# In the Supreme Court of the United States

ALICE CORPORATION PTY. LTD., PETITIONER

v.

CLS BANK INTERNATIONAL, ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

#### BRIEF FOR THE UNITED STATES AS AMICUS CURIAE IN SUPPORT OF RESPONDENTS

NATHAN K. KELLEY Solicitor SCOTT C. WEIDENFELLER Associate Solicitor United States Patent and Trademark Office Alexandria, Va. 22313 DONALD B. VERRILLI, JR. Solicitor General Counsel of Record STUART F. DELERY Assistant Attorney General MALCOLM L. STEWART Deputy Solicitor General GINGER D. ANDERS Assistant to the Solicitor General MARK R. FREEMAN LINDSEY POWELL Attorneys Department of Justice Weakington D.C. 20520 000

Department of Justice Washington, D.C. 20530-0001 SupremeCtBriefs@usdoj.gov (202) 514-2217

## **QUESTION PRESENTED**

Whether petitioner's computer-implemented claims for mitigating financial risk by using a third-party intermediary are eligible for patent protection under 35 U.S.C. 101.

## TABLE OF CONTENTS

Page

Interes	t of the United States1			
Statem	ent1			
	ry of argument6			
	ent8			
Ĭ.	The exception for abstract ideas precludes patent			
	protection for innovations in the manipulation of			
	non-physical concepts, such as improvements to			
	financial and business transactions10	)		
	A. Under <i>Bilski</i> , the abstract-ideas exception is			
	patent law's sole mechanism for excluding			
	claims directed to manipulation of non-			
	technological concepts and relationships10	)		
	B. The abstract-ideas exception encompasses			
	claims that manipulate abstract concepts			
	rather than disclosing concrete innovations			
	in technology, science, or the industrial arts15	)		
	C. Petitioner's understanding of the abstract-			
	ideas exception is mistaken20	)		
II.	Petitioner's method claims are drawn to an abstract			
	idea25	)		
	A. Considered apart from any computer			
	implementation, petitioner's method claims			
	would be directed to an abstract idea and			
	therefore patent-ineligible26	,		
	B. The method claims' incorporation of a			
	computer does not render them patent-			
	eligible28	,		
III.	Petitioner's system and media claims rise or			
	fall with the method claims33			
Conclusion				
Statutory appendix1a				

## (III)

## TABLE OF AUTHORITIES

Cases: Page
Alappat, In re, 33 F.3d 1526 (Fed. Cir. 1994)
Diamond v. Chakrabarty, 447 U.S. 303 (1980)2, 14 Diamond v. Diehr, 450 U.S. 175 (1981)2, 11, 24, 32
Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127 (1948)2
Gottschalk v. Benson, 409 U.S. 63 (1972)10, 11, 23
Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289 (2012)passim
Microsoft Corp. v. i4i Ltd. P'Ship, 131 S. Ct. 2238 (2011)
O'Reilly v. Morse, 56 U.S. (15 How.) 62 (1854)24
Parker v. Flook, 437 U.S. 584 (1978)10, 11, 13, 22, 23, 33 Research Corp. Techs. v. Microsoft Corp.,
627 F.3d 859 (Fed. Cir. 2010)
Comm'n, 601 F.3d 1319 (Fed. Cir. 2010)
Grp., Inc., 149 F.3d 1368 (Fed. Cir. 1998), cert. denied, 525 U.S. 1093 (1999)
289 U.S. 178 (1933)14

Statutes and regulations:

Leahy-Smith America Invents Act, Pub. L.	
No. 112-29, 125 Stat. 284	
§ 18, 125 Stat. 329	
§ 18(d), 125 Stat. 331	

Statutes and regulations—Continued:	Page
§ 18(d)(1), 125 Stat. 331	
§ 18(e), 125 Stat. 331	
Patent Act, 35 U.S.C. 1 et seq.:	
35 U.S.C. 2(a)(1)	1
35 U.S.C. 2(b)(8)	1
35 U.S.C. 101	passim
35 U.S.C. 112	
35 U.S.C. 273	
35 U.S.C. 273(a)(3) (2006)	17
35 U.S.C. 273(b)(1)	17
35 U.S.C. 282	
37 C.F.R. 42.301	
Miscellaneous:	
157 Cong. Rec. (daily ed. Mar. 8, 2011):	
p. S1363	19
p. S1379	
2 Henry Crosby Emery, Speculation on the Stock	<i>:</i>
and Produce Exchanges of the United States (18	896)27
European Patent Office:	
European Patent Convention (15th ed. 2013).	
T154/04 Method of Estimating Product Distri	
tion (Nov. 15, 2006)	
H.R. Rep. No. 287, 106th Cong., 1st Sess. (1999)	
H.R. Rep. No. 98, 112th Cong., 1st Sess. (2011)	
Interim Guidance for Determining Subject Matt	
Eligibility for Process Claims in View of Bilski	v.
Kappos, 75 Fed. Reg. (July 27, 2010):	00
p. 43,922	
pp. 43,925-43,926	

Miscellaneous—Continued:	Page
Michael Lewis, Moneyball (2003)	22
PTO, 2012 Interim Procedure for Subject Matter	
Eligibility Analysis of Process Claims Involving	
Laws of Nature, http://www.uspto.gov/patents/law/	
exam/2012_interim_guidance.pdf	30

## In the Supreme Court of the United States

No. 13-298

ALICE CORPORATION PTY. LTD., PETITIONER

v.

CLS BANK INTERNATIONAL, ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

#### BRIEF FOR THE UNITED STATES AS AMICUS CURIAE IN SUPPORT OF RESPONDENTS

#### INTEREST OF THE UNITED STATES

This case presents the question whether petitioner's claimed systems and methods for using a generalpurpose computer to conduct financial transactions in a manner that reduces settlement risk are patenteligible, or are instead directed to an unpatentable abstract idea. The Court's resolution of that question will significantly affect the work of the United States Patent and Trademark Office (PTO), which is responsible for issuing patents and advising the President on issues of patent policy. See 35 U.S.C. 2(a)(1) and (b)(8). The United States therefore has a substantial interest in the Court's disposition of this case.

#### STATEMENT

1. Section 101 of Title 35 of the United States Code provides that an inventor may obtain a patent on "any

(1)

new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. 101. Congress cast the provision in broad terms in order "to ensure that ingenuity should receive a liberal encouragement." Bilski v. Kappos, 130 S. Ct. 3218, 3225 (2010) (quoting Diamond v. Chakrabarty, 447 U.S. 303, 308 (1980)). Section 101 is subject, however, to an "important implicit exception": "[1]aws of nature, natural phenomena, and abstract ideas are not patentable." Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1293 (2012) (quoting Diamond v. Diehr, 450 U.S. 175, 185 (1981)). "The concepts covered by these exceptions are 'part of the storehouse of knowledge of all men . . . free to all men and reserved exclusively to none." Bilski, 130 S. Ct. at 3225 (quoting Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 130 (1948)).

2. Petitioner is the assignee of United States Patent Nos. 5,970,479 (the '479 patent), 6,912,510 (the '510 patent), 7,149,720 (the '720 patent), and 7,725,375 (the '375 patent). Pet. App. 2a-3a. The patents, which share a common specification, disclose schemes for managing forms of business risk. *Id.* at 3a. The specification explains that the "invention relates to methods and apparatus, including electrical computers and data processing systems applied to financial matters and risk management." J.A. 1115.

The claims at issue in this case concern a computerized scheme for mitigating settlement risk in the exchange of financial obligations. Pet. App. 3a. The claims are designed to facilitate an agreed-upon exchange between two parties by using an independent third-party intermediary that monitors electronic "shadow" credit and debit accounts to track the parties' ability to perform at settlement. The shadow records reflect the balances in the parties' real-world accounts, and the intermediary updates them in real time as transactions are entered, "permitting only those transactions for which the parties' updated shadow records indicate sufficient resources to satisfy their mutual obligations." *Id.* at 27a-28a. At the end of the day, the intermediary instructs the appropriate institutions to exchange credits and debits in the parties' real-world accounts to effect the permitted transactions. The intermediary's participation in this manner mitigates the risk that only one party will perform the agreed-upon exchanges. *Id.* at 28a.

The patents recite a method of exchanging obligations between parties, a computer system configured to perform the process, and a computer-readable medium containing program code for directing an exchange of obligations. Pet. App. 3a. The system and media claims expressly recite a computer, and the parties have stipulated that the method claims similarly require the use of a computer. *Id.* at 28a. The specification explains that "[t]he resources transferred by [the parties] may be of any type," J.A. 1176, and that the invention can be used by a wide variety of transfer entities, including commercial and central banks and non-bank clearing houses, *ibid*.

3. In 2007, respondents filed suit against petitioner, seeking a declaratory judgment that the claims are invalid, unenforceable, and not infringed. Pet. App. 4a. Petitioner counterclaimed for infringement. *Ibid*. Respondents eventually sought summary judgment on the ground that the asserted patent claims are directed to an abstract idea and therefore are invalid under Section 101. *Id.* at 4a-5a, 26a. a. The district court held that all of the asserted claims are patent-ineligible under Section 101 because they describe the abstract economic idea of "employing an intermediary to facilitate simultaneous exchange of obligations in order to minimize risk." Pet. App. 214a; see *id.* at 172a-238a.

b. A divided panel of the Federal Circuit reversed. Pet. App. 132a-171a. The panel held that petitioner's claims were patent-eligible because it is not "manifestly evident" that they are directed to an abstract idea. *Id.* at 152a.

c. The court of appeals granted rehearing en banc. In a one-paragraph per curiam opinion, the court affirmed the judgment of the district court. Pet. App. 1a-2a. Seven of the ten participating judges agreed that petitioner's method and media claims are patentineligible. See *ibid.*; *id.* at 3a n.1. With respect to petitioner's system claims, the en banc court affirmed the district court's judgment by an equally divided vote. *Id.* at 2a.

Writing for a five-member plurality, Judge Lourie explained that petitioner's method claims draw on the abstract idea of reducing settlement risk by facilitating a trade through a third-party intermediary. Pet. App. 2a-41a; *id.* at 28a. In the plurality's view, under *Bilski* and *Mayo*, *supra*, a court must first identify "the abstract idea represented in the claim," *id.* at 28a, and then ascertain whether the elements of the claim add "significantly more" to the abstract idea, *id.* at 29a; see *Bilski*, 130 S. Ct. at 3231; *Mayo*, 132 S. Ct. at 1300. The plurality concluded that petitioner's claims "draw on the abstract idea of reducing settlement risk by effecting trades through a third-party intermediary," Pet. App. 28a, without adding "anything of substance" to that idea, *id*. at 29a. The plurality further held that, although petitioner's system and media claims "nominally recite[] as [their] subject matter a physical device," they are in substance drawn to the underlying method of reducing settlement risk. See *id*. at 33a-34a, 36a-40a.

Chief Judge Rader concurred in part and dissented in part. Pet. App. 41a-85a. In a part of his opinion joined only by Judge Moore, Chief Judge Rader concluded that petitioner's method claims are abstract. *Id.* at 84a. Because petitioner had conceded that its media claims "rise or fall with the method claims," Chief Judge Rader concluded without separate analysis that the media claims are also abstract. *Id.* at 81a. In a part of the opinion also joined by Judges Linn and O'Malley, Chief Judge Rader found that petitioner's system claims are patent-eligible. *Id.* at 69a-80a, 84a. He concluded that the components of the claims —including a computer and a data storage unit—are "structural elements" that are "additional steps to an escrow, not inherent in it." *Id.* at 78a.

Judge Moore wrote a separate opinion dissenting in part, joined by Chief Judge Rader and Judges Linn and O'Malley, arguing that petitioner's system claims are patent-eligible. Pet. App. 85a-99a. Judge Newman, *id.* at 99a-113a, and Judges Linn and O'Malley, *id.* at 113a-126a, filed dissenting opinions that would have held all of the asserted claims patent-eligible. Chief Judge Rader filed a separate opinion offering additional thoughts on Section 101. *Id.* at 126a-131a.

#### SUMMARY OF ARGUMENT

I. This Court has long held that abstract ideas, like laws of nature and natural phenomena, are not patent-eligible under 35 U.S.C. 101. In *Bilski* v. *Kappos*, 130 S. Ct. 3218 (2010), the Court held that these limitations on patent-eligibility do not categorically exclude improved methods of doing business. The Court recognized, however, that the abstractideas exception will preclude patents directed to the manipulation of fundamental economic concepts.

Given the increasingly pervasive use of computers in all areas of human endeavor, application of the abstract-ideas exception to computer-implemented inventions has taken on particular importance. The exception poses no barrier to patents on technological innovations that improve computers' ability to function as such. But when the applicant seeks at bottom to patent purported improvements in the conduct of financial transactions, the recitation of a computer for its standard functions is insufficient to render the invention patent-eligible.

The Court in *Bilski* inferred, from the existence of a statutory defense specific to business-method patents, that Congress assumed the validity of at least some such patents. After the decision in *Bilski*, however, Congress repealed the language on which the Court had relied. And while Congress simultaneously established a process for PTO review of non-technological business-method patents, Congress expressly discountenanced any inference that such methods are patent-eligible.

Contrary to petitioner's contentions, the abstractideas exception is not limited to patent claims that recite a mathematical formula or a preexisting truth about the natural world. Nor is the exception limited to abstract ideas that are expressed at a high level of generality. Even when a claimed non-technological method of performing financial transactions or overseeing economic relationships is highly specific, its function still is to manipulate abstract concepts, and it is accordingly patent-ineligible.

II. Petitioner's method claims are drawn to an abstract idea. Considered apart from any computer implementation, the method claims are addressed to the manipulation of abstract legal and economic concepts. Although the claims include a relatively detailed set of steps, and therefore do not preempt all uses of third-party intermediaries to mitigate settlement risks, this Court has not limited the abstractideas exception to ideas expressed at a high level of generality.

The method claims' incorporation of a computer does not render them patent-eligible. Petitioner's invention addresses the management of financial risk, an area of endeavor that has historically been viewed as outside the patent laws. And the claimed methods do not involve any improvement in the ability of a computer to function as such, but instead utilize preexisting computer technology solely for its established generic functions.

III. Petitioner's system and media claims rise or fall with its method claims. This Court has made clear that, when a patent on a particular series of steps would amount in practical effect to a patent on a law of nature or abstract idea, the patent is invalid, even though the series of steps constitutes a Section 101 "process." The same analysis applies to petitioner's system and media claims, which are in substance efforts to patent a method of organizing human economic activity, even though they are drawn to what are literally a "machine" and a "manufacture."

#### ARGUMENT

This case presents the question whether an improvement in business risk management that relies for its efficacy on a general-purpose computer is patenteligible. As a plurality of this Court recognized in Bilski v. Kappos, 130 S. Ct. 3218, 3229 (2010), the pervasive use of computers has the potential to vastly expand the scope of patent law. Historically, the patent system was thought to protect only technological, scientific and industrial inventions, and patents on methods of doing business or organizing human activity were "rarely granted." Id. at 3227. But as a plurality of the Bilski Court observed, computers have "enable[d] the design of protocols for more efficient performance of a vast number of business tasks," id. at 3229, and there are few if any fields of human endeavor in which computers cannot be used. If the use of a computer were sufficient to confer patent-eligibility under Section 101, patent protection could extend to innovations in such fields as financial, legal, and educational concepts and systems. As a result, the patent system would sweep far beyond its traditional domain of technological, scientific, and industrial progress.

The Federal Circuit's decisions interpreting Section 101 have often reflected that sweeping understanding of the patent laws. See, e.g., State St. Bank & Trust Co. v. Signature Fin. Grp., Inc., 149 F.3d 1368 (1998), cert. denied, 525 U.S. 1093 (1999). And the PTO, bound by those decisions, has issued patents claiming beneficial uses of general-purpose computers in nearly every conceivable field of human endeavor, including the patents at issue in this case.

The Court's recent decisions in *Bilski* and in *Mayo* Collaborative Services v. Prometheus Laboratories, Inc., 132 S. Ct. 1289 (2012), however, indicate that the previous approach, though it had the benefit of ease of administration, is no longer viable. In holding that a method of hedging transaction risk was not patenteligible, the *Bilski* plurality made clear that the spread of computers into traditionally non-technological fields of human endeavor is a reason to be vigilant in enforcing the traditional limits on patent-eligibility. 130 S. Ct. at 3229. The plurality further stated that the abstract-ideas exception to Section 101 provides a "useful tool[]" with which to enforce such limits. *Ibid*. And in *Mayo*, the Court established that the elements of a claim must add more than routine, well-understood steps to an unpatentable natural law or abstract idea. 132 S. Ct. at 1298. That logic applies equally in assessing whether a claim's incorporation of a computer renders it patent-eligible. See *id*. at 1300.

To provide needed guidance to PTO's more than 8000 patent examiners, and to ensure that the patent laws are not extended beyond their proper scope, the Court should hold that claims directed to the manipulation of abstract concepts or relationships, such as methods of organizing transactions and other human activities, are patent-ineligible under the abstract-ideas exception to Section 101. Indeed, given the Court's holding in *Bilski* that the term "process" in Section 101 is to be given its broad ordinary meaning, the abstractideas exception is the *only* available means of ensuring that patent law remains within its traditional bounds. The Court should further hold that an otherwise-abstract claim does not become patenteligible merely because it incorporates a generalpurpose computer to perform standard computing functions. By contrast, claims directed to improvements in a computer's operation as a computer are patent-eligible, as they represent non-abstract technological innovations that fall within the traditional scope of the patent laws.

- I. THE EXCEPTION FOR ABSTRACT IDEAS PRE-CLUDES PATENT PROTECTION FOR INNOVATIONS IN THE MANIPULATION OF NON-PHYSICAL CON-CEPTS, SUCH AS IMPROVEMENTS TO FINANCIAL AND BUSINESS TRANSACTIONS
  - A. Under *Bilski*, The Abstract-Ideas Exception Is Patent Law's Sole Mechanism For Excluding Claims Directed To Manipulation Of Non-Technological Concepts And Relationships

1. This Court first explicated the rule that "abstract intellectual concepts are not patentable" in a series of decisions involving the patent-eligibility of processes that relied on mathematical algorithms. Gottschalk v. Benson, 409 U.S. 63, 67 (1972). In Benson and a subsequent case, Parker v. Flook, 437 U.S. 584 (1978), the Court explained that a mathematical algorithm or equation—which the Court defined as a "procedure for solving a given type of mathematical problem," 409 U.S. at 65—is not patent-eligible because "[a] principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right." Id. at 67 (citation omitted); see Flook, 437 U.S. at 589. Such equations are "abstract" in the sense that, like "mental processes" and "[p]henomena of nature," they are "the basic tools of scientific and technological work." *Benson*, 409 U.S. at 67.

The Court held that the claimed processes in both cases were invalid. In Benson, the Court explained that, although the claimed process was designed to be used on a computer, the "formula involved here has no substantial practical application except in connection with a digital computer," and the patent therefore was "in practical effect \* \* \* a patent on the algorithm itself." 409 U.S. at 71-72. Similarly in Flook, the Court held that, although the patent claimed the use of the equation only in particular industries, field-ofuse restrictions were insufficient to "transform an unpatentable principle into a patentable process." 437 U.S. at 590. The Court further explained that insignificant "post-solution activity," such as a general instruction to apply the equation, is likewise insufficient. *Ibid.* Otherwise, patent applicants would be able to circumvent the prohibition on patenting abstract ideas by appending insignificant limitations to the idea itself. Ibid. In Diamond v. Diehr, 450 U.S. 175, 185-188 (1981), by contrast, the Court held that the claimed process was patent-eligible because it incorporated a mathematical formula into a larger and specifically defined industrial process.

2. The Court next considered the abstract-ideas exception in *Bilski*. The Court in *Bilski* described the principle that abstract ideas, laws of nature, and physical phenomena are not patentable as an "exception" to Section 101's "broad patent-eligibility principles." 130 S. Ct. at 3225. "Concerns about attempts to call any form of human activity a 'process' can be met," the Court stated, "by making sure the claim meets the requirements of [Section] 101" and does not fall within one of the "well-established exceptions." *Id.* at 3226.

In Bilski, the government argued that the term "process" in Section 101 should be construed as a statutory term of art limited to methods that employ a machine or effect a transformation of matter. Under the machine-or-transformation test, only those processes that describe an applied technological, scientific, or industrial innovation would be patent-eligible, while processes directed to methods of organizing human activity—for which patents historically had been "rarely granted"—would not be. 130 S. Ct. at 3227 (plurality opinion). In holding that the machine-ortransformation test is not "the sole test for deciding whether an invention is a patent-eligible 'process,'" the Court concluded that the text of Section 101 did not suggest such a limitation, and it expressed concern that the test might have unpredictable results when applied to innovations in computing techniques. *Ibid.* The Court also rejected the related argument that "business methods" should be "categorically exclude[d]" from patent-eligibility under Section 101. Id. at 3228. The Court thus held that the term "process" should be given its broad "ordinary \* \* \* meaning." Ibid. (citation omitted).

The Court in *Bilski* left little doubt, however, that most methods of conducting business will not be patent-eligible. The Court emphasized that "the machine-or-transformation test is a useful and important clue \* \* \* for determining whether some claimed inventions are processes." 130 S. Ct. at 3227. The Court also stated that the "well-established exceptions" for "laws of nature, physical phenomena, and abstract ideas" should be used to vindicate the policy concerns that animated the machine-ortransformation test: courts may "restrict[] business method patents" through means that "includ[e] (but [are] not limited to) application of our opinions in *Benson, Flook*, and *Diehr.*" *Id.* at 3226, 3231.

The plurality was even more explicit about the pivotal role of the abstract-ideas exception in policing the boundaries of patent-eligibility. "[T]his Court's precedents on the unpatentability of abstract ideas provide useful tools," the plurality stated, in constructing "a limiting principle" to ensure that not all methods of performing "business tasks" more efficiently through "mathematical calculations" are patent-eligible. Bilski, 130 S. Ct. at 3229. The plurality observed that, "if the Court of Appeals were to succeed in defining a narrower category or class of patent applications that claim to instruct how business should be conducted, and then rule that the category is unpatentable be-\* \* \* it represents an attempt to patent cause abstract ideas, this conclusion might well be in accord with controlling precedent." Ibid. Just as claims to mathematical equations threaten to tie up the building blocks of scientific and technical inquiry, Flook, 437 U.S. at 589-590, claims to non-concrete ideas about how to organize business transactions may inhibit innovations in business-related technologies as well as commercial endeavors, Bilski, 130 S. Ct. at 3229 (plurality opinion).

The abstract-ideas exception reconciles *Bilski*'s holding that the term "process" in Section 101 has its ordinary meaning, see 130 S. Ct. at 3226, 3228, with the Court's statement that the machine-or-transformation test remains a "important and useful clue" to the patent-eligibility of an invention framed

as a process, id. at 3226. Patent claims that fail the machine-or-transformation test because they are directed to methods of organizing human activity rather than technological, scientific, and industrial innovations are likely to be invalid under the abstract-ideas exception because they are directed to intellectual concepts and their manipulation.<sup>1</sup>

That understanding of the abstract-ideas exception is reflected in the Court's conclusion that Bilski's claims, which described a method of managing the consumption risk costs of commodities by arranging transactions whose risks offset each other, were directed to an abstract idea. *Bilski*, 130 S. Ct. at 3231. In arguing that Bilski's claims failed the machine-ortransformation test, the government's brief explained that the claims pertained to manipulation of legal and financial obligations or relationships, and that "merely adding the extra detail that a computer would be used to calculate the fixed rates" would constitute "insignificant extra-solution activity." 08-964 U.S. Br. 52-53. Rather than adopting the government's proposed limiting construction of the Section 101 term "process,"

<sup>&</sup>lt;sup>1</sup> In Diamond v. Chakrabarty, 447 U.S. 303 (1980), the Court noted that "[t]he laws of nature, physical phenomena, and abstract ideas have been held not patentable." *Id.* at 309. The Court also cautioned, however, that courts "should not read into the patent laws limitations and conditions which the legislature has not expressed." *Id.* at 308 (quoting *United States* v. *Dubilier Condenser Corp.*, 289 U.S. 178, 199 (1933)). Those statements taken together might suggest that the longstanding rule against patenting laws of nature and the like reflects an *interpretation* of Section 101 and its statutory predecessors, rather than an *exception* to the provision's literal coverage. *Bilski* and *Mayo*, however, have clarified that the rule functions as a judicially-created exception, which may apply even to a series of steps that constitutes a Section 101 "process."

the Court instead dealt with the eligibility issue under the abstract-ideas exception. The Court concluded that the claims—both the broad description of the steps in Claim 1 and the reduction of that claim to a mathematical formula in Claim 4—were directed to an abstract idea because they "explain the basic concept of hedging," a "fundamental economic practice." 130 S. Ct. at 3231 (citation omitted).

B. The Abstract-Ideas Exception Encompasses Claims That Manipulate Abstract Concepts Rather Than Disclosing Concrete Innovations In Technology, Science, Or the Industrial Arts

1. The abstract-ideas exception encompasses the mathematical equations and other fundamental building blocks of technological advancement at issue in Benson and Flook, as well as the methods and systems at issue in *Bilski* and in this case, which manipulate abstract concepts and relationships such as business risk, legal liability, financial transactions, and contractual obligations. Indeed, given Bilski's holding that the term "process" broadly encompasses business methods and the like, the abstract-ideas exception is patent law's only mechanism for excluding claims to non-technological methods of organizing human activity. Many methods of manipulating abstract concepts -such as methods of defending a lawsuit or learning an aria-may satisfy the Patent Act's other requirements for patentability, such as novelty and nonobviousness. But those claims do not fall within patent law's traditional scope, and it is the abstractideas exception to Section 101 that provides a means of excluding them from patent protection.

Conversely, the abstract-ideas exception should not encompass innovations in technology, science, or industry as such, *e.g.*, inventions that improve the way computers function, including those "based on linear programming, data compression, and the manipulation of digital signals." *Bilski*, 130 S. Ct. at 3227 (plurality opinion). Those inventions should be patent-eligible because they disclose concrete technological applications and fall within patent law's traditional bailiwick of the scientific, technological, and industrial arts. That is so even if an advancement in computing technology is not grounded in "tangible form," *ibid.*, and even if its primary utility is in developing computers or other technology to better facilitate business or financial activities.

While patents on methods of organizing human business and financial activity historically were rarely granted, today those sorts of processes often contemplate or require the use of a computer. "The Information Age empowers people with new capacities to perform statistical analyses and mathematical calculations with a speed and sophistication that enable the design of protocols for more efficient performance of a vast number of business tasks." Bilski, 130 S. Ct. at 3229 (plurality opinion). Now that computers are often used as assistive technology in otherwise nontechnological fields of human activity, it is all the more important that traditional limits on patent eligibility be rigorously enforced. "If a high enough bar is not set when considering patent applications of this sort, patent examiners and courts could be flooded with claims that would put a chill on creative endeavor and dynamic change." Ibid. Thus, in order to apply the abstract-ideas exception in a manner that polices the appropriate bounds of patent law, PTO and reviewing courts must distinguish between methods that disclose

technological, scientific, or industrial innovations and methods that are directed to organizing abstract concepts and relationships using a computer.<sup>2</sup> See Part II, *infra*.

2. That understanding of the scope and substance of the abstract-ideas exception best effectuates congressional intent.

a. In rejecting "[t]he argument that business methods are categorically outside of [Section] 101's scope," the Court in *Bilski* stated that "federal law explicitly contemplates the existence of at least some business method patents." 130 S. Ct. at 3228. The Court based that inference on former 35 U.S.C. 273(b)(1), which provided persons accused of infringing "a method of doing or conducting business" with a special "defense of prior use." 130 S. Ct. at 3228; see also 35 U.S.C. 273(a)(3) (2006). That provision had been enacted in response to the Federal Circuit's decision in *State Street Bank, supra*, which Congress understood as allowing patent protection for some

<sup>&</sup>lt;sup>2</sup> The European patent system has come to rest on a similar understanding of the patentability of business innovations, albeit by a different doctrinal route. Article 52 of the European Patent Convention provides that "European patents shall be granted for any inventions, in all fields of technology," but it expressly excludes non-technical "methods for \* \* \* doing business." European Patent Office (EPO), European Patent Convention art. 52(1) and (2)(c), at 110 (15th ed. 2013). Methods that offer "a technical solution of a technical problem"-and therefore are not aimed solely at organizing human activity-fall outside this exception. See EPO, T154/04 Method of Estimating Product Distribution ¶ 20, at 37 (Nov. 15, 2006). In assessing whether a computerized method of doing business includes an inventive step (*i.e.*, is not obvious), moreover, the European system disregards the business aspects and considers only the technical aspects of the claimed invention. See *id*.  $\P$  28.

inventions related to financial and business services that had not previously been thought to be patenteligible. See H.R. Rep. No. 287, 106th Cong., 1st Sess. 46-47 (1999). In 2011, however, as part of the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284, Congress overhauled the prior-use defense and repealed the language on which this Court had relied, so that Section 273 no longer refers to business methods. See 35 U.S.C. 273.

b. The AIA also created a new procedure to facilitate administrative challenges to the validity of business-method patents, including under Section 101. Section 18 of the AIA created the "Transitional Program for Covered Business Method Patents" (CBM Program), which permits persons accused of infringing non-technological business-method patents to obtain reconsideration by PTO of the validity of the asserted claims. See § 18, 125 Stat. 329, 331. The "covered business method patent[s]" that may be challenged are defined as "method[s] or corresponding apparatus[es] for performing data processing or other operations used in the practice, administration, or management of a financial product or service"; but the term excludes "patents for technological inventions." § 18(d)(1), 125 Stat. 331.

The CBM Program provides an inexpensive alternative to litigation for addressing the validity of business-method patents. See H.R. Rep. No. 98, 112th Cong., 1st Sess. 54 (2011) (discussing "poor" quality business-method patents that began to be issued in the late 1990s); 157 Cong. Rec. S1379 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl). In particular, the bill's sponsors anticipated that non-technological business-method patents would be subject to eligibility challenges under *Bilski*, and they emphasized that the CBM Program would provide a forum for those challenges. See, e.g., ibid. (noting the "expectation that most if not all true business-method patents are abstract and therefore invalid in light of the Bilski decision"); id. at S1363 (statement of Sen. Schumer) (In "Bilski v. Kappos, the Court \* \* \* made clear that abstract business methods are not patentable."). Indeed, PTO's Patent Trial and Appeal Board has held that several patents challenged in the CBM Program are directed to abstract ideas and therefore are invalid. See, e.g., CRS Advanced Techs. Inc. v. Frontline Techs. Inc., Case CBM2012-00005, at 8-17 (P.T.A.B. 2014) (claims to method of human-resources management using a general-purpose computer system were invalid abstract ideas).

In defining covered business methods as claims to "data processing or other operations" used in connection with financial services, Congress recognized that business-method patents may be subject to validity challenges even if they incorporate a computer. AIA § 18(d)(1), 125 Stat. 331. At the same time, "technological inventions" are excluded from the program, presumably because there is no comparable need to provide a ready administrative means of challenging such preexisting patents. See *ibid.*; 37 C.F.R. 42.301 (in determining whether a patent is "technological," PTO will consider whether as a whole it recites a "technological feature" that is novel and unobvious over prior art and whether it represents a "technical solution"); see also 157 Cong. Rec. at S1379 (CBM Program distinguishes between "abstract business concepts and their implementation, whether in computers or otherwise," and advances in computer technology).

Furthermore, in enacting the CBM Program, Congress sought to ensure that the program's existence and its definition of "covered business method patent" would not be read to indicate an intent that abstract methods of organizing business and financial activity are patent-eligible. Section 18(e) of the AIA states that "[n]othing in this section shall be construed as amending or interpreting categories of patent-eligible subject matter set forth under section 101 of title 35." § 18(e), 125 Stat. 331. Thus, in the same law that repealed the Section 273 language from which the *Bilski* Court had inferred the potential patenteligibility of business methods, Congress directed future courts not to draw a similar inference from the establishment of the CBM Program.<sup>3</sup>

# C. Petitioner's Understanding Of The Abstract-Ideas Exception Is Mistaken

1. Petitioner advocates an unduly narrow understanding of the abstract-ideas exception. Petitioner contends (Br. 22) that the term "abstract idea" in this Court's precedents functions exclusively as "a synonym for a fundamental truth—a preexisting concept analogous to a law of nature," such as "a mathematical formula or relationship." In petitioner's view, mathematical formulas are unpatentable because they "exist[] in principle apart from any human action." Br. 26

<sup>&</sup>lt;sup>3</sup> Even if all or most of the processes that fall within the AIA's definition of "covered business method patent" are patent-ineligible, Section 18 is not superfluous. Congress was aware that many such patents have been granted, see pp. 8-9, 17-18, *supra*, and the CBM Program provides parties accused of infringing such patents with an inexpensive alternative to litigating validity in court.

(quoting Mayo, 132 S. Ct. at 1297). Although Diehr, Flook, and Benson confirm that mathematical formulas are unpatentable abstract ideas, petitioner's argument cannot be squared with Bilski, and it does not adequately account for the variety of ways in which mathematical formulas may be derived and used.

One of Bilski's claims involved the use of an equation that employed particular variables and coefficients said to constitute an efficient method of hedging weather-related risk. In holding that the abstractideas exception applied, however, the Court did not suggest that the claimed method of hedging risk in energy markets was a preexisting truth akin to a law of nature. See 130 S. Ct. at 3231. Rather, the Court described Bilski's application as an attempt to patent the "basic concept of hedging," *i.e.*, a "fundamental economic practice." Ibid. (citation omitted); see id. at 3236 (Stevens, J., concurring in the judgment). Although hedging has long been used in "our system of commerce," id. at 3231 (citation omitted), it is nevertheless a human innovation, not a preexisting "truth" about the natural world whose "existence" must be "discover[ed]." Pet. Br. 22. The Court's emphasis on the usefulness of the abstract-ideas exception as a "means of restricting business method patents," 130 S. Ct. at 3231, moreover, indicates that the Court did not rely narrowly on the application's use of a formula or conceive of Bilski's claimed process as akin to a fundamental truth.

Petitioner's effort to analogize all abstract ideas to laws of nature, see Br. 22, 44, also fails to account for the variety of relationships that can be expressed in mathematical form. Some formulas, such as  $E=mc^2$ , are designed to describe a natural phenomenon or

"preexisting concept analogous to a law of nature." Pet. Br. 22. But other mathematical expressions such as Bilski's equation, or the sabermetric formula that measures a baseball player's relative offensive prowess using the sum of his on-base and slugging percentages, see, e.g., Michael Lewis, Moneyball 80, 128 (2003)—do not seek to describe preexisting natural phenomena. Formulas like those do not "exist[] in principle apart from any human action," Pet. Br. 26 (quoting Mayo, 132 S. Ct. at 1297), and their worth depends on their utility in solving human problems, not on how accurately they describe preexisting phenomena. Although the Court has described mathematical formulas as unpatentable in part because they may "reveal[] a relationship that has always existed," Flook, 437 U.S. at 593 n.15; see Pet. Br. 22, the Court has never suggested that patent eligibility turns on whether or not a particular formula describes a preexisting phenomenon. See Flook, 437 U.S. at 589 (formulas are abstract because they are "conception[s] of the mind, seen only by [their] effects when being executed or performed") (brackets in original; citation omitted). The Court's decision in *Bilski*, by holding the abstract-ideas exception applicable to Bilski's claimed hedging method and his accompanying mathematical formula, makes clear that the exception is not limited to preexisting concepts analogous to laws of nature.

2. Petitioner also argues (Br. 27-29, 35-36) that, if a "disembodied concept" is recited in the form of a process, machine, or other statutory subject matter, it is necessarily not an abstract idea, but instead a practical application of that idea. Petitioner is correct that, even without any judicially-created exceptions to patent-

eligibility, a disembodied concept standing alone would be ineligible for patent protection because it falls outside the literal scope of Section 101. See Benson, 409 U.S. at 67. The whole point of the judicial exceptions, however, is to preclude patent protection for certain purported inventions that do constitute "processes," "machines," or the like. See Flook, 437 U.S. at 593. In Mayo, for example, the Court did not dispute that the claimed methods were "processes" as the Court had construed that term in *Bilski*. Rather, the Court explained that, "[i]f a law of nature is not patentable, then neither is a process reciting a law of nature, unless that process has additional features that provide practical assurance that the process is more than a drafting effort designed to monopolize the law of nature itself." Mayo, 132 S. Ct. at 1297. Thus, a claim that recites a "machine" or "process" must still contain additional elements that go beyond insignificant extra-solution activity or field-of-use restrictions, such that they meaningfully add to or limit the abstract idea. See id. at 1294 (claim must not "too broadly preempt the use of" the abstract idea); Bilski, 130 S. Ct. at 3229-3230 (plurality opinion).

3. Petitioner emphasizes (e.g., Br. 44, 47, 49) that its claims do not cover the general idea of third-party intermediation of settlement risk, but instead recite a specific form of third-party intermediation. This Court has not suggested, however, that the abstractideas exception applies only to claims drawn at a high level of generality. To the contrary, mathematical equations like those at issue in *Benson*, *Flook*, and *Bilski* are highly specific, describing a precise relationship between particular inputs and outputs. And the Court in *Mayo* rejected the contention that the "law of nature" exception to patent-eligibility depends on the specificity of the relevant natural law. 132 S. Ct. at 1302, 1303.<sup>4</sup>

Even when a claimed non-technological method of performing financial transactions or overseeing economic relationships is highly specific, moreover, its function still is to manipulate abstract concepts. As used in this context, therefore, the term "abstract" is best understood to mean, not the opposite of "specific," but the opposite of "concrete." That understanding of the abstract-ideas exception also reflects the fact that "methods of doing business fall outside of the subject matter that has 'historically been eligible to receive the protection of our patent laws.'" *Bilski*, 130 S. Ct. at 3239 (Stevens, J., concurring in the judgment) (quoting *Diehr*, 450 U.S. at 184); see pp. 15-16, *supra*.

Viewing the problem of patents that are outside the realm of technology, science, and industry as primarily one of adequate specificity also does not provide an administrable framework that can consistently be applied by thousands of PTO examiners. While it is easy to identify with precision the abstract idea contained in a process that employs a mathematical equation, it would be difficult to identify the underlying

<sup>&</sup>lt;sup>4</sup> Patent law has many doctrines, including the writtendescription, enablement, and definiteness requirements of 35 U.S.C. 112, that effectively constrain claim breadth. Although a claim that fails one of those doctrines may also be invalid as an abstract idea, see *O'Reilly* v. *Morse*, 56 U.S. (15 How.) 62, 119-120 (1854), the Court has never suggested that the abstract-ideas exception is the primary means of ensuring that claims are adequately specific.

idea in claims like petitioner's at a consistent and predictable level of generality.

## II. PETITIONER'S METHOD CLAIMS ARE DRAWN TO AN ABSTRACT IDEA

When a claimed invention is alleged to fall within the abstract-ideas exception to Section 101, the critical question is whether the claim's elements "ensure that the patent in practice amounts to significantly more than" a claim for an abstract idea. Mayo, 132 S. Ct. at 1294. In the context of inventions that utilize a computer to facilitate business transactions and other human activities, the question is whether the computer imposes a meaningful limitation on the claim, such that the claim may be said to be directed to an innovation in computing or other technical fields instead of to a generalized use of computing power to implement an abstract method of organizing concepts and relationships. If the computer's role is more analogous to a field-of-use restriction or insignificant extra-solution activity—in other words, if it simply facilitates a financial transaction or other human activity that has not traditionally been viewed as eligible for patenting -then the recitation of a computer should not render the claim patent-eligible.

In undertaking that analysis, the first question should be whether the challenged method claims would be patent-eligible even without their recitation of a computer. If the answer to that question is "yes," it will be unnecessary to inquire into the nature of the computer limitations, as an otherwise patent-eligible claim will not cease to be patent-eligible simply because it is implemented on a computer. By contrast, when a claim, considered apart from its use of a computer, appears to be drawn to an abstract idea, the analysis should focus on whether its recitation of a computer serves to make the claim as a whole patenteligible.

Here, petitioner's method claims, considered apart from any computer implementation, are directed to an abstract idea, *i.e.*, the manipulation of abstract financial concepts and relationships. The claims' incorporation of a general-purpose computer to perform routine computing functions does not render the claims patent-eligible.<sup>5</sup>

A. Considered Apart From Any Computer Implementation, Petitioner's Method Claims Would Be Directed To An Abstract Idea And Therefore Patent-Ineligible

1. Claim 33 of the '479 patent, which is representative of petitioner's method claims, recites a method of using a "supervisory institution" as an intermediary to mitigate settlement risk between two parties. Pet. App. 27a. During each day, the supervisory institution maintains and updates "shadow" records to reflect the value of each party's actual accounts held at "exchange institutions," permitting only those transactions for which the parties have sufficient resources. *Ibid.* At the end of the day, the intermediary irrevocably instructs the exchange institutions to carry out the permitted transactions. *Ibid.*; see J.A. 383-384.

<sup>&</sup>lt;sup>5</sup> In the court of appeals, the government did not take a position on the patent-eligibility of petitioner's claims, and instead urged the court to remand to permit the district court to resolve any claim-construction issues and factual disputes. Gov't C.A. Br. 24-25. Upon consideration of the opinions below and the parties' further briefing, it does not appear that any such disputes exist. The record therefore is sufficient for this Court to determine the patent-eligibility of petitioner's claims without further districtcourt proceedings.

That this claim is addressed to the manipulation of abstract legal and economic concepts is evident on its face: the claim recites a method of ordering two counterparties' financial affairs so as to mitigate the risk that one party will not perform at settlement. J.A. 383. As the specification explains, "the invention is concerned with the management of risk relating to specified, yet unknown, future events." J.A. 530. Petitioner's method, like the risk-management technique at issue in *Bilski*, is an "economic practice" that does not fall within patent law's traditional scope. 130 S. Ct. at 3231 (citation omitted); see, e.g., 2 Henry Crosby Emery, Speculation on the Stock and Produce Exchanges of the United States 54-74 (1896) (discussing concept of using an intermediary to reduce settlement risk).

Petitioner contends that the claimed method is not abstract because the claims nowhere "recite a mathematical formula" or "any other form of fundamental truth that 'exists in principle apart from any human action.'" Pet. Br. 44 (quoting *Mayo*, 132 S. Ct. at 1297). As discussed above, however, the abstractideas exception is not limited to mathematical formulas, but instead encompasses methods of manipulating abstract concepts, such as the financial relationships and risks addressed in petitioner's patent. See pp. 20-22, *supra*.

Petitioner also argues (Br. 30, 44, 47, 49) that, by requiring start-of-day and end-of-day steps, and by directing the performance of certain actions simultaneously and in real time, its method claims avoid preempting all applications of the idea of using an intermediary to alleviate settlement risk. See Pet. App. 159a-160a. The relative specificity of petitioner's claims may render them less broadly preemptive, and thus less practically objectionable, than a claim that encompassed all uses of third parties to mitigate settlement risk.

The Court has not suggested, however, that the abstract-ideas exception applies only to highly general claims. See pp. 23-24, supra. Indeed, the Court in *Bilski* applied the abstract-ideas exception not only to Claim 1 of the challenged patent, which would have preempted the basic concept of hedging against risk in energy markets, but also to Claim 4, which recited a specific mathematical formula. See 130 S. Ct. at 3223-3224, 3231. Even if one views petitioner's method claims as relatively detailed, and therefore narrow in their preemptive scope, the claims are still directed to the abstract intellectual concept of ordering financial transactions so as to mitigate settlement risk. Like Bilski's hedging method, they do not disclose any innovation in the technological, scientific, or industrial areas that fall within patent law's traditional scope.<sup>6</sup>

#### B. The Method Claims' Incorporation Of A Computer Does Not Render Them Patent-Eligible

1. Because the risk-mitigation process described in petitioner's method claims is not otherwise patenteligible, the Court must consider whether the claims' recitation of a general-purpose computer yields a different conclusion. The ultimate inquiry is whether the claims are directed to an innovation in computing or

<sup>&</sup>lt;sup>6</sup> In addition, although petitioner's claims describe a relatively specific series of steps to be performed by the intermediary, the claims are not limited to any particular sphere of commerce, but instead may sweep in broad swaths of economic activity. See J.A. 294-295; Pet. App. 30a-31a.

other technical fields instead of to an abstract method of organizing economic concepts and relationships.<sup>7</sup>

This Court's decisions in *Bilski* and *Mayo* establish that "the prohibition against patenting abstract ideas cannot be circumvented" by incorporating a computer in an ancillary or conventional role. Bilski, 130 S. Ct. at 3230 (citation and internal quotation marks omitted). In other words, the claim may not refer to a computer merely as a way of limiting the claim to a "particular technological environment," *ibid*. (citation omitted), or as a way of accomplishing insignificant extra-solution activity, id. at 3231. It is also insufficient to employ a computer in a conventional way if that use of the computer would be a practical prerequisite to any application of the abstract idea. Cf. Mayo, 132 S. Ct. at 1297-1298. Thus, the fact that a patent claim recites (or directly claims) a generalpurpose computer or computer-readable medium, without more, does not render the claim a patent-eligible technological innovation. But cf. Pet. Br. 35. If it did, the mere recitation of the generic use of a computer

<sup>&</sup>lt;sup>7</sup> When a court assesses the validity of a granted patent, the presumption of validity requires the challenger to demonstrate invalidity by clear and convincing evidence. See 35 U.S.C. 282; *Microsoft Corp.* v. *i*4*i* Ltd. P'Ship, 131 S. Ct. 2238, 2242 (2011). Contrary to respondents' argument (Br. 24 n.5), the presumption of validity applies to all invalidity defenses raised in litigation. See *Microsoft*, 131 S. Ct. at 2250 (the Court's cases "do not indicate, even in dicta, that anything less than a clear-and-convincing standard would ever apply to an invalidity defense raised in an infringement action"); *Mayo*, 132 S. Ct. at 1296 (judicial exception for laws of nature is an invalidity defense in litigation). Here, the presumption has been overcome, as *Bilski* and *Mayo* clarified the appropriate inquiry after the patents were granted, and the claims' use of a computer adds nothing of significance to the claims.

would be sufficient to draw within the ambit of Section 101 claims to a wide range of non-technological human activities that have not traditionally been thought eligible for patenting.

In the government's view, the following nonexhaustive list of factors, which are drawn from the relevant case law and PTO guidance,<sup>8</sup> should guide consideration of the computer's role within the claim:

- whether the computer constitutes insignificant extra-solution activity because it is only nominally related to the performance of the invention (*e.g.*, recording the results of a process), cf. *Bilski*, 130 S. Ct. at 3230;
- whether the computer is generically recited for its generic function, or whether specific, unconventional computer equipment or processing capabilities are required;
- whether the claim recites a computerized device that manipulates particular data in specific and useful ways, or whether the computer is recited solely for its generic functions, including automating and synchronizing tasks;
- whether the invention involves an improvement in the functioning of the computer as a computer, *e.g.*, by making it more efficient;

<sup>&</sup>lt;sup>8</sup> See also, e.g., Interim Guidance for Determining Subject Matter Eligibility for Process Claims in View of Bilski v. Kappos, 75 Fed. Reg. 43,922, 43,925-43,926 (July 27, 2010); PTO, 2012 Interim Procedure for Subject Matter Eligibility Analysis of Process Claims Involving Laws of Nature 3-5 (July 3, 2012), http://www. uspto.gov/patents/law/exam/2012 interim guidance.pdf.

- whether the abstract idea is bound up in an invention that effects a transformation of matter, or whether the idea is merely described in a particular environment, cf. *ibid*.; and
- whether the computer-related elements of the claim represent conventional steps that would have to be employed by any person who wished to apply the abstract idea, cf. *Mayo*, 132 S. Ct. at 1297-1298.

This analysis is intended to distinguish attempts to patent ineligible subject matter-methods of organizing abstract concepts and relationships that use a computer in routine or insignificant ways-from inventions in which the computer imposes a meaningful limitation on the claim, such that the claim is directed to an innovation in computer technology or other field within patent law's traditional scope. Accordingly, the factors will tend to exclude business methods that do no more than recite a general-purpose computer in order to facilitate transactions or other endeavors. At the same time, the factors support the eligibility of technological, scientific, and industrial inventions, including software-based inventions that improve the performance of the computer system itself, such as digital imaging techniques and GPS technology. See, e.g., Research Corp. Techs., Inc. v. Microsoft Corp., 627 F.3d 859, 868-869 (Fed. Cir. 2010); SiRF Tech., Inc. v. International Trade Comm'n, 601 F.3d 1319, 1333 (Fed. Cir. 2010).

Advancements in computing techniques, such as computers programmed to perform specialized functions, see *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994) (en banc), would also be patent-eligible. That includes technological inventions whose primary or sole utility is in business fields. For instance, a claim that discloses software that enables a computer to manipulate data in an innovative way would be patent-eligible even if its primary utility is in making financial transactions more efficient. That is so even if the underlying concept of performing financial transactions more efficiently, considered apart from the new computing technology, would not be patent-eligible.

2. Under the foregoing analysis, petitioner's method claims are drawn to an abstract idea, and are therefore patent-ineligible, notwithstanding their recitation of a computer.

To the extent the claims expressly recite a computer or computer components, the computer is recited in a manner that is only nominally related to the performance of the method—namely, receiving, recording, and transmitting information-and its generic recitation would encompass any machine capable of performing those basic steps. By its terms, the invention is concerned with the management of risk, using "electrical computers and data processing systems" merely to facilitate the efficient performance of the claimed risk-mitigation method. J.A. 243. The claims do not recite a computerized device that manipulates data in particular ways—*e.q.*, by providing a means of data compression—but rather recite the computer solely for its generic functions, including automating and synchronizing conventional tasks and facilitating routine communication.

The invention therefore does not involve an improvement in the ability of the computer to function as a computer. And the abstract idea of mitigating risk in settlement is not bound up in an invention that effects a transformation of matter, as in *Diehr*, 450 U.S. at 177. Finally, the computer-related elements of the claim represent conventional steps, described at a high level of generality, that would as a practical matter have to be employed by any person who wished to use petitioner's risk-mitigation method. Cf. *Mayo*, 132 S. Ct. at 1297-1298. The claims' incorporation of a computer therefore does not make the claims into something other than an abstract idea.

### III. PETITIONER'S SYSTEM AND MEDIA CLAIMS RISE OR FALL WITH THE METHOD CLAIMS

Petitioner's claims to a computer system configured to perform its risk-management process, and to a computer-readable medium containing program code for performing the method, are also directed to an abstract idea. To be sure, the claimed computer system is a "machine," and the computer-readable medium is a "manufacture," within the meaning of Section 101. The system and media claims are not patenteligible, however, because they amount in substance to attempts to patent the underlying abstract idea.

The operation of the abstract-ideas exception to Section 101 does not depend on the type of statutory subject matter claimed. The Court in *Mayo* did not dispute that the claimed method was a "process" within the meaning of Section 101. See p. 23, *supra*. The Court explained, however, that "[i]f a law of nature is not patentable, then neither is a process reciting a law of nature, unless that process has additional features that provide practical assurance that the process is more than a drafting effort designed to monopolize the law of nature itself." 132 S. Ct. at 1297; see *id*. at 1294 (patent eligibility should not "depend simply on the draftsman's art" (quoting *Flook*, 437 U.S. at 593)). Petitioner identifies no sound reason to distinguish, for this purpose, between "process" claims on the one hand, and "machine" or "manufacture" claims on the other.

Because "machine" and "manufacture" claims will tend to feature more concrete recitations of physical structure, they may be less likely as a class to trigger the abstract-ideas exception. But the same analytic approach should govern the application of the abstract-ideas exception to each category of patentable subject matter. That is particularly important in the context of claims for computer-implemented inventions, which—as this case illustrates—often can easily be framed as claims either for processes or for machines.

In this case, petitioner's system and media claims do not add anything of substance to the inventions claimed as methods.<sup>9</sup> The claims "set forth the same steps for performing third-party intermediation and provide for computer implementation at an incrementally reduced, though still striking level of generality." Pet. App. 37a; see id. at 33a. "Instead of wholly implied computer limitations, the [se] \* \* \* claims recite a handful of computer components in generic, functional terms that would encompass any device capable of performing the same ubiquitous calculation, storage, and connectivity functions required by the method claims." Id. at 37a. The system and media claims thus do not disclose innovations in computing technology; instead, the computer elements merely facilitate in a generic way the efficient performance of the risk-mitigation method. Like the method claim,

<sup>&</sup>lt;sup>9</sup> Indeed, in its briefing before the en banc court of appeals, petitioner conceded that its media claims "rise or fall with the method claims." Pet. App. 81a.

the system and media claims therefore are aimed at better enabling "the exchange of an obligation between parties," J.A. 1260; Pet. App. 32a—*i.e.*, a method of organizing human economic activity that is a patent-ineligible abstract idea.

#### CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

NATHAN K. KELLEY Solicitor SCOTT C. WEIDENFELLER Associate Solicitor United States Patent and Trademark Office

FEBRUARY 2014

DONALD B. VERRILLI, JR. Solicitor General STUART F. DELERY Assistant Attorney General MALCOLM L. STEWART Deputy Solicitor General GINGER D. ANDERS Assistant to the Solicitor General MARK R. FREEMAN LINDSEY POWELL Attorneys

#### STATUTORY APPENDIX

1. Section 18 of the Leahy-Smith America Invents Act, Public Law No. 112-29, 125 Stat. 329 provides:

## TRANSITIONAL PROGRAM FOR COVERED BUSI-NESS METHOD PATENTS.

#### (a) TRANSITIONAL PROGRAM.—

(1) ESTABLISHMENT.—Not later than the date that is 1 year after the date of the enactment of this Act, the Director shall issue regulations establishing and implementing a transitional post-grant review proceeding for review of the validity of covered business method patents. The transitional proceeding implemented pursuant to this subsection shall be regarded as, and shall employ the standards and procedures of, a postgrant review under chapter 32 of title 35, United States Code, subject to the following:

(A) Section 321(c) of title 35, United States Code, and subsections (b), (e)(2), and (f) of section 325 of such title shall not apply to a transitional proceeding.

(B) A person may not file a petition for a transitional proceeding with respect to a covered business method patent unless the person or the person's real party in interest or privy has been sued for infringement of the patent or has been charged with infringement under that patent.

(C) A petitioner in a transitional proceeding who challenges the validity of 1 or more claims in a covered business method patent on a

(1a)

ground raised under section 102 or 103 of title 35, United States Code, as in effect on the day before the effective date set forth in section 3(n)(1), may support such ground only on the basis of—

(i) prior art that is described by section 102(a) of such title of such title (as in effect on the day before such effective date); or

(ii) prior art that—

(I) discloses the invention more than 1 year before the date of the application for patent in the United States; and

(II) would be described by section 102(a) of such title (as in effect on the day before the effective date set forth in section 3(n)(1)) if the disclosure had been made by another before the invention thereof by the applicant for patent.

(D) The petitioner in a transitional proceeding that results in a final written decision under section 328(a) of title 35, United States Code, with respect to a claim in a covered business method patent, or the petitioner's real party in interest, may not assert, either in a civil action arising in whole or in part under section 1338 of title 28, United States Code, or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 (19 U.S.C. 1337), that the claim is invalid on any ground that the petitioner raised during that transitional proceeding. (E) The Director may institute a transitional proceeding only for a patent that is a covered business method patent.

(2) EFFECTIVE DATE.—The regulations issued under paragraph (1) shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act and shall apply to any covered business method patent issued before, on, or after that effective date, except that the regulations shall not apply to a patent described in section 6(f)(2)(A) of this Act during the period in which a petition for postgrant review of that patent would satisfy the requirements of section 321(c) of title 35, United States Code.

(3) SUNSET.—

(A) IN GENERAL.—This subsection, and the regulations issued under this subsection, are repealed effective upon the expiration of the 8year period beginning on the date that the regulations issued under to paragraph (1) take effect.

(B) APPLICABILITY.—Notwithstanding subparagraph (A), this subsection and the regulations issued under this subsection shall continue to apply, after the date of the repeal under subparagraph (A), to any petition for a transitional proceeding that is filed before the date of such repeal.

(b) REQUEST FOR STAY.—

(1) IN GENERAL.—If a party seeks a stay of a civil action alleging infringement of a patent under section 281 of title 35, United States Code, relating to

a transitional proceeding for that patent, the court shall decide whether to enter a stay based on—

(A) whether a stay, or the denial thereof, will simplify the issues in question and streamline the trial;

(B) whether discovery is complete and whether a trial date has been set;

(C) whether a stay, or the denial thereof, would unduly prejudice the nonmoving party or present a clear tactical advantage for the moving party; and

(D) whether a stay, or the denial thereof, will reduce the burden of litigation on the parties and on the court.

(2) REVIEW.—A party may take an immediate interlocutory appeal from a district court's decision under paragraph (1). The United States Court of Appeals for the Federal Circuit shall review the district court's decision to ensure consistent application of established precedent, and such review may be de novo.

(c) ATM EXEMPTION FOR VENUE PURPOSES.—In an action for infringement under section 281 of title 35, United States Code, of a covered business method patent, an automated teller machine shall not be deemed to be a regular and established place of business for purposes of section 1400(b) of title 28, United States Code.

(d) DEFINITION.—

(1) IN GENERAL.—For purposes of this section, the term "covered business method patent" means a

patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.

(2) REGULATIONS.—To assist in implementing the transitional proceeding authorized by this subsection, the Director shall issue regulations for determining whether a patent is for a technological invention.

(e) RULE OF CONSTRUCTION.—Nothing in this section shall be construed as amending or interpreting categories of patent-eligible subject matter set forth under section 101 of title 35, United States Code.