PATENT LAW 101: DOES A GRUDGING *LUNDGREN* PANEL DECISION MEAN THAT THE USPTO IS FINALLY GETTING THE STATUTORY SUBJECT MATTER QUESTION RIGHT?

JOHN A. SQUIRES AND THOMAS S. BIEMER *

I. INTRODUCTION

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor; subject to the conditions and requirements of this title."[1] These thirty-six simple, statutory words unlock the door to patentability. Behind that door are potential property rights of tremendous commercial – and perhaps even shareholder value – which effectively create a legally permissible monopoly right for the patent holder. Despite the Patent Act's deliberately broad language and a consistent body of interpretive law emphasizing the importance of Congress's expansive subject matter grant -- patent protection may be available for "anything under the sun that is made by man"[2] -- the U.S. Patent & Trademark Office ("PTO") has adopted an unwarranted subject matter interpretation that has effectively nullified existing Supreme Court

* Co-authored by: John A. Squires, Esq., Chief Intellectual Property Counsel, Goldman, Sachs & Co., 85 Broad Street, 11th Floor, New York, New York 10004 – Telephone: 212- 855-0752 / Facsimile: 212- 357-0445 / email address: john.squires@gs.com. Mr. Squires is also presently chair of the Securities Industry Association Intellectual Property Sub-Committee. Co-authored by: Thomas S. Biemer, Esq., partner at the Dilworth Paxson LLP law firm, 3200 Mellon Bank Center, 1735 Market Street, Philadelphia, Pennsylvania 19103 – Telephone: 215-575-7025 / Facsimile: 215-575-7200 / email address: tbiemer@dilworthlaw.com. Mr. Biemer represented the prevailing party on appeal in the *State Street Bank v. Signature Financial* decision. The opinions expressed herein are those of the authors, solely and do not necessarily reflect the view or positions of their respective firms, industry affiliations or clients.

1 35 U.S.C. § 101 (2000).

2 *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

and Federal Circuit precedent and denied patents to a specific segment of the economy, irrespective of whether their inventions have merit. The PTO erected its own barrier by grafting a seemingly benign rhetorical device onto the application process – a requirement that patentable subject matter be part of the so-called "technological arts" – in a non-precedential administrative law decision.[3] However, no "technological arts" requirement can be properly found to exist in either the plain language of the Act, or the binding precedent of the Federal Circuit. Rather, the PTO's stance seemed intentionally designed to saddle an otherwise settled, permissive subject matter test with a value-laden view that so-called "business method" patents in general, and financial service industry patents in particular, are not worthy of entrance to the patent office. As this article explains, there was no principled basis for the PTO's technological arts requirement, and therefore, the PTO must apply the same standards to business method patent applications as it does to any other. Indeed, a recent decision of the Board of Patent Appeals and Interferences (hereinafter "Board") may just prove to be the turning point,[4] laying to rest once again, and hopefully for good, this latest "ill-conceived"[5] notion that novel and non-obvious pure business processes are not patentable subject matter, finally affording financial service inventions the same access to patents as any other industry.

This article addresses the PTO's recent position that process or method patents fail to qualify as *statutory subject matter* unless connected to the "technological arts." As a matter of patent practice, this limitation largely required that patent applicants recite method claims as performed on, or by, a computer. In the financial service industry, particularly on Wall Street, computer technology is deployed to achieve commercial scale and productivity for repetitive processes. Therefore, as a practical matter, particularly for financial structures or products, anything susceptible to trading, pricing, valuing, settling, netting, accounting, clearing, reporting or even taxing, likely involves computer implementation somewhere, somehow in the process. Consequently, the so-called "technological arts" requirement amounted to nothing more than an exercise in drafting gamesmanship, adding nothing to the substantive debate concerning business method or financial industry patents. A new approach was required and now may have arrived via the Board's just released *Lundgren* decision.

Part I of this article will define the issue and explain that even the financial services industry is undecided as a whole as to the efficacy of patent protec-

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3 *Ex Parte Bowman*, 61 U.S.P.Q. 2d 1669, 1671 (B.P.A.I. 2001).

4 *Ex Parte Lundgren*, 2004 WL 3561262 at *5 (B.P.A.I. Apr. 20, 2004).

5 *State St. Bank and Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1999).

tion in its line of business. Part II will trace the origin of the PTO's largely *sua sponte*, yet ineffective, response to the outcry over business method patents by requiring claims to have some connection to the technological arts. As will be evident from this section, grafting requirements onto § 101 is not now, and was never warranted, by the language of the Act or case law, and unfortunately served to undermine the PTO's credibility. In fact, for the first time, the recent decision of the Board recognized that its prior approach was incorrect. Finally, Part III will explain that the PTO had been focusing on the wrong issue – subject matter, rather than quality – and as a result has gone astray by utilizing the wrong tool in its otherwise robust toolkit. Indeed, the issue is not whether business method patents or patents filed by financial service firms are somehow "good" or "bad" in a Shakespearian sense.[6] Instead, the issue is one of quality, since poor quality patents result in the award of property rights in commercial processes or instruments that otherwise should be unencumbered.

Like it or not, the existing law simply afforded neither any principled reason, nor basis to permit the carving-out of whole sectors of the economy from accessibility to the patent office. Rather, the focus of the PTO should be solely on the "quality" of what goes out its door, and not on who or what can come in.[7] Namely, it needs to eliminate patents for claims that are not new and non-obvious, irrespective of the subject matter category. As the PTO begins to properly shift attention to ensuring that only quality patents are granted, the PTO can focus on the right tools to accomplish that goal.

II. THE ISSUE

For decades, the PTO and the courts have struggled with patents directed to the financial services industry.[8] More specifically, should a financial institution be permitted to obtain a patent for its innovative systems and methods? Unfortunately, much of the debate has focused on whether such patents are "good" or "bad" for this segment of the economy.[9] Further complicating matters, for some reason the issue, particularly with respect to financial instruments, seemed to draw outright hostility and ridicule in the press. This fact has

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6 "There is nothing either good or bad, but thinking makes it so." (Hamlet).

7 *See* Adam B. Jaffe & Josh Lerner, *Innovation And Its Discontents* 203-05 (2004) (noting the "grave danger" of special rules for differing subject matter disciplines).

8 *See generally* Douglas L. Price, *Assessing the Patentability of Financial Services and Products*, 3 J. High Tech. L. 141, 155-56 (2004) [hereinafter *Price*].

9 *Compare Id.*, at 145-47 (outlining problems caused by patents in the industry) *with* Sandra A. Bresnick, *Patents As Competitive Tools In The Industry*, 803 PLI/Pat 103, 110-11 (2004) (delineating the opportunities afforded by patent protection in this area).

no doubt put pressure on the PTO to deal with the perceived "problem". Not surprisingly, the PTO has reacted by utilizing a series of devices to curtail these patents. Prior legal and PTO agency justifications to reject applications ranged from the so-called business method exception to the mathematical algorithm exception. Complicating matters was the paucity of applications and precedent addressing financial services patents. Whatever the reason, financial service companies virtually never sought patents, predominately relying instead on trade secret protection and confidentiality agreements. As alternatives to patents, these protections largely proved unsuccessful and as result, new and innovative financial products and services were soon copied after hitting the market.[10]

With the Federal Circuit's decision in *State Street*, the landscape dramatically changed. The *State Street* decision recognized that a data processing system for administering a new form of mutual fund was directed to statutory subject matter.[11] Moreover, the decision directly rejected the business method exception to patentability stating: "We take this opportunity to lay this ill-conceived exception to rest."[12]

Since the *State Street* decision, patent applications for inventions traditionally considered business methods quickly multiplied. For example, in 1998, the year of the *State Street* decision, less than 1,500 patent applications were filed in PTO classification 705 for computer-implemented business methods.

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10 In fact, this was what happened in *State St.*, 149 F. 3d at 1370. Signature Financial had conceived of a new form of mutual fund called a Hub and Spoke® structure. *Id.* at 1371. The unique structure permitted the administrator of a mutual fund to obtain economies of scale by creating a central investment fund known as the Hub portfolio. *Id.* Rather than incur the expense and increased risk of hiring an investment advisor and compliance and portfolio accounting staff, a Spoke fund sells shares to the pubic and invests all of its assets in a Hub portfolio with identical or substantially identical investment objectives. *Id.* The structure is treated as a partnership for tax purposes. *Id.* Signature received a patent on a data processing system for administering the structure. *Id.* at 1370. When licensing negotiations broke down with State Street, State Street simply copied the structure and competed with Signature triggering the litigation. *State St.*, 149 F. 3d at 1370; *see also* J.B. Heaton, *Patent Law and Financial Engineering*, Derivatives Quarterly, vol. 7, issue 2 7, 7 (Winter 2000) (recounting that prior to patenting, secrecy and first mover advantages had been the primary means for protecting financial innovation embodied in new securities).

11 *State St.*, 149 F. 3d at 1370.

12 *Id.* at 1375.

Three years later, that number expanded to 9,000.[13] Moreover, the PTO issued 5,539 patents in this classification between 1998 and 2003.[14]

Two additional factors seemed to conspire further to drive financial service firms to the patent office – adoption of internet-based technologies to interact with clients and new regulations demanding financial, tax and accounting transparency. While the internet transformed many companies and even entire industries, few industries felt the effects more dramatically than financial services. Aside from effectively replacing the telephone, the internet fundamentally transformed the back office as well. Far from just a matter of automation, firms took pains to think through their entire value chains and re-engineer how they did business with their clients. Entire new processes and systems were being invented at a break-neck pace and the effects on the industry and the economy were breathtaking. As just one example, exchange-trading at last had been democratized and the day trader was born. Of course, virtually inherent with the rise of the internet, there was a concomitant loss of the ability to effectively maintain trade-secrets protection, and therefore, less of an ability to retain proprietary rights in all the inventive activity the internet became unleashed.

Second, particularly in the area of new financial products, transparency became essential as a result of U.S. Treasury and IRS regulations designed to combat a growing problem with corporate tax shelters.[15] Under the regulations, any financial structure offered having U.S. tax consequences was subject to being registered as a corporate tax shelter if the client or potential client was bound to confidence regarding the structure. Accordingly, confidentiality agreements were regarded as a regulatory kiss-of-death for such offerings and trade secret protection as a predominant form of intellectual property protection disappeared virtually overnight. Thus, a regulatory push for transparency coupled with an internet-fueled pull for process re-engineering dictated the solution – have it both ways – that is, keep rights proprietary and at the same time embrace transparency: seek a patent.

Despite the increasing drive towards patent protection, a backlash ensued. Some critics insisted information must be free. Others warned of the chilling effect of patents in an industry "that is too secretive already".[16] Others

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13 *See* Sen. Comm. on Sen. Fin., Congressional Testimony of Nick Godici, Commissioner of Patents, 2004 WL 1665148 (July 21, 2004) [hereinafter *Godici*].

14 *See* USPTO, *Patent Counts By Class By Year JANUARY 1977 – DECEMBER 2004*, http://www.uspto.gov/go/taf/cbcby.htm (accessed Feb. 13, 2006) [hereinafter *Patent Counts*].

15 *See* 26 C.F.R. 601.105(b) (2005).

16 *See* William Falloon, *Patent Power, Who Owns the Ideas that Drive Derivatives*, Risk Mag. 22, 27 (Dec. 1999).

still honed in specifically on the legal decisions, panning *State Street* as unleashing "[a] gold-rush mentality toward patents . . . in which companies . . . gobble up patents on anything and everything."[17] Further adding to the din was the advice of many patent attorneys who began to counsel their financial service clients to affirmatively seek patent protection on many of their re-engineered systems and new products and instruments.[18]

Not surprisingly, many in the financial services industry were unsure how to react. Since the industry had never historically sought or relied on patents to protect their innovative systems and methods, many financial services firms were either reluctant or slow in fully embracing this brave new world unleashed by *State Street*. On the other hand, many firms could ill afford to ignore the *State Street* decision, for fear that competitors would restrict their business and opportunities by virtue of filing their own patent applications.[19] Complicating matters was the lack of guidance from the Courts, a virtual flood of new patent applications filings and an inadequate prior-art database at the PTO with which to examine them. In the eyes of the financial services industry, something needed to be done.

The PTO and Congress responded. After seeking public comment on the issue, the PTO updated its examining procedure to expose business method patents to an extra level of scrutiny.[20] The PTO also updated its guidelines, added examiners, and created Electronic Information Centers that provide access to non-patent databases for use in finding relevant prior art.[21] The effect of these changes have been a dramatic reduction in the number of patents being issued in category 705 and profound elongation in the pendency times for those patents moving to issue.[22]

Congress also acted. In early 2000, it introduced and passed the Business Method Improvement Act, amending § 102 of Title 35 of the United States

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17 Neil F. Carlson, *Developing Business Process Patents and Intellectual Property,* Strategic Fin. 65, 66, (Nov. 1, 2000) [hereinafter *Carlson*].

18 *See* Bloomberg News, *High Court Declines to Review Ruling Seen as Software Boon*, New York Times C6 (Jan. 12, 1999); *see also* Jeffrey Kutler, *Patents Rule*, Institutional Investor 18, 18 (June 2003) ("Financial institutions seem to be learning to live with patents. Companies ranging from Citigroup and Goldman, Sachs & Co. . . . now own and manage patent portfolios – and pad their revenues with license fees.").

19 *See* Carlson, *supra* n. 17.

20 *See* Patent & Trademark Off. U.S. Dept. of Commerce, Man. of Patent Examining Proc. § 2106 (8th ed. 2001).

21 *See* Godici, *supra* n. 13.

22 *See* Patent Counts, *supra* n. 14 (percentage of issued patents decreased).

Code.[23] The legislation aimed at protecting both inventors and the public by enhancing a prior art defense wherein inventors who were first-users could file an administrative challenge to the validity of a business method patent.[24]

While many in the financial services industry welcomed these changes as a means for insuring that only legitimate innovations should qualify for patent protection, the PTO then adopted a new, more troubling, tactic to restrict patents in the financial services industry. That tactic was an invention of the PTO's very own, the so-called "technological arts" requirement[25] wherein examiners routinely rejected applicants' claims which failed to recite a connection to the "technological arts."

Stated differently, where no single process step indicated performance, or susceptibility of performance, on a computer or some other form of technology, the claims were rejected as not being directed to statutory subject mater under § 101.[26] In short, the PTO grafted a new exception to patentable subject matter inconsistent with the plain meaning of § 101, and contrary to binding decisions of the United States Court of Appeals for the Federal Circuit.[27]

To fully understand the PTO's error in logic and implementation, it is helpful to start with a practical application. This example will be used throughout this article to highlight the flaw in the PTO's approach. Assume that your client has developed an innovative method and computer-implemented system for managing credit risks in mortgage portfolios. The approach also requires favorable tax treatment to be effective. Recognizing that trade secret protection is both problematic, given the tax consideration, and fleeting, your client comes to you seeking advice on whether her invention is patentable. While both the method and the system obtain the same exact result, it is likely that the system is patentable subject matter and, under the PTO's most recent theory, the method is not. Welcome to the patent bar. Fortunately, as explained below, the PTO's position cannot be squared with law or logic and appears to be unsupportable.

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23 *Business Method Patent Improvement Act of 2000*, H.R. 5364, 106th Cong. (Oct. 3, 2000).

24 *Id*. at §§ 321-22.

25 *See Ex Parte Bowman*, 61 USPQ 2d 1669, 1671 (P.B.A.I. 2001).

26 *See id.*

27 *See Ex Parte Lundgren*, 2004 WL 3561262 at **3, 5 (B.P.A.I. Apr. 20, 2004). There is no doubt that the PTO is required to follow the precedents of the Federal Circuit in interpreting § 101. *See* Patent & Trademark Off.. U.S. Dept. of Commerce, Man. of Patent Examining Proc. § 2106 (8th ed. 2001).

III. THE PTO'S "TECHNOLOGICAL ARTS" APPROACH WAS NEITHER JUSTIFIED BY THE TEXT OF § 101 OR THE FEDERAL CIRCUIT'S AUTHORITY

A. The PTO's Approach Was Facially Inconsistent with The Plain Text Of § 101

A proper analysis of whether a claim is directed to statutory subject matter begins with the language of the Act:

> Whoever invents or discovers any new and useful[28] process, machine, manufacturer, or composition of matter, or any new and useful improvement thereof may obtain a patent therefor, subject to the conditions and requirements of this title.[29]

In 1981, the United States Supreme Court re-established the broad scope of § 101 in *Diamond v. Diehr*.[30] *Diehr* began its analysis by returning to first principles noting that, in cases of statutory construction, the Court must first look to the language of the statute.[31] The Court then noted the broad language of § 101, which contains a simple, concise legislative mandate that a patent may issue for "any new and useful process, machine, manufacture or composition of matter . . . ."[32] Indeed, in construing the broad nature of the statue, the Supreme Court had observed a year earlier that Congress intended § 101 to include "anything under the sun that is made by man."[33] The Court also recognized in construing § 101 that "unless otherwise defined, words will be interpreted as taking their ordinary, contemporary common meaning."[34] Moreover, the Supreme Court issued an express warning that the PTO's current approach explicitly violates: "[I]n dealing with the patent laws, we have more than once

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28 *Chakrabarty*, 447 U.S. at 308 (words in § 101 should be given their "ordinary, contemporary common meaning"). "Useful" is defined as: "capable of being put to use: having utility . . . esp: . . . serviceable." *Webster's Third New International Dictionary* 2524 (Philip Babcock Gove ed., 3d. ed., Merriam-Webster 1993).

29 35 U.S.C. § 101.

30 450 U.S. 175, 182 (1980).

31 *Id.*

32 *Diehr*, 450 U.S. at 182; *see also State St. Bank and Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1999) ("The repetitive use of the expansive term 'any' in § 101 shows Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in § 101.").

33 *Chakrabarty*, 447 U.S. at 309 (quoting S. Rpt. 82-1979 (June 27, 1952) and H.R. Rpt. 82-1923 (May 12, 1952)).

34 *Id.* at 308 (quoting *Perrin v. U.S.*, 444 U.S. 37, 42 (1979)).

cautioned that 'courts should not read into the patent laws limitations and conditions which the legislature has not expressed.'"[35]

After reviewing the broad language of the statute, the *Diehr* Court recognized that only "laws of nature, natural phenomenon, and abstract ideas" are excluded from patentability under § 101.[36] The Court explained the rationale behind the narrow limitation:

> [A] new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter. Likewise, Einstein could not patent his celebrated law that $E=mc^2$; nor could Newton have patented the law of gravity. Such discoveries are "manifestations of . . . nature, free to all men and reserved exclusively to none."[37]

In applying that rationale to mathematics, the Court recognized that a mathematical formula may describe a law of nature, a scientific truth, or an abstract idea.[38] Importantly, the Court also recognized that mathematics may be used to describe steps of a statutory method or elements of a statutory apparatus.[39] The crucial distinction is whether the mathematical formula is being claimed in the abstract, or is being applied in the claim, when viewed as a whole, to create an invention of the type set forth in 35 U.S.C. § 101.[40]

The mathematical algorithm in *Diehr* was a known Arrhenius equation.[41] The Court held that when the algorithm was incorporated in a useful process, curing rubber, the subject matter was statutory.[42] In reaching that conclusion, the Court treated mathematics like any other basic principle: while a basic principle is not patentable, a new and useful structure created with the aid of that principle is.[43]

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35 *Diehr*, 450 U.S. at 182 (quoting *Chakrabarty*, 447 U.S. at 308).

36 *Id*. at 185.

37 *Id*. (quoting *Chakrabarty*, 447 U.S. at 309).

38 *Id.* at 187.

39 *Diehr*, 450 U.S. at 188; *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1056 (Fed. Cir. 1993).

40 *Diehr*, 450 U.S. at 192; *see also In re Alappat*, 33 F. 3d 1526, 1543 (Fed. Cir. 1994) (en banc); *Arrhythmia*, 958 F.2d at 1057 (quoting *In re Meyer*, 688 F.2d 789, 795 (C.C.P.A. 1982)).

41 *Diehr*, 450 U.S. at 177.

42 *Id.* at 188.

43 *Id.* The Supreme Court in *Chakrabarty* recognized the distinction between abstract and applied principles. 447 U.S. at 309-10. Just as a combination of chemical re-agents that interact and react in accordance with the principles of chemistry does not become non-statutory because those interactions and reactions follow basic principles, neither does a process claim

Measured against the plain text of § 101 and the fundamental teachings of *Diehr*, our hypothetical claims are clearly directed to statutory subject matter. One cannot equate a method for isolating risk in a mortgage portfolio with a law of nature or a natural phenomenon. Further, while the claimed invention utilizes mathematics and financial principles to isolate risk, the invention is applying these principles to solve a particular problem in a tangible, concrete and useful manner.

The fundamental concepts re-established in *Diehr*[44] reveal that the PTO's approach is inappropriate. First, it turns the plain text of § 101 on its head. § 101 unambiguously applies to *any* new and *useful process*.[45] Nevertheless, the PTO concludes that a new and useful process is only patentable subject matter if the process has some undefined connection to the "technological arts." Simply put, "any new and useful process" in § 101 does not mean, under the PTO's analysis, "any new and useful process." Rather, the PTO has added an extra requirement that is not justified by the plain language of the statute.[46]

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that is specifically configured to isolate risk in a financial transaction. In both situations, fundamental principles are being applied to obtain a useful result.

44 While the Supreme Court has not directly addressed the subject matter issue since its decision in *Diehr* in 1981, the Court's recent decision to accept certiorari in *Laboratory Corp. of Am. Holdings v. Metabolite Laboratories, Inc.*, 370 F.3d 1354 (Fed. Cir. 2004), *cert. granted*, 126 S.Ct. 601 (2005), has some financial industry watchers predicting a shift in § 101 jurisprudence. We believe such predictions are unfounded based on the actual question certified for review. Specifically, the certified question is as follows:

> Whether a method patent setting forth an indefinite, undescribed, and non-enabling step directing a party simply to 'correlate[e]' test results can validly claim a monopoly over a basic scientific relationship used in medical treatment such that any doctor necessarily infringes the patent merely by thinking about the relationship after looking at a test result.

Pet. For a Writ of Certiorari. at i, *Laboratory Corp. of Am. Holdings v. Metabolite Laboratories, Inc.*, 126 S.Ct 601 (2005). It is difficult to envision how the Supreme Court's determination of the certified question would reach the question of whether a "business method" is eligible for patenting. The question may trigger an analysis of whether the dissemination of a basic scientific relationship is a law of nature and, therefore, non-patentable subject matter under existing precedent, or whether infringement can occur by "mental steps."

45 35 U.S.C. § 101 (emphasis added). "Process" is defined in 35 U.S.C. § 100(b) to encompass: "[a] process, art or method, and includes a new use of a known process, machine, manufacturer, composition of matter, or material."

46 *Diehr*, 450 U.S. at 182 ("'courts should not read into the patent laws limitations and conditions which the legislature has not expressed.'"); *Alappat*, 33 F.3d at 1582 (Rader, J., concurring) (stating that "Section 101 does not suggest that patent protection extends to some sub-

B. The PTO's "Technological Art" Position Cannot Be Reconciled With Recent Decisions of The Federal Circuit

In addition to running afoul of the plain text of the statute, the PTO's technological arts requirement ignores the fundamental teachings of the Federal Circuit regarding the scope of § 101. When those binding precedents are applied to the claims of our hypothetical application, it is clear that they are directed to statutory subject matter.

The first such case is *State Street*. The claimed invention in *State Street* involved the application of a mathematical algorithm to manage a new form of financial structure.[47] The District Court had applied two judicially-created exceptions – the mathematical algorithm exception and the business method exception – in finding the claims were not directed to statutory subject matter.[48] The Federal Circuit reversed. As for the presence of a mathematical algorithm, the Court stated:

> Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not 'useful.' From a practical standpoint, this means that to be patentable an algorithm must be applied in a 'useful' way. In *Alappat*, we held that data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced "a useful, concrete and tangible result" – the smooth waveform.
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> Similarly, in *Arrhythmia Research Tech. Inc. v. Corazonix Corp*., . . . we held that the transformation of electrocardiograph signals from a patient's heartbeat by a machine through a series of mathematical calculations constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it corresponded to a useful, concrete or tangible thing – the condition of a patient's heart.
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> Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.[49]

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categories of processes or machines and not to others. The Act simply does not extend coverage to some new and useful inventions and deny it to others").

47 *State St.*, 149 F.3d at 1373.

48 *Id*. at 1372.

49 *Id*. at 1373 (citation omitted).

Several aspects of this explicit holding are critical to understanding the error in the PTO's current approach. First, the *State Street* Court properly focused the § 101 analysis not on whether an algorithm was present but on whether the algorithm was being applied to produce a "useful, concrete and tangible result." If such a result is produced, the claimed invention is not an abstract idea and the § 101 test is satisfied. Second, the Federal Circuit expressly held that the calculation of a share price for use in managing a financial structure produces "a useful, concrete and tangible result."[50] Unless there is some principled distinction between an apparatus claim -- such as at issue in *State Street* -- and a process claim -- such as at issue in our hypothetical application -- calculating a share price by means of a process should be statutory subject matter. Put differently, if the result obtained by a machine is useful, concrete and tangible the only logical conclusion is that a process obtaining the same result is as well.

The Federal Circuit also debunked the PTO's apparent position that the holding in *State Street* is somehow limited to machine claims:

> The question of whether a claim encompasses statutory subject matter should not focus on *which* of the four categories of subject matter a claim is directed to – process, machine, manufacture, or composition of matter – but rather on the essential characteristics of the subject matter, in particular, its practical utility . . . For purposes of our analysis, as noted above, claim 1 is directed to a machine programmed with . . . software and admittedly produces a 'useful, concrete, and tangible result.' This renders it statutory subject matter, even if the useful result is expressed in numbers, such as price, profit, percentage, cost, or loss.[51]

The PTO's approach directly violates the above precedent. Under the PTO's current analysis, a machine claim that isolates risk in a financial transaction is patentable subject matter while a process claim is not. Both inventions, however, produce the same result and have the same practical utility. Only by focusing on *which* of the four categories of subject matter the claim is directed to -- machine or process -- can the PTO approve one claim and reject another. This approach, however, was specifically proscribed by the Federal Circuit in *State Street* and conclusively demonstrates the PTO's error.

State Street also emphatically rejected the District Court's business method rejection.[52] As the Court explained: "Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal re-

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[50] *Id.*

[51] *Id.* at 1375 (emphasis in original) (citations omitted).

[52] *Id.*

quirements for patentability as applied to any other process or method."[53] Consequently, the fact that the claims at issue are utilized to isolate risk in a financial structure (a business method) should play no role in the § 101 analysis. Rather, the focus should be on whether the claimed method produces a useful, concrete and tangible result.

The PTO's strained and narrow interpretation of *State Street* combined with its sweeping interpretation of snippets from authorities that are three decades old, leads to one inevitable conclusion: the PTO is attempting to resurrect the business method exception discredited in *State Street* under another name. Such a tactic is not appropriate and should be rejected.

If there was any doubt about the scope of § 101 after *State Street* and its application to process claims, such doubt should have been laid to rest in *AT&T Corp. v. Excel Communications, Inc*.[54] The *AT&T* court explicitly applied the logic of *State Street* to a pure method claim.

The application at issue in *AT&T* involved method claims for an invention designed to operate a telecommunications system with multiple long-distance service providers.[55] More specifically, the application describes a message record for long-distance telephone calls that is enhanced by adding a primary inter-exchange carrier ("PIC") indicator.[56] While the application included both method and apparatus claims, only the method claims were asserted against Excel.[57] The District Court concluded that the claims ran afoul of the mathematical exception to patentable subject matter and that the only physical step in the claims involved data-gathering for the algorithm.[58]

The Federal Circuit rejected a narrow reading of § 101 and broadly interpreted *State Street* in reversing the District Court. The *AT&T* Court, like the Court in *State Street*, began its analysis by examining the broad language of the statute.[59] The court then focused on the presence of a mathematical algorithm:

> The *State Street* formulation, that a mathematical algorithm may be an integral part of patentable subject matter such as a machine or process if the claimed invention as a whole is applied in a 'useful' manner, follows the approach taken by this Court en banc in *In re Alappat*. . . . In *Alappat*, we set out our

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53 *Id.* Judge Rich authored the opinion in *State Street.* His view of the intent of the 1952 Act should be given considerable weight as he was one of its primary authors.

54 172 F. 3d 1352, 1361 (Fed. Cir. 1999).

55 *Id.* at 1353.

56 *Id.*

57 *Id.* at 1354.

58 *Id.* at 1355.

59 *Id.*

understanding of the Supreme Court's limitations on the patentability of mathematical subject matter and concluded that:

> [The Court] never intended to create an overly broad, fourth category of [mathematical] subject matter excluded from § 101. Rather, at the core of the Court's analysis . . . lies an attempt by the Court to explain a rather straightforward concept, namely that certain types of mathematical subject matter, *standing alone*, represent nothing more than *abstract ideas until reduced to some type of practical application*, and thus that subject matter is not, in and of itself, entitled to patent protection.

Id. at 1543, 31 USPQ2d at 1556-57 (emphasis added). Thus, the *Alappat* inquiry simply requires an examination of the contested claims to see if the claimed subject matter as a whole is a disembodied mathematical concept representing nothing more than a 'law of nature' or an 'abstract idea,' or if the mathematical concept has been reduced to some practical application rendering it 'useful'.[60]

Tellingly, the PTO does not follow the approach set out above. Rather, the PTO expressly focuses on the nature of the subject matter claimed to conclude that application of mathematics to produce a useful result is not enough to render a claim statutory subject matter where a process is involved instead of a machine. Again, the PTO's approach is driven entirely by the nature of the subject matter and not its functional utility.

The *AT&T* Court directly rejected this approach:

> In both *Alappat* and *State Street*, the claim was for a machine that achieved certain results. In the case before us, because Excel does not own or operate the facilities over which its calls are placed, AT&T did not charge Excel with infringement of its apparatus claims, but limited its infringement charge to the specified method or process claims. Whether stated implicitly or explicitly, we consider the scope of § 101 to be the same regardless of the form-machine or process-in which a particular claim is drafted. *See, e.g. In re Alappat*, 33 F.3d at 1581 (Rader, J., concurring) ('Judge Rich, with whom I fully concur, reads Alappat's application as claiming a machine. In fact, whether the invention is a process or a machine is irrelevant. The language of the Patent Act itself, as well as Supreme Court rulings, clarifies that Alappat's invention fits comfortably within 35 U.S.C. § 101 whether viewed as a process or a machine.'); *State Street,* 149 F.3d at 1372 ("[F]or the purposes of a § 101 analysis, it is of little relevance whether claim 1 is directed to a 'machine' or a 'process' . . .") Furthermore, the Supreme Court's decisions in *Diehr*, *Benson*, and *Flook*, all of which involved method (i.e., process) claims, have provided and supported the principles which we apply to both machine and process-

[60] *Id.* at 1357 (citation omitted) (emphasis in original).

> type claims. Thus, we are comfortable in applying our reasoning in *Alappat* and *State Street* to the method claims at issue in this case.[61]

When that reasoning was applied to the process claims at issue in *AT&T*, the Federal Circuit easily concluded that the claims were statutory. Indeed, the reasoning applied in *AT&T* is directly relevant to understanding the PTO's error:

> In this case, Excel argues, correctly, that the PIC indicator value is derived using a simple mathematical principle (p and q). But that is not determinative because AT&T does not claim the Boolean principle as such or attempt to forestall its use in any other application. It is clear from the written description of the '184 patent that AT&T is only claiming a process . . . in order to determine the value of the PIC indicator. The PIC indicator represents information about the call recipient's PIC, a useful, non-abstract result that facilitates differential billing of long-distance calls. . . . Because the claimed process applies the Boolean principle to produce a useful, concrete, tangible result without preempting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of § 101.[62]

Turning back to our hypothetical claims, the fact that the claimed invention applies mathematical and financial principles is not the issue. Instead, the PTO should focus on whether those principles are being applied to produce a useful, concrete and tangible result without preempting other applications of the principle. If the PTO follows that approach, it would conclude that the claimed process in our hypothetical application falls comfortably within the scope of § 101.

Additionally, the *AT&T* Court rejected Excel's arguments that the method claims were not statutory because there was no "physical transformation" and the claims lacked any physical limitations.[63] In doing so, the Court distinguished earlier decisions that did not focus on "the ultimate issue" -- whether the claim as a whole is directed to statutory subject matter by examining whether the method produces a useful, concrete and tangible result.[64]

One example is particularly helpful in understanding a proper versus improper § 101 analysis. The Federal Circuit explained it clearly:

> [I]n *In re Grams*, the Court applied the *Freeman-Walter-Abele* test and concluded that the only physical step in the claimed process involved data-gathering . . . thus, the claims were held to be directed to unpatentable subject matter. . . . In contrast, our inquiry here focuses on whether the mathematical

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61 *Id.* at 1357-58.

62 *Id.* at 1358.

63 *Id.* at 1358-59.

64 *Id.*

> algorithm is applied in a practical manner to produce a useful result. *In re Grams* is unhelpful because the panel in that case did not ascertain if the end result of the claimed process was useful, concrete and tangible.[65]

The PTO's recent approach falls into the same trap. No mention or analysis is done regarding the critical issue -- whether the claimed process produces a useful, concrete and tangible result. Indeed, if such an analysis was conducted there is doubt that isolating risk among different mortgage portfolios produces such a result. Rather, the PTO focuses on the physical limitations of the claims to determine if some connection to a computer or technology is involved. In short, the PTO follows the same approach as the panel in *Grams*. That approach however, was rejected by *AT&T* as unhelpful and inapposite.

C. The PTO's "Technological Arts" Requirement is not Supported by the Act or the Relevant Case Law

Unfortunately, the recent decisions coming out of the PTO are not consistent with the teachings of *State Street* and *AT&T*. Rather than focus on whether the claims produce a useful result, the PTO travels back to the 1970s in an effort to create a new exception to statutory subject matter. Cobbling together pieces of two outdated decisions -- *In re Musgrave*[66] and *In re Toma*[67] -- the PTO has developed a two-prong test. [68] The PTO's first test of whether an invention is eligible for a patent is a determination of whether the invention is within the "technological arts." Apparently, only if the answer to the first prong is yes, do you apply the second test -- analyze the claims to see whether the claimed invention as a whole produces a useful, concrete and tangible result. The PTO's two-prong test is nonsense.[69]

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65 *Id*. at 1360 (citation omitted).

66 167 U.S.P.Q. 280 (C.C.P.A. 1970).

67 197 U.S.P.Q. 852 (C.C.P.A. 1978).

68 An example of the PTO's current reasoning is found in *Ex parte Bowman*, 61 U.S.P.Q.2d at 1671. The *Bowman* decision, however, was not written for publication and is not binding precedent on the Board. In fact, the main opinion in *Bowman* contains even less cited authority than the recent rejections emanating from the Board. The recent rejections rely heavily on *Musgrave* and *Toma*.

69 The PTO's prior position on § 101 as reflected in *Bowman* would be of little import if the issue is eventually reached by the Federal Circuit. Legal determinations of the Board are reviewed without deference. *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004). Compliance with § 101 is a question of law. *Arrhythmia Research*, 958 F.2d at 1055.

As an initial matter, neither *State Street* nor *AT&T* acknowledges that such a two-prong test exists.[70] Instead, both cases teach that machine and process claims should be subject to one standard on the § 101 question -- whether the claims produce a useful, concrete and tangible result. The PTO, however, is not troubled by three decades of silence. It insists that the two prong standard has always been the law and that *State Street* did not need to address the first prong because a programmed computer was already determined to be within the technological arts. As to how the PTO would explain away *AT&T* is unclear because the PTO barely mentions *AT&T* in its recent § 101 rejections. Of course, if the PTO's two prong test was the standard, one would expect to see some attempt by the Court in *AT&T* to determine if the pure method claims at issue passed such a crucial test. In fact, there is no such discussion. *AT&T* does not even mention *Toma* or *Musgrave*.

Moreover, even if *Toma* and *Musgrave* could be construed to somehow trump *State Street* and *AT&T*, the cases do not support the PTO's sweeping conclusion. A careful reading of *Toma* illustrates the PTO's error. Citing *Musgrave*, the examiner in *Toma* rejected the claims[71] as non-statutory because they did not fall within the "technological arts."[72] After disagreeing with the conclusion, the *Toma* Court also disagreed with the PTO's view that such a requirement forms the basis for a § 101 rejection. The Court explains:

> [T]he examiner has taken language from the cited cases and attempted to apply that language in a different context. *Musgrave*, *In re Benson*, and *McIlroy* all involved data processing methods useful in a computer, but not expressly limited to use in a computer. Furthermore, all of those cases involved a 'mental steps' rejection. The language which the examiner has quoted was written in answer to 'mental steps' rejections *and was not intended to create a generalized definition of statutory subject matter. Moreover, it was not intended to form a basis for a new § 101 rejection as the examiner apparently suggests.* To the extent that this 'technological arts' rejection is before us, independent of the rejection based on *Benson*, it is also reversed.[73]

Toma is clear: the language in the old case law regarding the technological arts was not intended to create a generalized definition of statutory sub-

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70 Nor do a host of other cases performing a § 101 analysis since *Toma* acknowledges such a test.

71 *Toma*, 197 U.S.P.Q. at 857. The claims in *Toma* were directed to a method for translating natural languages. *Id.* at 854.

72 *Id.* at 857.

73 *Id.* (emphasis added).

ject matter or an independent basis to reject a claim under § 101.[74] Incredibly, however, the PTO is now doing exactly that while citing *Toma* as its primary authority.[75]

At a more fundamental level, even if *Toma* could be twisted to provide some support for the PTO's position, the underlying analysis behind the PTO's alleged "technological arts" requirement is flawed. Neither § 101 nor art. I, § 8, cl. 8 of the Constitution limit patents to the "technological arts" as the PTO's contends. Rather, both explicitly refer to the "useful arts." While several older cases refer to the technological arts, it is clear when those cases are reviewed in conjunction with the recent precedents that the focus is on determining whether the claimed invention is useful or abstract. The PTO, by narrowly focusing on dicta in older cases, misses this essential point and, therefore, reaches the wrong conclusion.

A simple example drawn from our hypothetical claims illustrates why the PTO's approach is both flawed and unworkable. If the claims at issue recite that a computer is used to calculate an average or that some other mechanical device is utilized in conjunction with a particular step in the method, the claim would presumably be statutory under the PTO's approach. The steps of the claim, however, would be the same as would the claim's functional utility.[76] Indeed, whether the method is producing a useful, concrete and tangible result is completely divorced from the PTO's analysis.

Moreover, the PTO does not articulate the relationship that technology must have to the claims to render them statutory. In our hypothetical, the steps involve isolating risk in a mortgage portfolio. Those steps clearly exist in the physical world and are not dependent upon aesthetic, emotional or normative reactions of a human actor. Further, there is no question that the steps will be carried out utilizing technology (i.e. a computer, a word processor, etc.). In this respect, the process at issue is no different than a surgical method or a process to mill flour: the order in which things are performed is primary and the technology involved is known and of little matter. In such a case, the focus should be

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74 This no doubt explains why Courts since *Toma* have not applied a two-prong test as set out by the PTO. As *Toma* made clear, there simply is no such requirement.

75 It should also be noted that the cases invoking the language all involved "mental steps" rejections.

76 *See Cochrane v. Deener*, 94 U.S. 780, 787 (1877) ("That a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed."); *AT&T*, 172 F.3d at 1359 ("Excel also contends that because the process claims at issue lack physical limitations set forth in the patent, the claims are not patentable subject matter. This argument reflects a misunderstanding of our case law. … Since the claims at issue in this case are directed to a process in the first instance, a structural inquiry is unnecessary.").

on whether the process is abstract or whether the process produces a useful, concrete or tangible result -- not on whether the underlying technology used to carry out the steps happens to be mentioned.

In fact, the PTO's entire approach fails to account for the nature of a process. A "process" differs fundamentally from the other three classes (machine, manufacture and composition of matter), in that a process is not a structural entity but rather a series of steps leading to a useful result.[77] Our hypothetical method claim clearly constitutes a series of steps leading to a useful result – isolating risk in a mortgage portfolio. Indeed, the PTO would not even attempt to argue the contrary. Unless the claims fall into one of the three exceptions -- natural phenomenon, law of nature or abstract idea -- the claims should be statutory.

In any event, a process for isolating risk in a mortgage portfolio is not an abstraction. The real world consequences of such a process are no less useful because they are felt on Wall Street rather than Main Street. As the Supreme Court recognized long ago: "The Act embodied Jefferson's philosophy that 'ingenuity should receive a liberal encouragement.'"[78] For this reason, § 101 is broadly drafted to include "anything under the sun that is made by man."[79] Yet, the PTO seemed to have lost sight of these basic tenets.

D. The Lundgren *Panel Rejects the Technological Arts Requirement*

A clear sign that the tide may finally be turning on the PTO's approach is the recent decision by the Board in *Ex Parte Lundgren*.[80] There, in a 3 to 2 decision, the Board rejected the PTO's "technological arts" test.

The claims at issue in *Lundgren* were directed to a method to reduce incentives for industry collision on pricing by adjusting manager compensation. The Examiner rejected the claims finding that they failed the alleged "technological arts" test. The Board, however, reversed concluding that there was no

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77 *See Mehl/Biophile Intl. Corp. v. Milgraum*, 8 F. Supp. 2d 434, 446 (D.N.J. 1998), *aff'd*, 192 F. 3d 1362 (Fed. Cir. 1999); *Ex parte Murray*, 9 U.S.P.Q.2d 1819, 1820 (P.B.A.I. 1988) ("a series of steps is a 'process' within the meaning of § 101 unless it falls within a judicially determined category of nonstatutory subject matter exceptions.").

78 *Chakrabarty*, 447 U.S. 303, 308-09 (1980) (quoting 5 Writings of Thomas Jefferson, at 75-76 (Wash. ed. 1871)).

79 *Id.*

80 *Ex Parte Lundgren*, _ F.3d _, 2004 WL 3561262 (Fed. Cir. 2004).

justification in the case law for a "technological arts" test to determine if a claim passed muster under § 101.[81]

Lundgren appears to be the first time that the Board actually looked behind the PTO's approach to determine if there was any judicial support for a technological arts requirement. The majority started in the right place by examining the *AT&T Corp. v. Excel Commun., Inc.* decision:

> Since the Federal Circuit has held that a process claim that applies a mathematical algorithm to "produce a useful, concrete, tangible result without preempting other uses of the mathematical principle, on its face comfortably falls within the scope of § 101," *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999), one would think there would be no more issues to be resolved under 35 U.S.C. § 101. However, the examiner is of the opinion that there is a separate test for determining whether claims are directed to statutory subject matter, i.e., a "technological arts" test.[82]

Next, the majority noted that the examiner did not take the position that the claims fell within the judicially-created exceptions recognized by the Supreme Court in *Diehr* -- namely, laws of nature, physical phenomena and abstract ideas.[83] Rather, "the examiner has found a separate 'technological arts' test in the law and has determined that claim 1 does not meet this separate test."[84] Not surprisingly, the examiner relied on the trilogy of *Musgrave, Toma* and *Bowman* for support. Refreshingly, however, the majority actually examined *Toma* and *Musgrave* to see if that support was justified.[85] As explained in Section II. C., the majority quickly recognized that those decisions provide no such report.[86] Indeed, the majority concluded as follows after reviewing the actual language of *Toma* and *Musgrave*: "We do not believe the Court could have been any clearer in rejecting the theory the present examiner now advances in this case."[87]

Turning back to our hypothetical claims, the Board's approach in *Lundgren* would find both the system claims and method claims are patentable subject matter. More importantly, the approach taken by the Board in *Lundgren* is intellectually consistent -- namely, if a system claim yields a useful, concrete,

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81 *Id.* at *4.

82 *Id.* at *3.

83 *Id.*

84 *Id.*

85 As for *Bowman*, the majority simply noted that the decision was non-precedential and, therefore, not binding. In any event, *Bowman* relied on *Toma* and *Musgrave*. *Id.*

86 *See supra* Section II C.

87 2004 WL 3561262 at *4.

and tangible result and, therefore, is statutory, it is a method claim accomplishing the same results as well.

While *Lundgren* represents a step in the right direction, it may not be the last word in the debate for several reasons. First, the minority in *Lundgren* articulated an entirely "new ground" for rejection under 35 U.S.C. § 101.[88] If the past is any indication of the future, the examiner may very well latch onto this "new ground" and reject the claims.[89] Such a development would be an unfortunate distraction as the focus should never have been on section 101.[90]

Second, there seems to be a growing movement, at least thus far amongst academics, that the Supreme Court's recent grant of certiorari in *Laboratory Corp. of Am. Holdings v. Metabolite Laboratories, Inc.*, provides a long awaited opportunity to revisit the efficacy of business method patents under the Patent Act, or a direct overruling of *State Street* and re-instatement of business methods as an exception to patentable subject matter under 35 U.S.C. § 101. An analysis of the question certified under *Metabolite*[91] and prior precedent, make it an unlikely prospect that the Supreme Court, either directly or indirectly, will make law to unsettle what was thought to be settled by Judge Rich in *State Street* or the predecessor Court in *Diamond v. Chakrabarty*.

As we explain in the next section, grafting even more complicated exceptions to patentable subject matter is not an answer to the underlying problem of ensuring that only true innovations receive patent protection. Rather, it is time to focus the debate squarely on the quality of the proposed method under §§ 102 and 103.

IV. CHANGING FOCUS

The PTO's focus on the statutory subject matter requirement of § 101 to stem the tide of patents affecting the financial services industry should be aban-

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88 The new grounds combined elements of the old *Freeman-Walter-Abele* analysis with *State Street*'s requirement, that the claims produce a useful, concrete and tangible result. *See id.* at **68-70.

89 The majority did not reject the minority view. Rather, it declined to address it until development of the factual record. *Id.* at *5.

90 In fact, the PTO recently published new Interim Examination Guidelines following the *Lundgren* decision which could be read to support such mischief. *See* http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf. Indeed, the PTO seems to be latching on to the requirement that a claim must produce a useful, concrete and tangible result to reject claims where they are capable of being performed in the mind of the user or with a pen and paper. *See* PTO Off. Action, Application No. 10/727,418, Sept. 1, 2005.

91 *See supra* n. 44.

doned for two reasons. First, creating new exceptions to patentable subject matter not warranted by the Act or case law only serve to undermine the PTO's credibility. Further, such exceptions deny patent protection to truly innovative and useful methods and processes based largely on the industry affected. Special rules create special problems, particularly when a more general fix is required.[92] Second, and even more fundamentally, the PTO's approach does not solve the problem – any competent draftsperson can incorporate technology in the claims or simply craft apparatus claims covering the same essential subject matter. Instead, the PTO should shift its focus to ensuring that only quality patents are granted. In order to do that, the PTO needs to better utilize the tools already at its disposal and be provided additional resources and meaningful input to realize this goal.

A real concern[93] with patents affecting the financial services industry is the general feeling that the patents issued for financial methods and systems are not truly innovative. "Quality" is a profound problem with dire consequences because if patent applications are not measured properly against available prior art, a monopoly right is conferred that takes from the public what competitors had assumed was freely available subject matter. However, once the focus is properly placed on the quality of the patents it issues in this space, it becomes clear that different tools, 35 U.S.C §§ 102 and 103, readily exist for the PTO to ensure such quality.

While the statutory tools are there, an adequate prior art database relating to financial services and products is lacking.[94] Of course, one direct reason for the lack of an adequate database is that few financial institutions availed themselves of patent protection prior to *State Street*. In addition, there has been a corresponding dearth of printed publications and trade media for examiners to even locate relevant art, let alone apply it. This problem is exacerbated by the historical tendency of financial institutions to protect their proprietary systems and methods with confidentiality and non-disclosure agreements.[95]

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92 *See* Jaffe & Lerner, *supra* n. 7.

93 There is a school of thought which proposes that all patents, regardless of their novelty and usefulness, are somehow bad for certain sectors of the economy. *See supra* nn. 7-8. While that topic is beyond the scope of this article, the authors subscribe to views expressed by Jefferson.

94 *See* Jaffe & Lerner, *supra* n. 7, at 145-49 (discussing "Special Problems of Emerging Industries").

95 One potential source of prior art relevant to financial service and product patents are registration statements required to be filed with the Securities and Exchange Commission. Unfortunately, there has been no efficient way to identify such prior art, let alone provide it to an examiner.

As a result, some receiving early business method patent grants -- and a healthy dose of media backlash as a result -- offered creative prior art solutions. For example, Amazon.com founder Jeff Bezos derided for receiving a patent for Amazon's so-called "One-Click" Shopping System, founded and funded a company called BountyQuest willing to provide cash for prior art submissions.[96] BountyQuest was launched as a web-based service that sought to match those desiring to find and submit invalidating prior art with those who may be able to locate it. Under this construct "Posters" (those that seek to invalidate a patent) post a minimum bounty of $10,000 and "Bounty Hunters" (those locating prior art in response) are free to submit anything in the public domain that they believe covers the same technology.[97] The first Bounty Hunter to submit art meeting the Poster's requirements captures the bounty. Creative ideas, however, are never a guarantee of commercial longevity as the service was shuttered soon after launch based on lack of use.[98]

Additionally, industry associations finally awoke to the issues and began to realize that they may be uniquely positioned to communicate with, educate and assist their membership concerning matters of patent quality. The Securities Industry Association, for example, recently developed and launched an Intellectual Property Clearinghouse.[99] The clearinghouse is an electronic matching facility that enables member firms to share information and communicate with each other regarding enforcement activities arising out of intellectual property claims. Firms can log certain identifying information into a database that can then be viewed by other member firms. The trigger for a clearinghouse effort may be a predatory enforcement action by a patent holder or a broad-based concern over the quality of a recently issued patent.[100]

Others have formed groups in an attempt to address quality on the front end by directly injecting art into the examination process. Recently, the PTO

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96 Damien Cave, *Who ya gonna call? Patent busters!*, Salon.com Tech. (Oct. 23, 2000), http://dir.salon.com/tech/view/2000/10/23/cella/index.html.

97 As an interesting aside, Jeff Bezos of Amazon.com was a large investor in BountyQuest. Ironically, Amazon's notorious 1-Click shopping patent was one of the first bounties posted. Nancy Lambert, *BountyQuest Revisited: The Coin Has Two Sides*, infotoday.com (Apr. 2, 2001), http://www.infotoday.com/newsbreaks/nb010402-2.htm. Ironically, for all the media bruising the "One-Click" Patent Service took, it has to date never been rendered invalid – a vindication of sorts for the PTO.

98 O'Reilly Media, Inc., What happened to BountyQuest?, http://www.oreilly.com/pub/a/oreilly/ask_tim/2003/bountyquest_1003.html (accessed June 24, 2005).

99 Securities Indus. Assn., http://www2.sia.com/IP_Warehouse/ (accessed Feb. 28, 2006).

100 *Id.*

has announced a partnership with IBM and the open source community to provide improved access to prior art relating to software inventions during the examination process.[101] Dubbed the "Community Patent Project", the overall aim is a pilot which permits "peer" review of patents to apply the "wisdom of the crowd…to complex, social and scientific problems."[102] While private initiatives appear to be welcomed by the PTO, and can in certain situations provide a robust supplement to the patent examination process, they are no substitute for a more comprehensive and principled approach by the PTO. Such an approach must focus on ensuring that quality patents are granted in the first place. Indeed, for an *ex parte* examination system such as in the United States, the patent examiners are the first responders, and as a result must be afforded appropriate information at the outset to be effective. Without meaningful prior art at this point in the process, patent quality is destined to suffer.

One underutilized tool, known as Rule 99,[103] was adopted in 1999 as part of the American Inventors Protection Act.[104] Rule 99 provides a procedure for third parties to submit relevant prior art to the PTO for consideration by the examiner prior to issuance. The third party, however, cannot include any explanation or other information and is limited to ten total patents or publications.[105] There are several flaws in Rule 99 that has limited its effectiveness as a tool to ensure only quality patents are issued. Primarily, it does not allow active participation by the party submitting the information. If the examiner then approves the application, it makes the patent that much harder to defeat in litigation.

Another new tool has recently been proposed as part of The Patent Reform Act of 2005.[106] In short, the proposed bill includes a post-grant opposition system and allows third-party submissions of prior art, including an explanation of the prior art's relevance.[107] Under the proposed bill, an opposition can now be filed no more than 9 months after the grant of the patent or no later than 6 months after receiving notice from the patent holder alleging infringement.[108]

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101 *See* http://www.uspto.gov/web/patents/opensource2006.htm (accessed Mar. 30, 2006).

102 *See* http://www.dotank.nyls.edu/communitypatent/about.html. (accessed Mar. 30, 2006).

103 *See* 37 C. F. R. §1.99 (West 2000).

104 *American Inventors Protection Act of 1999*, Pub. L. No. 106-113, 113 Stat. 1501, 1501A-52 (1999).

105 37 C. F. R. §1.99(d).

106 H.R. 2795, 109th Cong. § 323 (June 8, 2005).

107 The Patent Reform Act of 2005 includes some fundamental changes to the patent system that are beyond the scope of this article.

108 *See* H.R. 2795, 109th Cong. § 323.

The proposals contained in the Patent Reform Act of 2005 constitute a meaningful opportunity for the PTO to shift its focus away from § 101 to issues involving §§ 102 and 103. As an initial matter, the ability to institute an opposition proceeding after the patent is issued combined with the ability for third parties to provide the PTO with prior art and an explanation of its relevance should go a long way towards ensuring that the patents emerging from the process are quality patents. More importantly, however, the proposed reforms should restore a measure of balance and perceived fairness to the system by allowing third-parties to provide their prior art to the PTO with same degree of control over how it is applied.

Turning back to our practical application, our client's method and computer-implemented system for managing credit risks in mortgage portfolios would easily pass the statutory subject matter test. That, however, does not mean that the systems and methods are patentable. Rather, the claims should undergo a rigorous analysis under §§ 102 and 103 to insure that the claimed invention is new and non-obvious. In order to make that analysis as meaningful as possible, the PTO should work toward acquiring the tools it needs -- partnering with industry organizations to do it if necessary -- to obtain, review and apply the relevant prior art. If the claims in the patent application thereafter are granted, industry mechanisms such as the Securities Industry Association Clearinghouse and the ability to institute an opposition proceeding provide further assurances that only genuine innovations merit patent protection. In short, industry and the interested pubic, have a role and should be called upon to play it, or stand down the hyperventilated predictions of impending industry catastrophe if they do not.

Finally, returning to our hypothetical claims, surviving this rigor, they are then entitled to a patent grant and some measure of commercial confidence that a quality examination was performed. What is not legally permissible, nor contemplated in the design of the patent act, is to facilitate subject-matter balkanization by erecting additional utility requirements. No precedential judicial decision has ever allowed that result and, while initially getting it wrong by its own hand, the PTO deserves full credit for summoning the courage and understanding in *Ex Parte Lundgren* to finally get it right.

V. CONCLUSION

The PTO's approach rejecting financial service patents unless they have some undefined connection to the technological arts is not justified by the Act or the relevant case law. Indeed, the Board's decision in *Lundgren* represents a step in the right direction. More fundamentally, by focusing on § 101, the PTO has not properly addressed the real problem of ensuring that only quality patents

are issued as any competent draftsman can connect technology to the claims. As a consequence, the PTO's former approach appears to be on its way out and the agency's emphasis should now return to the real issue of practice and law: an inadequate prior art database with which to gauge business method patents under §§ 102 and 103. Notably, recent proposed reforms provide an excellent opportunity to remedy this problem and should be adopted. Finally, the financial services industry itself is finding it has an important role to play in solving the problem through associations. The major players need to keep the focus on quality and realize that they can be instrumental in assisting the PTO in acquiring the tools and information it needs to ensure that real innovations are rewarded and that anticipated and obvious claims are rejected, restoring confidence in the PTO's process and work product.