 F.2d 324, 327–28 (C.C.P.A. 1942) ("[I]t is sufficient to say that a system of transacting business, apart from the means of carrying out such system, is not . . . patentable subject matter."); Hotel Sec. Checking Co. v. Lorraine Co., 160 F. 467, 469 (2d Cir. 1908) ("A system of transacting business disconnected from the means of carrying out the system is not . . . an art. Advice is not patentable."); Morton C. Jacobs, Note, The Patentability of Printed Matter: Critique and Proposal, 18 GEO. WASH. L. REV. 475, 476 (1950) (describing "the longstanding rule that abstractions, mental theories or business methods are not patentable subject matter" (footnote omitted)); Robert A. Kreiss, Patent Protection for Computer Programs and Mathematical Algorithms: The Constitutional Limitations on Patentable Subject Matter, 29 N.M. L. REV. 31, 85 (1999) ("[T]he repeated comments made by courts, commentators, and the PTO over the years to the effect that business methods are not patentable subject matter.").

26. 149 F.3d 1368 (Fed. Cir. 1998).

27. See Giles S. Rich, Principles of Patentability, 28 GEO. WASH. L. REV. 393, 393–94 (1960) (stating that business methods were not patentable); see also State St. Bank, 149 F.3d at 1375 ("Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method."); Meurer, supra note 18, at 320 n.70 ("Although I think his treatment of the cases is reasonable, Judge Rich evades the longstanding PTO rule against patents on business methods and the consensus among commentators, including himself at an earlier date, that there was a business method exception.").

While there are some pre-1952 patents that arguably did involve business methods, they do not establish that the exclusion of this category never existed. *Compare Bilski*, 545 F.3d at 974 (Dyk, J., concurring) (distinguishing these patents on various grounds), *with id.* at 989–90 (Newman, J., dissenting) (concluding from similar sources that business method patents were never excluded).

sun" language for the first time and set forth a strong presumption of patentability in a decision involving genetically engineered bacteria.²⁸ One year later, the Court relied on that presumption to hold that a process for curing synthetic rubber in which software was the crucial component was patentable; a decision that was the chief authority for the Federal Circuit cases during the 1990s that expanded patentable subject matter.²⁹ Nevertheless, a reasonable argument can be made that § 101 was enacted against the background assumption that business methods were not patentable and that the proper view of the statute was the one taken from the 1950s until the 1990s.³⁰

Dieln's effort to distinguish the Court's precedents rejecting software patents, especially Parker v. Flook, was unpersuasive and is widely criticized. Compare Dieln, 450 U.S. at 191–92 & n.14 (arguing that "insignificant postsolution activity will not transform an unpatentable principle into a patentable process" and that the software in Flook involved insignificant activity during a catalytic conversion process), with id. at 204 (Stevens, J., dissenting) ([Flook] "made it clear that an improved method of calculation, even when employed as part of a physical process, is not patentable subject matter under § 101."), and id. at 215 ("[T]he postsolution activity described in the Flook application was no less significant than the automatic opening of the curing mold involved in this case."). See also Julie E. Cohen & Mark A. Lemley, Patent Scope and Innovation in the Software Industry, 89 CAL. L. REV. 1, 9 (2001) ("Diehr seems difficult to distinguish from Flook."); Kevin Emerson Collins, Propertizing Thought, 60 SMU L. REV. 317, 349 (2007) ("Flook and Diehr are difficult to reconcile."). Indeed, the incoherence of the Supreme Court's cases on process patents helps explain why the Federal Circuit had such a hard time making sense of them in Bilski. See infra note 73.

30. The Supreme Court has not addressed § 101 since *Diehr*, and thus its grant of certiorari in *Bilski* will mark its first comment on the validity of business method patents. *Cf.* Collins, *supra* note 29, at 349–50 ("In large part because *Diehr* came after *Flook*, a default presumption of a method being applied rather than abstract has evolved over the last twenty-five years in the Federal Circuit . . . ").

Once again, some of the opinions in *Bilski* made this point about the proper construction of § 101. *See Bilski*, 545 F.3d at 974 (Dyk, J., concurring) (arguing that patents were not granted before 1952 "on methods of organizing human activity not involving manufactures, machines or the creation of compositions of matter"); *id.* at 999 (Mayer, J., dissenting) ("Because there is nothing in the language of the 1952 Act, or its legislative

^{28.} See Chakrabarty, 447 U.S. at 309; Collins, supra note 23, at 15 (noting "the establishment of a default in favor of patentability in Diamond v. Chakrabarty).

^{29.} See Diamond v. Diehr, 450 U.S. 175, 185 (1981) ("[T]he fact that in several steps of the process a mathematical equation and a programmed digital computer are used [did not render the process unpatentable]."); State St. Bank, 149 F.3d at 1374 (reasoning that after Diehr "the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter"); AT&T, Corp. v. Excel Comm., Inc., 172 F.3d 1352, 1356–57 (Fed. Cir. 1999) (relying on an extended analysis of Diehr to validate a patent on a billing system for phone calls); Burk & McDonnell, supra note 15, at 984 ("[T]he acceptance of software within patentable subject matter undermined the prohibition on which the preclusion of business methods from patent law was also grounded.").

Not so fast, a supporter of business method patents would insist. While there were numerous cases before and after the 1952 Act that said business methods were unpatentable, none of those decisions actually held that this was so.³¹ In each case, the patent application was rejected on other grounds (e.g., obviousness or lack of novelty).³² Accordingly, the statements about business method patentability were dicta and did not put a gloss on the sweeping language of § 101.³³ One response to this point, though, is that the absence of a holding on the issue is irrelevant since it "may simply reflect a widespread, unchallenged understanding that patentable subject matter did not extend so far."³⁴ An even more persuasive answer is that the patent bar clearly thought that the Federal Circuit changed the law in the 1990s, as reflected by statements at the time as well as by the sharp increase in self-styled business method patent applications that followed the *State Street Bank* decision.³⁵ That

history, to indicate that Congress intended to modify the rule against patenting business methods, we must presume that no change in the rule was intended.").

- 31. See State St. Bank, 149 F.3d at 1375 ("The business method exception has never been invoked by this court, or the CCPA, to deem an invention unpatentable."); Michael L. Fuelling, Manufacturing, Selling and Accounting: Patenting Business Methods, 76 J. PAT. & TRADEMARK OFF. SOC'Y 471, 471–72 (1994) (noting that some commentators have been pointing this out since the 1930s).
- 32. Compare Hotel Sec. Checking Co. v. Lorraine Co., 160 F. 467, 469 (2d Cir. 1908) ("A system of transacting business disconnected from the means of carrying out the system is not, within the most liberal interpretation of the term, an art. Advice is not patentable."), with id. at 471 ("Admitting, arguendo, that a system such as Hicks describes is patentable, if absolutely novel, we are of the opinion that the improvements of Hicks over the system disclosed in the Smith patent are such as would occur to anyone conversant with the business."). See also Jacobs, supra note 25, at 475 & n.1 (stating that the case law "held that abstract ideas such as business methods and systems of knowledge were nonpatentable subject matter" but then adding that "[e]ach of these cases held that the printed arrangement itself lacked invention").
- 33. See State St. Bank, 149 F.3d at 1375 ("Application of this particular exception has always been preceded by a ruling based on some clearer concept of Title 35 or, more commonly, application of the abstract idea exception based on finding a mathematical algorithm.").
 - 34. Cotter, supra note 13, at 877.
- 35. See Allison & Hunter, supra note 17, at 730–31 ("[State Street Bank]] was quickly followed by a dramatic increase in the number of applications for and grants of business method patents."); Meurer, supra note 18, at 313 ("The State Street decision set off a flood of e-commerce patents."); Raskind, supra note 18, at 61 ("The Federal Circuit's recent endorsement of patent protection for methods of doing business marks so sweeping a departure from precedent as to invite a search for its justification."); see also Bilski, 545 F.3d at 1004 (Mayer, J., dissenting) (commenting that business method patent applications increased more than tenfold after State Street Bank was decided).

reaction is hard to reconcile with the view that the lack of holdings barring these patents was especially meaningful.³⁶

In sum, the legal authorities that apply to business method patents are inconclusive.³⁷ Both proponents and detractors of the current standard can marshal formidable arguments for their points of view. The discussion therefore turns to the policy implications of allowing patents on business processes.

B. A Policy Stalemate

Though the Federal Circuit's cases largely ignore the policy questions raised by expanding patentable subject matter, there is no shortage of opinions about that topic in the law reviews. Once again, both sides make a persuasive case about the value (or lack thereof) of business method patents and about the choice between excluding them from patentability and retaining the default rule that they are patentable. While this may just mean that lawmakers face a tough decision on this issue, perhaps the problem is with the premise that an all-or-nothing solution is the only option.

In the immediate aftermath of the liberalization of business method patentability, critics who were trying to gauge its impact offered several policy objections. First, they argued that allowing such patents would harm innovation by removing valuable ideas from the public domain; a claim backed up by a parade of horribles (not unlike the curve ball example) asking whether industry would have benefited from the patenting of the assembly line, just-in-time

^{36.} For example, *State Street Bank* noted that prior to 1996 the Manual of Patent Examining Procedures (used as guidance within the PTO) stated that "[t]hough seemingly within the category of process or method, a method of doing business can be rejected as not being within the statutory classes." *State St. Bank*, 149 F.3d at 1377 (quoting § 706.03(a)); *see* Meurer, *supra* note 18, at 320 n.70 ("Defenders of *State Street* admit this result, but blandly assert that *State Street* made practitioners aware of a class of inventions they previously overlooked.").

^{37.} Following the decision in *State Street Bank*, Congress did enact a law that provided a limited defense to infringement actions involving a business method patent (without defining a business method). *See* First Inventor Defense Act of 1999, Pub. L. No. 106-113, 113 Stat. 1536 (codified at 35 U.S.C. § 273 (2006)) (providing an affirmative defense to patent infringement actions if the defendant had used a business method at least one year before the application was filed). It is wrong to say, however, that this should be treated as an endorsement of *State Street Bank*, especially since this provision remains untested in the courts. *See* Burk & McDonnell, *supra* note 15, at 1003 ("[This provision was not] well-drafted or considered, . . . is opaque and nearly incomprehensible, and . . . remain[s] obscure and largely unnoticed."); *see also* Allison & Hunter, *supra* note 17, at 766 (stating that there were no reported cases on the First Inventor Defense Act as of 2006).

inventory, or the hub-and-spoke airline system.³⁸ Second, the critics said that enlarging the universe of patentable processes would overwhelm the PTO in a "patent flood" and lead to the issuance of too many low-quality patents that produce nothing but nuisance litigation.³⁹ Third, the critics maintained that business method patents were unnecessary, as ordinary market competition and the first-mover advantage provided sufficient incentives for creativity in this area.⁴⁰

The rebuttal to these initial criticisms is equally forceful and convincing. Michael Abramowicz and John F. Duffy, for example, support the concept of business method patents with the rationale that firms need incentives for "market experimentation" when first-mover or branding advantages prove insufficient.⁴¹ Other scholars

^{38.} See Dreyfuss, supra note 3, at 264 ("Think how the airline industry might now be structured if the first company to offer frequent flyer miles had enjoyed the sole right to award them or how differently mergers and acquisitions would be financed . . . if the use of junk bonds had been protected by a patent."); Meurer, supra note 18, at 322 ("[B]asic business method innovations like the distribution system at Sears, the multi-divisional structure of the firm, and the Fed-Ex hub-and-spoke air delivery system are now likely to be patentable subject matter."); Raskind, supra note 18, at 64–65 ("Henry Ford's assembly line method of organizing production might also be characterized as a method of doing the business of automobile production.").

^{39.} See Dreyfuss, supra note 3, at 267–68 ("The first problem is one that concerns many observers of the patent system. It is the frequency with which the Patent Office issues patents on shockingly mundane business inventions."); Robert P. Merges, One Hundred Years of Solicitude: Intellectual Property Law, 1900-2000, 88 CAL. L. REV. 2187, 2232 (2000) ("[T]he increased volume of patent applications stemming from this newly patentable subject matter has pushed the patent system into crisis."); Meurer, supra note 18, at 309–10 ("The decline of the business method exception to patentability will increase the frequency of patent floods. . . . Patent floods strain the resources of the U.S. Patent and Trademark Office (PTO) and adversely affect the quality of issued patents.").

^{40.} See Dreyfuss, supra note 3, at 275 ("[N]either the free-rider nor the disclosure rationale justifies business method patents. Businesses are largely practiced in public. Accordingly, there is little need to especially encourage disclosure. Business methods are also hard to free ride on. They depend in strong ways on the social structure within the firms utilizing them—on compensation schemes, lines of reporting, supervising policies, and other business factors."); Raskind, supra note 18, at 92 ("Nowhere in the substantial literature on innovation is there a statement that the United States economy suffers from a lack of innovation in methods of doing business."); see also Bilski, 545 F.3d at 1005 (Mayer, J., dissenting) ("Business innovations, by their very nature, provide a competitive advantage and thus generate their own incentives.").

^{41.} See Michael Abramowicz & John F. Duffy, Intellectual Property for Market Experimentation, 83 N.Y.U. L. REV. 337, 340 (2008) ("[L]ate-entering competitors obtain two important second-mover advantages against early market experimenters. First, they do not have to bear the cost of investing in market development. Second, they can copy the first experimenter's market success and avoid repeating its failures."); id. at 344 (explaining that novel and nonobvious business method methods can involve "those cases where the market

argue that the novelty and nonobviousness requirements are more than able to screen out worthless patents, and they support that assertion with empirical research showing that business method patents are no lower in quality than other types of patents. Finally, many people say that the definition of a business method is so fuzzy that any attempt to bar its patentability can be evaded with skillful claim drafting, thus eliminating the exception was the correct choice because it reduced transaction costs for patents that would issue no matter what substantive test was used.

Sifted through a decade of experience with business method patents, it is fair to say that two policy arguments—one pro and one con—retain their vitality and must be confronted.⁴⁴ Contrary to the hopes of their boosters, business method patents do perform poorly as compared to other patents in the sense that they are litigated far

success is truly doubtful"). But see Dratler, supra note 18, at 845–47 (arguing that patent protection is appropriate only when there is a risk that the invention will fail to function at all, not when it will merely fail to succeed in the marketplace).

To be fair, Abramowicz and Duffy do not endorse all business method patents or all of the Federal Circuit's doctrines. *See* Abramowicz & Duffy, *supra*, at 398–99 ("Nor do we believe that business method patents and the watering down of the nonobviousness standard are necessarily positive developments. To the contrary, we believe these developments could lead to dramatically inefficient results unless other aspects of patent law are also modified.").

- 42. See Allison & Tiller, supra note 18, at 1004 ("Overall, our data demonstrate that Internet business method patents were no worse than patents in general in the late 1990s. Indeed, our empirical evidence suggests that they may have been better than average."); Collins, supra note 23, at 15 ("A more nuanced variant casts Section 101 as the vestigial appendix of patent doctrine [T]oday it is no longer necessary because any claim that is unpatentable under the patentable subject matter doctrine is also invalid under one of the now-refined invalidity doctrines."). But see BESSEN & MEURER, supra note 1, at 188 (criticizing Allison & Tiller's definition of patent quality). Allison and Tiller defined business method patents by relying on the PTO's classification of the applications, which is no more reliable than any other method but is better than nothing.
- 43. See Allison & Hunter, supra note 17, at 736 ("Carving out business method patent applications for harsher treatment would ultimately prove largely futile and possibly even counterproductive—futile because skilled patent attorneys can often draft applications so as to opt out of a predefined category, and counterproductive because of the increased transaction costs associated with tortuous drafting."); see also Cohen & Lemley, supra note 29, at 9 (describing "the doctrine of the magic words" that prevailed during the 1980s and early 1990s, under which "software was patentable subject matter, but only if the applicant recited the magic words and pretended that she was patenting something else").
- 44. The Panic of 2008 raises another question. Was the innovation in financial products over the last decade, spurred on by availability of business method patents, actually a good thing? The answer is far from clear. Perhaps the issue was the lack of regulation of these exotic products rather than their existence, but the assertion that innovation in the financial industry is always desirable must be subjected to critical review.

more often.⁴⁵ A detailed study by James Bessen and Michael J. Meurer establishes that software and business method patents account for nearly forty percent of the total cost of patent litigation and that the problem is getting worse.⁴⁶ Moreover, their data show that the patent system (outside of chemical and drug patents) is now providing a net disincentive for innovation; a result that is largely attributed to software and business method patents.⁴⁷ The novelty and nonobviousness gatekeepers, in other words, are not preventing a patent flood or the costly nuisance lawsuits that critics said would follow from the Federal Circuit's decisions.⁴⁸

What makes business method patents so litigation-prone is their abstract quality, which provides weak notice for firms and increases

^{45.} See BESSEN & MEURER, supra note 1, at 22 ("Critically, software patents do seem to exhibit some marked differences from other patents when it comes to litigation costs. Software patents are more than twice as likely to be litigated as other patents; patents on methods of doing business, which are largely software patents, are nearly seven times more likely to be litigated."). A similar pattern unfolded when the Patent Office expanded the subject matter covered by design patents in the late nineteenth century; an ill-fated experiment that led to another patent flood and a sharp increase in nuisance litigation. See Magliocca, supra note 19, at 1819–25 (describing this episode).

^{46.} See BESSEN & MEURER, supra note 1, at 22; see also id. at 192–93 (presenting some data on this growing problem and stating that "software and business-method patents are different from most other patents, both in their litigation rates and frequency of claim-construction problems."). In this respect, Judge Newman's dissent in Bilski was very disappointing. While her vigorous defense of process patents made many valid points, she also served up a rainbows-and-lollipops story that refused to acknowledge that these patents were presenting any problems. At one point, she did mention some of this criticism, but then quickly added that "this problem seems to be remedied." See Bilski, 545 F.3d at 997 (Newman, J., dissenting). That is nothing more than wishful thinking.

^{47.} See BESSEN & MEURER, supra note 1, at 144 ("By the late 1990s the risk of patent litigation for public firms outside of the chemical and pharmaceutical industries exceeded the profits derived from patents. This means that patents likely provided a net disincentive for innovation for the firms who fund the lion's share of industrial R&D; this is, patents tax R&D."); cf. Bilski, 545 F.3d at 1004 (Mayer, J., dissenting) (providing a summary of absurd process patents granted by the PTO since State Street Bank).

^{48.} A serious response to this point is that policymakers should focus on improving the statutory gatekeepers instead of narrowing § 101. See Michael Risch, Everything is Patentable, 75 TENN L. REV. 591, 658 (2008) ("[T]he PTO and courts should focus on answering specific questions about how to best apply rigorous standards of novelty, nonobviousness, utility, and specification with a scapel rather than simply eliminating broad swaths of innovation with a machete."); see also Kristin Osenga, Ants, Elephant Guns, and Statutory Subject Matter, 39 ARIZ. ST. L.J. 1087, 1092 (2007) ("[T]he question of subject-matter eligibility for any invention is essentially pro forma, and whether a patent is granted for a particular invention should be based on the application meeting the requirements of patentability provided by 35 U.S.C. § 102, 103, and 112."). I address this point in Part II. See infra text accompanying notes 98–100.

the probability of inadvertent infringement.⁴⁹ As Bessen and Meurer observe, "it is well known among computer scientists that software technologies (algorithms, system structures) can be represented in many different ways, and . . . [t]his means that the technology claimed in a patent can be difficult to distinguish from alternatives."⁵⁰ The same holds true for most business methods, which often incorporate software or cover processes dealing with information management (e.g., financial instruments, negotiation tactics, styles of legal argument) that are subjective—an art rather than a science—and far less precise than a machine or a drug that can be described in concrete terms.⁵¹ To the extent that firms simply do not know where the boundaries of these patents are, they are more likely to infringe them.⁵²

While all of this suggests that business method patents pose a threat to innovation, the very indefiniteness that makes these patents problematic also impedes every proposal for reform. There is still no definition of a business method in federal law, and the argument that none can be written that would make sense has merit.⁵³ One reason for this is that the definition is circular, as a business method is just a method used to conduct business.⁵⁴ Put another way, any process

^{49.} See BESSEN & MEURER, supra note 1, at 23 ("[S]oftware patents are much more likely than other patents to have their claim construction reviewed on appeal—an implicit indication that parties to lawsuits have fundamental uncertainty over the boundaries of these patents."); Magliocca, supra note 19, at 1821–22 (pointing out that the same kind of boundary confusion arose in the nineteenth century when the Patent Office allowed design patents to issue on common functional items such as farm tools).

^{50.} BESSEN & MEURER, supra note 1, at 23.

^{51.} See id. at 198 (noting that courts have traditionally resisted patents on "principles of manufacture" for this reason and giving as an example Justice Story's rejection of a patent on "the art of cutting ice by means of any power, other than human power").

^{52.} See Magliocca, supra note 19, at 1815 (explaining how this can lead to substantial sunk costs that an opportunistic litigant can exploit).

^{53.} See, e.g., Fuelling, supra note 31, at 480 ("[T]he decisional law never defines the term 'method of doing business.""). One bill introduced, but never passed, in the House of Representatives tried to define a business method as:

⁽¹⁾ a method of – (A) administering, managing, or otherwise operating an enterprise or organization, including a technique used in doing or conducting business; or (B) processing financial data; (2) any technique used in athletics, instruction, or personal skills; and (3) any computer-assisted implementation of a method described in paragraph (1) or a technique described in paragraph (2).

Business Method Patent Improvement Act of 2000, H.R. 5364, 106th Cong. (2000).

^{54.} See Allison & Hunter, supra note 17, at 767 (emphasizing this point). Dissenting in Bilski, Judge Mayer countered that a technological arts standard should be used to distinguish patentable subject-matter from business methods. He said "a claimed process is technological

within an industry could be described as that industry's method of doing business. For example, some wonder if "a chemical refining process would be a business method for a firm in the business of refining petroleum products. Although probably not within the contemplation of most people who have given thought to business methods, why would the refining process not be included within such a definition?" The answer, of course, is that chemical refining processes are not harming the patent system and have been covered by § 101 without controversy for decades—neither of which can be said about business method and software patents. Finding a formula that can capture that insight, though, is proving so elusive that even the most ardent critics of the Federal Circuit hesitate when it comes to the question of what should be done. For

One other facet of the process patent issue deserves some attention, and that is how the expansion of patentable subject matter affects the norms within particular business and professional groups. Some of the most exciting intellectual property research being done today focuses on how communities that are excluded from effective patent or copyright protection, such as chefs, magicians, and standup comedians, develop informal practices that govern ownership of and access to their creative material.⁵⁸ While this could be viewed as

to the extent it applies laws of nature to new ends," whereas "a process is non-technological where its inventive concept is the application of principles drawn not from the natural sciences but from disciplines such as business, law, sociology, or psychology." *In re* Bilski, 545 F.3d 943, 1009–10 (Fed. Cir. 2008) (en banc) (Mayer, J., dissenting), *cert. granted sub nom.* Bilski v. Doll, 192 S. Ct. 2735 (2009). But software does not fit into this framework unless Judge Mayer is suggesting that software should not be patentable.

- 55. Allison & Tiller, *supra* note 18, at 1019–20 n.104. This problem becomes even more complicated if software is included in the chemical process, which was the situation that the Court addressed in *Diehr. See supra* text accompanying note 30.
- 56. See BESSEN & MEURER, supra note 1, at 153 (stating that chemical patents are valuable in part because they are not frequently litigated); id. at 189 ("Chemical processes have always been patentable and have never been controversial in the United States.").
 - 57. See supra text accompanying note 1.

^{58.} See, e.g., Emmanuelle Fauchart & Eric Von Hippel, Norms-Based Intellectual Property Systems: The Case of French Chefs, M.I.T. Sloan Research Paper No. 4576-06 (Jan. 1, 2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=881781; Jacob Loshin, Secrets Revealed How Magicians Protect Intellectual Property Without Law, (July 25, 2007), available at http://ssrn.com/abstract=100 5564; Dotan Oliar & Christopher Sprigman, There's No Free Laughs (anymore): The Emergence of Intellectual Property Norms and the Transformation of Stand-Up Comedy, 94 VA. L. REV. 1787 (2008); see also Kal Raustiala & Christopher Sprigman, The Piracy Paradox: Innovation and Intellectual Property in Fashion Design, 92 VA. L. REV. 1687, 1769–75 (2006) (listing other examples such as fireworks, perfume, tattoos, and hairstyles).

just making the best of a bad situation, there is every reason to think that these customs (as in the curve ball example) actually encourage more sharing of knowledge and lower transaction costs in a way that makes the trade as a whole better off.⁵⁹ The chief threat to this sort of arrangement comes from defectors who can gain from violating these norms (e.g., copying without attribution) and hence must be reined in by some sort of informal sanctions lest the system collapse.⁶⁰

Introducing patents into these communities undermines their indigenous customs and gives more leverage to defectors without generating significant benefits.⁶¹ It is not breaking news to say that law shapes norms, so when the doctrine holds that a business process can be owned outright and does not need to be shared, that change is bound to weaken any contrary cooperative practices.⁶² For instance, when Congress enacted the Bayh-Dole Act to encourage the patenting of inventions in universities, observers noted that this eroded the prior ethos that professors would share their research freely with others.⁶³ The availability of patents also puts a potent

^{59.} See supra text accompanying notes 8–10; Rothman, supra note 13, at 1924 ("[W]here parties either think that formal IP law has little or no role, or where legal enforcement of existing IP laws is expressly disfavored by the community[,] . . . the practices and norms that develop often reflect community members' preferred distribution of rights in intangible goods."); Thomas, supra note 11, at 1176 ("[T]he ability of a profession to serve the public good may also be affected by patenting, which could alter the willingness of professionals to disseminate and put into practice new learning.").

^{60.} A familiar (perhaps all-too familiar) example of this would be the way that federal appellate judges hire clerks. If everyone involved in that process sticks to a common understanding about a timeframe for receiving applications and conducting interviews, then the process as a whole works better. There will always be an incentive, however, for some judges to jump the gun. Whether shaming the renegades actually works is a question I shall not attempt to answer.

^{61.} One objection is that an anti-patent norm could be an anti-competitive device that leaders in an industry use to preserve their position against potential challengers. In other words, the power to create norms and patents are the only way that the little guy can fight back. I do not think that this is an accurate description of how cooperative market niches operate, but I accept that courts must independently review a custom to make sure that it is consistent with public policy. See The T. J. Hooper, 60 F.2d 737, 740 (2d Cir. 1932) (L. Hand, J.) (making the classic statement about the connection between custom and negligence). My argument is that courts should defer to an industry norm against patents unless an applicant can demonstrate that the norm is unreasonable.

^{62.} The high cost of obtaining a patent may protect a community from norm erosion by making it impractical for anyone to obtain one. Even if joke-telling were deemed a business method for a stand-up comic, it is hard to believe that any comic would bother spending the necessary time and money to get a patent.

^{63.} See, e.g., Arti Rai, Regulating Scientific Research: Intellectual Property Rights and the

weapon in the hands of any would-be defectors. Although they could still face reputational sanctions if they choose to apply for a patent rather than make their discoveries freely available, those disciplinary measures may not be enough if the patent is truly valuable. As a result, patents not only undermine sharing norms by making ownership more acceptable, they also limit the ability of professions to maintain their integrity against cheaters from inside and outside their ranks. 55

Under the current "opt-out" posture taken by the Federal Circuit, if the American Medical Association wanted to prevent someone like Michael Debakey from patenting the heart bypass surgery procedure, its only hope would be to ask Congress for a statutory exemption. With respect to surgical and medical patents, Congress did, in fact, grant such an exemption. ⁶⁶ But for the vast majority of professional groups that reject patents, this is no remedy at all because of the prohibitive costs of lobbying. ⁶⁷ Besides, it is not at all clear that those who care about the patent system would want

Norms of Science, 94 NW. U. L. REV. 77, 109 (1999) ("As might be predicted by law-and-norms theory . . . universities and individual researchers soon began to respond to the financial incentives of Bayh-Dole by rejecting communalism and increasing efforts to seek patents.").

- 64. A standard-setting organization can solve this coordination problem, much as a sports league does, by imposing rules on its members with respect to patents, but that often does not work. *See* Robert P. Merges & Jeffrey M. Kuhn, *An Estoppel Doctrine for Patented Standards*, 97 CAL. L. REV. 1 (2009) (discussing strategic behavior by firms facing these standard-setting groups).
- 65. Of course, one person's cheater is another person's innovator. The norm of warfare during the Revolutionary War was to stand in formation and shoot it out, thus our soldiers were cheating by attacking the Redcoats from behind trees and rocks. I am not saying that cheating is always wrong. I am just saying that its fruits should not be patentable under the conditions outlined in this Article.
- 66. See Omnibus Consolidated Appropriations Act, 1997, Limitation on Patent Infringements Relating to a Medical Practitioner's Performance of a Medical Activity, Pub. L. No. 104-208, 110 Stat. 3009, § 616 (codified as amended at 35 U.S.C. § 287(c) (2006)) (barring infringement remedies, and thereby effectively nullifying, medical and surgical procedure patents); Thomas, supra note 11, at 1176 (stating that this action came after "condemnation of patents on methods of medical treatment by the American Medical Association House of Delegates"). But cf. Allison & Tiller, supra note 18, at 1020 ("Even if one believes that it was socially optimal to remove the threat of an infringement action so as to give physicians the freedom to use any procedure they choose, it is unlikely that a reasonable estimate of costs and benefits would lead to the same conclusion for business methods.").
- 67. See Thomas, supra note 11, at 1177 ("Whether business and other professionals will, like physicians, possess the wherewithal to persuade Congress to create particularized patent-free spheres of activity remains to be seen. Few occupations are as well-organized, imbued with a sense of profession and capable of employing the rhetoric of public service as the practice of medicine.").

Congress involved in these issues. Dan Burk and Brett H. McDonnell point out that on "the rare occasion when legislative response has occurred, there is usually reason to wish that it hadn't. The previous history of remedial legislation regarding patentable subject matter is not encouraging." What these professions really need is an "opt-in" system with a presumption against patentability unless they want to participate in the patent system. The problem, of course, is that business methods must be defined for that solution to work.

Accordingly, the policy debate over business method patents, like the discussion over the positive legal materials governing them, is indeterminate. On the one hand, there is considerable proof that the interpretation adopted by the Federal Circuit is a harmful tax on innovation. On the other hand, the definitional challenge makes it very tricky to replace the current test with one that will abolish the harmful patents without taking out the valuable ones.⁶⁹

C. The Federal Circuit's Opinion in Bilski

In response to all of this criticism about business method patents, the Federal Circuit went en banc in 2008 and revisited its precedents. While the court reaffirmed that business methods are patentable, *Bilski* revised the test for assessing process patents. Ever since *State Street Bank* was issued in 1998, any process that yielded a "useful, concrete, tangible result" was deemed patentable under \$101.72 Following an analysis of the most recent Supreme Court cases on the issue (all of which are nearly thirty years old), *Bilski* held that this standard should be replaced by a machine-or-transformation test

^{68.} Burk & McDonnell, supra note 15, at 1003.

^{69.} See Dratler, supra note 18, at 879 ("The Federal Circuit's ultimate solution—virtually abandoning judgment and rejecting all categorical subject-matter limitations for computer programs entirely—can be understood primarily as a desperate search for certainty in an uncertain world." (footnote omitted)).

^{70.} See In re Bilski, 545 F.3d 943, 1010 (Fed. Cir. 2008) (en banc) (Mayer, J., dissenting) ("We took this case en banc in a long-overdue effort to resolve primal questions on the metes and bounds of statutory subject matter. The patent system has run amok, and the USPTO, as well as the larger patent community, has actively sought guidance from this court in making sense of our section 101 jurisprudence."), cert. granted sub nom. Bilski v. Doll, 192 S. Ct. 2735 (2009).

^{71.} See id. at 960 (reaffirming the conclusion in State Street Bank that business methods as a class are patentable).

^{72.} See id. at 959 (describing the standard associated with State Street Bank).

that asks whether a process "is tied to a particular machine or apparatus" or "transforms a particular article into a different state or thing."⁷³

These new restrictions on patentable subject-matter are a modest improvement over the previous standard. One of the most notable aspects of *Bilski* was its rejection of patents for purely mental calculations such as the commodity hedging strategy developed by the applicant in that case.⁷⁴ The Federal Circuit said that a "claimed process wherein all of the process steps may be performed entirely in the human mind is obviously not tied to any machine and does not transform any article into a different state or thing. As a result, it would not be patent-eligible under § 101."⁷⁵ Under that analysis, some business processes would clearly be excluded, such as a new style of argument in a courtroom or a better technique for haggling.

The application of the "machine-or-transformation" test with respect to most process patents, however, is very unclear and may just end up providing more gainful employment for lawyers who

^{73.} See id. at 952–58 (discussing the case law and restating the operative test); id. at 959 ("[W]hile looking for 'a useful, concrete, and tangible result' may in many instances provide useful indications of whether a claim is drawn to a fundamental principle or a practical application of such a principle, that inquiry is insufficient to determine whether a claim is patent-eligible under § 101."). While I want to focus on the practical implications of Bilski, there are some things worth saying about the Federal Circuit's analysis. The chief flaw in the "machine-or-transformation" standard is that the Supreme Court once expressly disclaimed that this was the sole test for process patentability. See Gottschalk v. Benson, 409 U.S. 63, 71 (1972) ("It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a 'different state or thing.' We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents."). The majority in Bilski concluded that the Court's omission of this qualification in a later decision meant that the "machine-or-transformation" test should be read as exclusive. See Bilski, 545 F.3d at 956 ("[T]his caveat was not repeated in Diehr when the Court reaffirmed the machine-or-transformation test."). This is a highly dubious (or, to be more polite, creative) interpretation of the cases. See id. at 982 (Newman, J., dissenting) ("It cannot be inferred that the Court silently imposed such a rule."). The problem for the Federal Circuit, though, is that the Supreme Court's cases on this question are a mess. See generally Rich, supra note 27. This helps explain why-right after Bilski's attempt to reconcile these authorities—the en banc court suggested that review by the Justices was warranted. See Bilski, 545 F.3d at 956

^{74.} See Bilski, 545 F.3d at 949 (calling the claim "a method of hedging risk in the field of commodities trading"); *id.* at 963 ("Purported transformations or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.").

^{75.} Id. at 961 n.26.

excel at claim drafting.⁷⁶ First, the court declined to address the issue of "whether or when recitation of a computer suffices to tie a process claim to a particular machine."⁷⁷ This is a major omission since many business methods can be redrafted to include some connection with a computer (as software, for instance). Second, *Bilski* did not offer any helpful guidance on what was required to meet the transformation prong of the new test. As one dissenter said, "nearly every process claim can be rewritten to include a physical transformation."⁷⁸ Thus, the litigation of these patents will probably not decrease if the Supreme Court adopts the standard articulated by the Federal Circuit.⁷⁹

Here is the bottom line: The legal materials and the policy arguments do not resolve the question of whether business methods should be patentable if that question is whether they should always or never be patentable. My conclusion, however, is that this is the wrong approach. Instead, § 101 should be read through a flexible standard that looks at the norms within particular communities, to the extent that is possible, and holds that processes cannot generally be patented when industry customs are hostile to the idea.

II. BRINGING CUSTOM INTO PATENT LAW

This Part lays out an alternative interpretation of § 101 that would require the PTO and the courts to evaluate whether an "ordinary person skilled in the art" would consider the type of process at issue patentable subject matter. If the answer is no, then the patent should be denied unless the applicant can show that the

^{76.} See id. at 1008 (Mayer, J., dissenting) ("The majority's proposed 'machine-ortransformation test' for patentability will do little to stem the growth of patents on non-technological methods and ideas. Quite simply, in the context of business method patent applications, the majority's proposed standard can be too easily circumvented."); id. at 1015 (Rader, J., dissenting) (stating that "this opinion propagates unanswerable questions" and then listing several).

^{77.} Id. at 962.

^{78.} *Id.* at 1008 (Mayer, J., dissenting); *see id.* at 1010 (Mayer, J., dissenting) ("[A]lthough this court has struggled for years to set out what constitutes sufficient physical transformation to render a process patentable, we have yet to provide a consistent or satisfactory resolution of this issue.").

^{79.} See id. at 1010 (Mayer, J., dissenting) ("The majority . . . fails to enlighten three of the thorniest issues in the patentability thicket: (1) the continued viability of business method patents, (2) what constitutes sufficient physical transformation or machine-implementation to render a process patentable, and (3) the extent to which computer software and computer-implemented processes constitute statutory subject-matter.").

anti-patent norm is unreasonable. That approach, which draws on the nonobviousness standard in § 103, would force policymakers to defer to cooperative industry norms but would not have to define business methods to do so. 80 The analysis then explores how this approach might work in practice and considers some possible objections.

A. Expanding the Horizon of the Reasonable Person

Let us begin with an observation about business methods, which is that, unlike other types of inventions, they generally evolve in the heat of market competition rather than in a laboratory. Opponents of business method patents use this point to say that there is no need for the extra incentives provided by intellectual property, but another way to think about this is that "[t]he interactive responses that shape business methods are largely shaped by customary practices." In other words, the unique characteristics of each market niche play a major role in determining how firms organize themselves and relate to consumers. As many unsuccessful entrepreneurs learn the hard way, developing a better product or a more efficient way of doing things is not always enough. Market expectations, which can be set by players within an industry or by consumers, often determine what is acceptable in a way that is hard for outsiders to understand.

Given the importance of market norms in framing business methods, a question that arises is who knows more about whether patents will lead to better processes: the people in that industry or lawmakers? When the tax bar loudly protested the suggestion that tax shelters could be patented, one recent article pooh-poohed these objections as "anxiety bordering on panic." Now that may be true, but the confident assertion that patents are good for you even when

^{80.} See 35 U.S.C. § 103(a) (2006).

^{81.} See Raskind, supra note 18, at 81 ("Courts should give weight to the fact that business methods are not derived from laboratory research and experimentation, but evolve and are implemented in an environment of rivalry and emulation."); see also Meurer, supra note 18, at 315 (stating that business processes usually fall into two categories – administrative methods and customer service methods – that deal with how firms handle market constraints). Just to be clear, this is not a definition of business methods. It is only a trait that is helpful in framing the subsequent analysis.

^{82.} Raskind, supra note 18, at 81.

^{83.} Burk & McDonnell, *supra* note 15, at 982; *see also id*. ("[O]nce business methods are allowed as patentable subject matter, the presence of tax shelters among such methods is neither much of a doctrinal novelty nor much of a surprise.").

you think they are not should at least give one pause.⁸⁴ In the case of software, most programmers adamantly opposed patents throughout the entire debate about whether § 101 should be extended over their work, and even now, firms outside of the software business acquire most software patents.⁸⁵ Nevertheless, these concerns were waved off with equally confident and, as it turned out, false claims that software patents would not cause any significant problems.

What makes this issue especially interesting is that when it comes to determining whether a particular invention (or business method) is obvious, lawmakers do defer to industry expertise in the form of the "ordinary person skilled in the art" standard. While the PTO or the courts must make an independent judgment on this legal question, it is inconceivable that either body would reject the uniform advice of scientists or engineers on the ground that they really do not know an obvious invention when they see one. In this instance, the law recognizes that the subtleties of technology are too complex for non-specialists to grasp and that patentability cannot be determined by a rule. The same logic, in my view, applies to the nuances of how individual markets function and should frame how business method patents are handled.⁸⁶

B. The Operational Test

Accordingly, my solution is to take the "ordinary person" standard and expand its reach to ask whether that same reasonable member of a technical or business community would think that the claim genre is patentable subject matter. This view of § 101 would explicitly incorporate industry customs into the analysis and offers several advantages over the current approach.⁸⁷

^{84.} Perhaps this is a closer question since legal academics might know a great deal about tax law. In my experience, though, tax lawyers are specialists whose work is incomprehensible to those in other legal disciplines.

^{85.} See BESSEN & MEURER, supra note 1, at 189–90 (describing the opposition and stating that only 5% of software patents come from within the industry); id. at 189 ("[S]uch broad opposition from within the affected industry and among the affected inventors seems to be unprecedented in U.S. patent history.").

^{86.} Cf. Cotter, *supra* note 13, at 883 ("All of this reasoning leads me to conclude that, despite some potential drawbacks, the technological arts, mental steps, and physical transformation doctrines may have possessed some underappreciated virtues. Abandoning them entirely, in the interest of attaining a more rational, logical patent system, may well have been precipitate.").

^{87.} There might be a difference between the § 101 ordinary observer and the § 103 version, in the sense that the latter focuses on the technical aspects of an invention whereas the

First, by imposing a higher burden on business method claim applicants, this test will reduce the number of these patents that are issued. It is hard to say how large that reduction will be or whether the new standard will target the most problematic patents (more on that in a moment). But given the enormous litigation costs imposed by software and business method patents, anything that reduces their ranks without causing other problems would be welcome. At the same time, an "ordinary person" construction of \$101 would allow some business method patents to go through. In essence, the result would be a compromise between those who want to eliminate these patents and those who support the current liberal interpretation.

Second, using a somewhat vague and fact-intensive standard for this inquiry would go a long way towards solving the definitional issue that is tying the current debate into knots. Instead of setting forth a categorical exclusion (or inclusion) that will almost certainly founder on the circularity of a business method, the definition will be supplied by industry participants on a case-by-case basis. Such a test should also alleviate concerns that long-established patent types (e.g., chemical processes) will be swept under any new restrictions. Where plentiful prior art exists, claimants will have no problem establishing, either with that evidence alone or with a few affidavits, that the custom of their trade supports patentability.

Third, the suggested expansion of the ordinary person test should not produce an intolerable level of uncertainty because the PTO, the courts, and applicants are already familiar with this test. The evidence that would be considered and the way in which it is interpreted would be similar to an obviousness inquiry. Prior art would naturally be relevant to the question of whether a particular industry thinks its discoveries are patentable. So would expert testimony from people in the field or material from secondary sources such as trade journals. Using industry norms to interpret § 101 will create some uncertainty, but it is hard to say that this will

former will be more interested in its commercial aspects. This distinction, though, does not diminish the value of the analogy.

^{88.} See infra text accompanying notes 98-102.

^{89.} When courts or examiners are confronted by some patents in the trade and must determine whether that amount is sufficient to justify the conclusion that no anti-patent norm exists, the question of who is taking out these patents would be relevant. For example, if a major firm in the industry is the source of prior art, that would be powerful evidence against such a custom.

be more unclear than the *Bilski* standard.⁹⁰ Will patent lawyers try to find ways to draft their claims so that an invention does not fall within a prohibited category? Of course they will. Nevertheless, the question of "What business is this process in?" should be easier to resolve than "What is a business method?" The former inquiry is often undertaken in antitrust, for example, to determine if a firm is monopolizing a particular market, and this does not seem to present significant difficulties.⁹¹

Finally, adopting an ordinary person test for subject-matter patentability would allow professions that do not want patents to be free from them unless they opt-in. This will facilitate their autonomy and let those with better information about market conditions make the call on whether patents are worthwhile. ⁹² In more organized trades, a professional association could take a position on patentability that would send a clear signal. ⁹³ Of course, this does suggest that the meaning of § 101 can change over time as a community reassesses the wisdom of patents. Since norms tend to be rather sticky, though, this probably does not inject an undue amount of doubt into the reliance interests served by patents. ⁹⁴

^{90.} Judge Newman was correct in her *Bilski* dissent when she said that "[u]ncertainty is the enemy of innovation." *In re* Bilski, 545 F.3d 943, 977 (Fed. Cir. 2008) (en banc) (Newman, J., dissenting), *cert. granted sub nom*. Bilski v. Doll, 192 S. Ct. 2735 (2009). The pre-*Bilski* approach, though, just shifted that uncertainty from the application stage to the litigation stage.

^{91.} See, e.g., United States v. Microsoft, 253 F.3d 34, 51–55 (D.C. Cir. 2001) (en banc) (defining the relevant market for operating systems).

^{92.} See Rothman, supra note 13, at 1908 ("Customary practices or norms that develop with the express purpose of formulating an aspirational set of practices should be given more weight than those that develop simply to avoid litigation or to preserve relationships."). There might be a concern that new industries would not be able to avail themselves of patents because there would be no community view of what should be done with processes. This is not true, however, because the test proposed here says that courts should defer only to an antipatent norm, not that the lack of a norm should be used to draw an adverse inference against subject-matter patentability.

^{93.} See Thomas, supra note 11, at 1176 ("[T]he tendency of professions to organize suggests that a vocal and established lobby will be on hand to debate the place of patenting within particular professional communities."). This proposal enhances the role of professional associations, since their declarations about patents would carry a lot of weight. If insiders who are not representative of the community as a whole control these groups, then that would be a problem.

^{94.} One concern whenever norms are introduced is circularity. In other words, does a legal declaration that certain processes are patentable make people believe that they are and change the relevant norm, or does a contrary finding create a norm against patents? I do not think this is a problem. With respect to software and financial patentability, there was a vigorous debate while the law held that they were generally not patentable. Likewise, there are

C. The Relationship Between § 101 and § 103

Before examining how an "ordinary person" test might apply to software, let me address two arguments against my position. Both turn on how the subject-matter examination and the nonobviousness gatekeeper should relate to each other.

One problem with borrowing from § 103 to interpret § 101 is that § 103 contains language about the "ordinary person skilled in the art" and § 101 does not. Does this mean that § 101 cannot be read in the way that this Article suggests? I think not. First, a normbased interpretation would fulfill the purpose of the statute in a manner consistent with its goals and structure. Second, the consensus that business methods were not patentable when the 1952 Act was enacted can be construed as implying that there is an ordinary person limit on § 101, since anti-patent norms did exist at the time within the relevant communities. Third, this is not the kind of statutory construction that was criticized by the dissenters in Parker v. Flook. 95 Justice Potter Stewart argued there that the Court "strikes what seems to me an equally damaging blow at basic principles of patent law by importing into its inquiry under 35 U.S.C. § 101 the criteria of novelty and nonobviousness."96 I am not suggesting, however, that courts examine the obviousness of a process (or any component of that process) as Flook did.

If these responses are unpersuasive, though, then another way of thinking about the issue is that industry norms could be treated as a secondary factor to supplement any test that the Justices fashion in *Bilski*. This reading also borrows from the Court's analysis of § 103, which gives the PTO and the lower courts some objective factors to determine whether an invention is obvious. ⁹⁷ None of these factors are in the statutory language, but they are rather helpful. The same approach could be applied to § 101 without doing violence to the statutory text. A secondary factor suggested by *Bilski* is that a process involving "purely mental steps" should not be patentable. The

communities that continue to resist patents, such as the tax bar, long after State Street Bank.

^{95. 437} U.S. 584 (1978).

^{96.} Id. at 600 (Stewart, J., dissenting).

^{97.} Graham v. John Deere Co., 383 U.S. 1, 17 (1966) ("Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc. [can be used to assess obviousness].").

existence of an anti-patent norm within the relevant trade could be another. Accordingly, the lack of explicit language in § 101 supporting an "ordinary person" test does not mean that the basic idea cannot be incorporated into the provision.

The other question is whether a better solution would be to enforce § 103 more rigorously instead of borrowing from it to shore up § 101.98 While the failure of the gatekeepers (novelty, enablement, and nonobviousness) to prevent the proliferation of harmful process patents is now clear, there is always a chance that they could be improved. Furthermore, many negative determinations on subject matter, including the hedging method in *Bilski*, are often using § 101 as a proxy for the other gatekeepers.99 If that is the case, then why not just use these statutory requirements instead of blending them in some fashion with § 101? One answer is that the curve ball example shows that the subject-matter analysis is not always a proxy—there are cases where a broader policy concern is at issue.

A more powerful response is that there is no evidence that relying on §§ 102, 103, or 112 will solve the problem. 100 This claim was made ten years ago. It is still being made now. At what point does this argument run out of credibility? My conclusion is that this approach can never work without significant reforms to the Patent Office. Administrative costs are the key. A § 101 analysis, informed by industry practices, will give better guidance to overworked patent examiners by declaring entire classes of processes off-limits. Refining the application of the other statutory factors, by contrast, still makes them consider each patent claim independently, and experience suggests that this will ensure a significant error rate. Perhaps shifting the focus to § 101 is a second-best solution, but that beats no

^{98.} See Risch, supra note 48, at 606 ("Under rigorous patentability, concerns about patentable subject matter are addressed primarily by the application of the patent requirements on a case-by-case basis. These requirements must be (a) systematic, logical, and as consistent as possible; (b) based on adherence to the statutory language; and (c) applied with a goal that only patents deserving of protection are issued.").

^{99.} See Osenga, supra note 48, at 1111 ("Because § 101 presents a threshold issue to be determined early in the examination process, by availing itself of this provision the Patent Office can avoid the often-problematic examination of software-related innovations.").

^{100.} See Meurer, supra note 18, at 334 n.132 (rejecting the view that tradeoffs involved in judging business method patents "should be implemented on a case-by-case via the nonobviousness standard of § 103 I would respond by claiming that cost savings justify exclusion of business methods [under] § 101 because a proper nonobviousness analysis (based on the economic trade-off) would deny patents to most business method patent innovations").

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solution.

D. The Application to Software

The most important question that would arise if this proposal were adopted involves software patents. It is probably the case that professions or industries that have resisted business method patents thus far (law, medicine, sports, etc.) would find shelter under an ordinary observer standard. While this would be a positive outcome, as a practical matter these are not the patents that are causing most of the problems. ¹⁰¹ Software and the business methods that use software, not curve balls, are the source of the high litigation costs that are hurting innovation. My tentative conclusion is that the application of an ordinary person test would at least curb software patents and could lead to their abolition. No firm judgment can be made on this point, however, without further study.

Identifying a norm within a community that includes Richard Stallman and Steve Ballmer is, to put it mildly, challenging. ¹⁰² There is some evidence of antipathy towards patents from software firms and programmers based on their past resistance and on the fact that most people within the industry do not patent their work. ¹⁰³ Nevertheless, there are plenty of people in the business who take the opposite view (and not just at Microsoft). ¹⁰⁴ Without a more detailed examination of attitudes and practices in that business, however, it is impossible to say whether a patentability norm exists or, if it does, what it covers. In other words, an ordinary person test could end

^{101.} See BESSEN & MEURER, supra note 1, at 214 ("[S]oftware patents likely have a far greater influence on the performance of the patent system than do nonsoftware business processes.").

^{102.} See generally RICHARD M. STALLMAN, FREE SOFTWARE, FREE SOCIETY: SELECTED ESSAYS OF RICHARD M. STALLMAN (Joshua Gay ed., 2002) (setting forth his influential ideas about open source software and criticizing the proprietary model).

^{103.} See supra text accompanying note 85. This is why, according to Bessen and Meurer, a proliferation of patents does not seem to pose a problem for software innovation itself. See BESSEN & MEURER, supra note 1, at 190 ("To date patents have had little negative effect within the software publishing industry because there are—despite the concerns of commentators—no substantial patent thickets within the industry."); id. ("[A]lmost all software patents are obtained by firms outside the software industry.").

^{104.} My own conversations with people in the software business offer a cautionary note. Generally, they are quick to criticize patents, but then have a tendency to add qualifiers such as "unless it is obtained by a small firm." It may be that some coherent norm exists here, but its contours are far from clear.

software patents, but that framework does not necessarily lead to that result.

Another way to view the problem, however, is through the businesses that use (and write) their own software for specialized purposes. There are types of software (MS Word, Excel, TurboTax) that are designed for general use and would be properly classified as falling into the software market for purposes of a § 101 inquiry. Yet there are other programs that are designed for specific trades, such as banks, hotels, insurance, or lawyers. With respect to these business processes, one might wonder whether the norms of these particular trades should control. Drawing a distinction between general and specialized software makes sense because software is one of the few goods that can be developed for niche use by businesses outside the industry that uses them. By contrast, almost all tangible inventions such as machines are available for general use or are invented by R&D experts within a given trade. In either case, the patentability norms of the business that does the inventing would control because there is no other useful comparison. But for some business software, the spotlight could be placed either on firms who write programs or on end users who have in-house programmers doing the work and taking out the patents.

Shifting the focus from the software industry as a whole to the communities such as telecommunications, computers, electronics that do most of the software patenting may seem unimportant, but in one respect it could be a big help. After all, since these businesses are taking out patents on software, it would suggest that they share a norm supporting patentability. Another possibility, though, is these firms are against patents but must get them for defensive purposes and cannot escape this suboptimal equilibrium without some help in solving their collective action problem.¹⁰⁵ Using an ordinary person test for subject-matter patentability offers a lifeline to these firms by giving significant weight to a policy statement by their professional associations about whether patents should be allowed. The same admonition would be meaningless under the current test since there is no effective means to discipline defectors. In essence, my proposal lowers the transaction costs involved in resolving this Prisoner's Dilemma by

^{105.} See Gideon Parchomovsky & R. Polk Wagner, Patent Portfolios, 154 U. PA. L. REV. 1, 26–27 (2005) ("[T]he defensive patenting theory holds that firms acquire patents to ward off possible lawsuits by using the patents as bargaining chips with potential plaintiffs.").

changing the necessary act from successfully lobbying Congress for a statutory exemption to an agreement in the industry on patent policy. Once again, it is difficult to say how much this change would reduce software patents, but it should at least make a dent in the problem. ¹⁰⁶

Accordingly, modifying the § 101 analysis with an ordinary person qualification comes as close as can be reasonably expected to addressing the current problems with business method patents. To a large extent, this is a compromise proposal that would allow some of these patents to issue while blocking others that are not supported by the relevant parties. Perhaps it is not a good solution, but it is probably better than any competing alternative.

III. CONCLUSION

The ongoing debate about business method patents may mark the peak of an intellectual property bubble. For decades, Congress and the courts steadily expanded the scope of patent, copyright, and trademark protection based on a belief that additional creative incentives always lead to more innovation. Now the costs of that approach, as they do with all manias, are coming due in the form of patent trolls and endless litigation.

As a result, what we need is a more pragmatic approach that pays heed to the expertise within a given industry before making the leap to patentability. Embracing long-established customs through an "ordinary person" test or secondary factor can accomplish this goal while avoiding the problems that are inherent in defining and evaluating business methods. Patent law can do many positive things, but producing better baseball is not one of them. Intellectual property must not be foisted on those who do not want or need it.

^{106.} Without further research, it is impossible to say how many industries that take out software patents do so for defensive reasons and would rather not.

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