



Patents on Tax Strategies: Issues in Intellectual Property and Innovation

John R. Thomas
Visiting Scholar

January 6, 2010

Congressional Research Service

7-5700

www.crs.gov

RL34221

CRS Report for Congress
Prepared for Members and Committees of Congress

011173008

Summary

Several bills introduced in the 111th Congress addressed the recently recognized phenomenon of patented tax strategies. These legislative initiatives would prevent the grant of exclusive intellectual property rights by the United States Patent and Trademark Office (USPTO) on methods that individuals and enterprises might use in order to minimize their tax obligations.

Many commentators trace the rise of tax strategy patents to the 1998 opinion of the Federal Circuit in *State Street Bank v. Signature Financial Group*, which rejected a *per se* rule that business methods could not be patented. In recent years, the USPTO has issued a number of patents that pertain to tax strategies, and numerous other patent applications remain before that agency. At least one of these patents, the so-called SOGRAT patent, has been subject to enforcement litigation in federal court.

The impact of tax strategy patents upon social welfare has been subject to a spirited debate. Some observers are opposed to tax strategy patents. These commentators believe that patent protection is unnecessary with respect to tax avoidance techniques due to a high level of current innovation. Others believe that patent-based incentives to develop tax avoidance strategies are not socially desirable. They assert that patents may limit the ability of individuals to utilize provisions of the tax code intended for all taxpayers, interfering with congressional intent and leading to distortions in tax obligations. Others have expressed concerns that tax strategy patents may potentially complicate legal compliance by tax professionals and individual taxpayers alike.

Other experts believe that these concerns are overstated, and also make the affirmative case that tax strategy patents may provide positive social benefits. They explain that patents on “business methods” have been obtained and enforced for many years. They also observe that the grant of a patent does not imply government approval of the practice of the patented invention, and that professionals in many spheres of endeavor have long had to account for the patent system during their decision-making process. They also believe that the availability of tax strategy patents may promote innovation in a field of endeavor that is demonstrably valuable. Further, such patents might promote public disclosure of tax strategies to tax professionals, taxpayers, and responsible government officials alike.

Three bills introduced in the 111th Congress—H.R. 1265, H.R. 2584, and S. 506—would prohibit the issuance of patents on tax strategies. Other legislative responses, including oversight of the USPTO, promotion of cooperation between the USPTO and the IRS, and the encouragement of private sector contributions to the patent examination process, are also possible.

Contents

Patents and Innovation Policy	2
The Mechanics of the Patent System	2
Innovation Policy	4
The Phenomenon of Tax Strategy Patents	5
Patents on Methods of Doing Business	5
Patents on Tax Strategies	8
<i>In re Bilski</i>	10
Innovation Policy Issues	11
Stated Concerns Over Tax Strategy Patents	12
Support for Tax Strategy Patents	14
Congressional Issues and Options	15
Concluding Observations	16

Contacts

Author Contact Information	17
Acknowledgments	17

Proposed legislation in the 111th Congress demonstrates legislative interest in the recently recognized phenomenon of patented tax strategies.¹ Three bills would stipulate that patents may not be obtained on methods of tax planning.² H.R. 1265 and S. 506 define the excluded category of “tax planning invention[s]” to mean “a plan, strategy, technique, scheme, process, or system that is designed to reduce, minimize, determine, avoid, or defer, or has, when implemented, the effect of reducing, minimizing, determining, avoiding, or deferring, a taxpayer’s tax liability or is designed to facilitate compliance with tax laws, but does not include tax preparation software and other tools or systems used solely to prepare tax or information returns....”³ H.R. 2584 would prevent any patent claiming a “tax planning method,” which is defined similarly.⁴ The legislation would apply to any application filed at the USPTO on or after the date of enactment.⁵

Tax strategy patents are the subject of a spirited debate. Some observers believe that such patents negatively impact social welfare. According to some experts, tax strategy patents may limit the ability of taxpayers to utilize provisions of the tax code, interfering with congressional intent and leading to distortions in tax obligations.⁶ Others assert that tax strategy patents potentially complicate legal compliance by tax professionals and taxpayers alike.⁷ Still others believe that the patent system should not provide incentives for individuals to develop new ways to reduce their tax liability.⁸

Other commentators explain that patents on “business methods” have been obtained and enforced for many years.⁹ Legislation enacted in 1999 that accounted expressly for patents claiming “a method of doing or conducting business” arguably approved of such patents.¹⁰ In addition, some commentators believe that tax strategy patents present a positive development, potentially improving the public disclosure of tax shelters for the attention of Congress and federal tax authorities.¹¹ They also observe that many kinds of patents, on subject matter ranging from automobile seat belts to airplane navigation systems, potentially involve legal compliance.¹²

¹ This report uses the term “tax strategy patents” to refer to this category of patents. Various sources referenced within this report identify these sorts of patents as pertaining to tax loopholes, planning methods, shelters, and other similar terms.

² H.R. 1265, § 303; H.R. 2584, §1; S. 506, § 303.

³ H.R. 1265, § 303(a); S. 506, § 303(a).

⁴ H.R. 2584, §1(a).

⁵ H.R. 1265, § 303(b); H.R. 2584, §1(b); S. 506, § 303(b).

⁶ See Letter from Jeffrey R. Hoops, Chair, American Institute of Certified Public Accountants Tax Executive Committee, to Members of Congress (February 28, 2007) (available at <http://tax.aicpa.org>).

⁷ See Letter from Kimberly S. Blanchard, Chair, New York State Bar Association Tax Section, to Members of Congress (August 17, 2006) (available at <http://www.nysba.org>).

⁸ See William A. Drennan, “The Patented Loophole: How Should Congress Respond to This Judicial Invention,” 59 *Florida Law Review* (2007), 229.

⁹ See Andrew F. Palmieri and Corinne Marie Pouliquen, “A Primer on Business Method Patents: What You Need to Know for Your Real Estate Practice,” 21 *Probate and Property* (May/June 2007), 26.

¹⁰ First Inventor Defense Act of 1999, P.L. 106-113, § 4302, 113 Stat. 1501 (codified at 35 U.S.C. § 273 (2006)).

¹¹ Drennan, *supra*, at 328 (noting this argument).

¹² Stephen T. Schreiner and George Y. Wang, “Discussions on Tax Patents Have Lost Focus,” *IP Law 360* (available at <http://www.hunton.com>).

Although views on tax strategy patents vary, evidence suggests that numerous applications that arguably cover tax planning methods have been filed at the USPTO.¹³ Some of these applications have been approved as issued patents.¹⁴ Further, at least one granted patent has been the subject of infringement litigation in the federal judicial system.¹⁵ Discussion of the recently appreciated phenomenon of tax strategy patents therefore appears to be timely.

This report introduces the concept of tax strategy patents and reviews their implications for intellectual property and tax policy. The report begins by providing an overview of both the practical workings and innovation policy aspirations of the patent system. It then provides a brief history of the phenomenon of tax strategy patents. The report next reviews competing views about the impact of tax patents upon innovation policy. This report concludes with a summary of congressional issues and options.

Patents and Innovation Policy

The Mechanics of the Patent System

The U.S. Constitution provides Congress with the power “To promote the Progress of Science and useful Arts, by securing for limited Times to ... Inventors the exclusive Right to their ... Discoveries....”¹⁶ In accordance with the Patent Act of 1952,¹⁷ an inventor may seek the grant of a patent by preparing and submitting an application to the USPTO. USPTO officials known as examiners then determine whether the invention disclosed in the application merits the award of a patent.¹⁸

In determining whether to approve a patent application, a USPTO examiner will consider whether the submitted application fully discloses and distinctly claims the invention.¹⁹ In particular, the application must enable persons skilled in the art to make and use the invention without undue experimentation.²⁰ In addition, the application must disclose the “best mode,” or preferred way, that the applicant knows to practice the invention.²¹

¹³ See Jo-el J. Meyer, “Proliferation of Retirement Plan Patents Poses Problems for Practitioners,” *Patent, Trademark, and Copyright Journal* (BNA June 8, 2007), 186.

¹⁴ *Id.*

¹⁵ *Wealth Transfer Group LLC v. Rowe*, D. Conn., No. 3:06cv00024 (AWT), filed January 6, 2006.

¹⁶ U.S. Constitution, Article I, Section 8, Clause 8. This constitutional clause also addresses copyright law, which provides for protection for original works of authorship. In contrast to patents, copyright protection arises automatically once a work of authorship has been fixed in tangible form. 17 U.S.C. § 102(a) (2006). Copyright provides authors with the exclusive right to reproduce, adapt, and publicly distribute their works, among others, subject to certain limitations such as the fair use privilege. 17 U.S.C. § 106, 107-122 (2006). Although this report concerns patent protection for tax strategies, it should be appreciated that computer software that implements a tax strategy, and possibly other sorts of works, may potentially enjoy protection under the copyright laws as well. See, e.g., Roger E. Schechter and John R. Thomas, *Intellectual Property: The Law of Copyrights, Patents, and Trademarks* (Thomson/West 2003).

¹⁷ P.L. 82-593, 66 Stat. 792 (codified at Title 35 of the United States Code).

¹⁸ 35 U.S.C. § 131 (2006).

¹⁹ 35 U.S.C. § 112 (2006).

²⁰ See *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1070-71 (Fed. Cir. 2005).

²¹ See *High Concrete Structures, Inc. v. New Enterprise Stone and Lime Co.*, 377 F.3d 1379, 1382 (Fed. Cir. 2004).

The examiner will also determine whether the invention itself fulfills certain substantive standards set by the patent statute. To be patentable, an invention must meet four primary requirements. First, the invention must fall within at least one category of patentable subject matter. According to the Patent Act, an invention which is a “process, machine, manufacture, or composition of matter” is eligible for patenting.²² Second, the invention must be useful, a requirement that is satisfied if the invention is operable and provides a tangible benefit.²³

Third, the invention must be novel, or different, from subject matter disclosed by an earlier patent, publication, or other state-of-the-art knowledge.²⁴ Finally, an invention is not patentable if “the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”²⁵ This requirement of “nonobviousness” prevents the issuance of patents claiming subject matter that a skilled artisan would have been able to implement in view of the knowledge of the state of the art.²⁶

If the USPTO allows the patent to issue, its owner obtains the right to exclude others from making, using, selling, offering to sell or importing into the United States the patented invention.²⁷ Those who engage in those acts without the permission of the patentee during the term of the patent can be held liable for infringement. Adjudicated infringers may be enjoined from further infringing acts.²⁸ The patent statute also provides for an award of damages “adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer.”²⁹

The maximum term of patent protection is ordinarily set at 20 years from the date the application is filed.³⁰ At the end of that period, others may employ that invention without regard to the expired patent.

Patent rights do not enforce themselves. Patent proprietors who wish to compel others to respect their rights must commence enforcement proceedings, which most commonly consist of litigation in the federal courts. Although issued patents enjoy a presumption of validity, accused infringers may assert that a patent is invalid or unenforceable on a number of grounds. The Court of Appeals for the Federal Circuit (Federal Circuit) possesses nationwide jurisdiction over most patent appeals from the district courts.³¹ The Supreme Court enjoys discretionary authority to review cases decided by the Federal Circuit.³²

²² 35 U.S.C. § 101 (2006).

²³ *Id.* See *In re Fischer*, 421 F.3d 1365, 1371 (Fed. Cir. 2005).

²⁴ 35 U.S.C. § 102 (2006).

²⁵ 35 U.S.C. § 103(a) (2006).

²⁶ See *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727 (2007).

²⁷ 35 U.S.C. § 271(a) (2006).

²⁸ 35 U.S.C. § 283 (2006). See *eBay Inc. v. MercExchange L.L.C.*, 126 S.Ct. 1837 (2006).

²⁹ 35 U.S.C. § 284 (2006).

³⁰ 35 U.S.C. § 154(a)(2) (2006). Although the patent term is based upon the filing date, the patentee obtains no enforceable legal rights until the USPTO allows the application to issue as a granted patent. A number of Patent Act provisions may modify the basic 20-year term, including examination delays at the USPTO and delays in obtaining marketing approval for the patented invention from other federal agencies.

³¹ 28 U.S.C. § 1295(a)(1) (2006).

³² 28 U.S.C. § 1254(1) (2006).

Innovation Policy

Patent ownership is perceived to encourage innovation, which in turn leads to industry advancement and economic growth. One characteristic of the new knowledge that results from innovation is that it is a “public good.” Public goods are non-rivalrous and non-excludable, for use of the good by one individual does not limit the amount of the good available for consumption by others, and no one can be prevented from using that good.³³

The lack of excludability in particular is believed to result in an environment where too few inventions would be made. Absent a patent system, “free riders” could easily duplicate and exploit the inventions of others. Further, because they incurred no cost to develop and perfect the technology involved, copyists could undersell the original inventor. Aware that they would be unable to capitalize upon their inventions, individuals might be discouraged from innovating in the first instance. The patent system ameliorates this market failure by providing innovators with a time-limited exclusive interest in their inventions, thereby allowing them to capture their marketplace value.³⁴

The patent system purportedly serves other goals as well. The patent law encourages the disclosure of new products and processes, for each issued patent must include a description sufficient to enable skilled artisans to practice the patented invention.³⁵ At the close of the patent’s twenty-year term,³⁶ others may employ the claimed invention without regard to the expired patent. In this manner the patent system ultimately contributes to the growth of the public domain.

Even during their term, issued patents may encourage others to “invent around” the patentee’s proprietary interest. A patentee may point the way to new products, markets, economies of production and even entire industries. Others can build upon the disclosure of a patent instrument to produce their own technologies that fall outside the exclusive rights associated with the patent.³⁷

The regime of patents has also been identified as a facilitator of markets. Absent patent rights, an inventor may have scant tangible assets to sell or license. In addition, an inventor might otherwise be unable to police the conduct of a contracting party. Any technology or know-how that has been disclosed to a prospective licensee might be appropriated without compensation to the inventor. The availability of patent protection decreases the ability of contracting parties to engage in opportunistic behavior. By lowering such transaction costs, the patent system may make exchanges concerning information goods more feasible.³⁸

³³ See Dotan Oliar, “Making Sense of the Intellectual Property Clause: Promotion of Progress as a Limitation on Congress’s Intellectual Property Power,” 94 *Georgetown Law Journal* (2006), 1771.

³⁴ See Dan L. Burk and Mark A. Lemley, “Is Patent Law Technology-Specific?,” 17 *Berkeley Technology Law Journal* (2002), 1155.

³⁵ 35 U.S.C. § 112 (2006).

³⁶ 35 U.S.C. § 154 (2006).

³⁷ See Rebecca Eisenberg, “Patents and the Progress of Science: Exclusive Rights and Experimental Use,” 56 *University of Chicago Law Review* (1989), 1017.

³⁸ Robert P. Merges, “Intellectual Property and the Costs of Commercial Exchange: A Review Essay,” 93 *Michigan Law Review* (1995), 1570.

Through these mechanisms, the patent system can act in a more socially desirable way than its chief legal alternative, trade secret protection. Trade secrecy guards against the improper appropriation of valuable, commercially useful and secret information. In contrast to patenting, trade secret protection does not result in the disclosure of publicly available information. That is because an enterprise must take reasonable measures to keep secret the information for which trade secret protection is sought. Taking the steps necessary to maintain secrecy, such as implementing physical security measures, also imposes costs that may ultimately be unproductive for society.³⁹

The patent system has long been subject to criticism, however. Some observers have asserted that the patent system is unnecessary due to market forces that already suffice to create an optimal level of innovation. The desire to obtain a lead time advantage over competitors, as well as the recognition that passive firms may lose out to their more innovative rivals, may provide sufficient inducement to invent without the need for further incentives.⁴⁰ Other commentators believe that the patent system encourages industry concentration and presents a barrier to entry in some markets.⁴¹

Because the relationship between the rate of innovation and the availability of patent rights is not well understood, we lack rigorous analytical methods for studying the impact of the patent system upon the economy as a whole. As a result, current economic and policy tools do not allow us to calibrate the patent system precisely in order to produce an optimal level of investment in innovation. Thus, each of these arguments for and against the patent system remains open to challenge by those who are unpersuaded by their internal logic.

The Phenomenon of Tax Strategy Patents

Patents on Methods of Doing Business

The availability of patents on tax strategies has been linked to the grant of patents on the broader category of business methods.⁴² Prior to 1998, several judicial opinions could arguably be read to hold that patents could not be granted on methods of doing business. For example, in the 1908 opinion in *Hotel Security Checking Co. v. Lorraine Co.*,⁴³ the court considered “a method of and means for cash-registering and account-checking” designed to prevent fraud by waiters and cashiers.⁴⁴ At one point the court stated that a “system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term, an art” that could be patented.⁴⁵ However, the court also explained that the invention claimed in the patent “would occur to anyone conversant with the business” and that it was “unable to discover

³⁹ David D. Friedman *et al.*, “Some Economics of Trade Secret Law,” 5 *Journal of Economic Perspectives* (1991), 61.

⁴⁰ See Frederic M. Sherer, *Industrial Market Structure and Economic Performance* (1970), 384-87.

⁴¹ See John R. Thomas, “Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties,” *University of Illinois Law Review* (2001), 305.

⁴² See Matthew A. Melone, “The Patenting of Tax Strategies: A Patently Unnecessary Development,” 5 *DePaul Business and Commercial Law Journal* (2007), 437.

⁴³ 106 F. 467 (2d. Cir. 1908).

⁴⁴ *Id.* at 467.

⁴⁵ *Id.* at 469.

any patentable improvements....⁴⁶ As a result, it was unclear whether the court meant to establish a categorical rule that business methods were not patentable subject matter, or merely state that the particular invention before the court would have been obvious. In any event, the USPTO issued some patents that were arguably directed towards business methods during its long history.⁴⁷

This long period of ambiguity over the patentability of business methods ended with the 1998 opinion of the U.S. Court of Appeals for the Federal Circuit in *State Street Bank & Trust Co. v. Signature Financial Group*.⁴⁸ The patent at issue in that case concerned a data-processing system for implementing an investment structure known as a “Hub and Spoke” system.⁴⁹ This system allowed individual mutual funds (“Spokes”) to pool their assets in an investment portfolio (“Hub”) organized as a partnership. According to the patent, this investment regime provided the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership.⁵⁰ The patented system purported to allow administrators to monitor financial information and complete the accounting necessary to maintain this particular investment structure. In addition, it tracked “all the relevant data determined on a daily basis for the Hub and each Spoke, so that aggregate year end income, expenses, and capital gain or loss can be determined for accounting and tax purposes for the Hub and, as a result, for each publicly traded Spoke.”⁵¹

Litigation arose between Signature, the patent owner, and State Street Bank over the latter firm’s alleged use of the patented invention. Among the defenses offered by State Street Bank was that the asserted patent claimed subject matter that was not within one of the four categories of statutory subject matter,⁵² and hence was invalid. The district court sided with State Street Bank.⁵³ The trial judge explained:

At bottom, the invention is an accounting system for a certain type of financial investment vehicle claimed as [a] means for performing a series of mathematical functions. Quite simply, it involves no further physical transformation or reduction than inputting numbers, calculating numbers, outputting numbers, and storing numbers. The same functions could be performed, albeit less efficiently, by an accountant armed with pencil, paper, calculator, and a filing system.⁵⁴

The trial court further relied upon “the long-established principle that business ‘plans’ and ‘systems’ are not patentable.”⁵⁵ The court judged that “patenting an accounting system necessary to carry on a certain type of business is tantamount to a patent on the business itself.”⁵⁶ Because

⁴⁶ *Id.* at 471.

⁴⁷ See USPTO, White Paper on Automated Financial or Management Data Processing Methods (Business Methods) (available at <http://www.uspto.gov>).

⁴⁸ 149 F.3d 1368 (Fed. Cir. 1998).

⁴⁹ See U.S. Patent No. 5,193,056.

⁵⁰ 149 F.3d at 1370.

⁵¹ *Id.*

⁵² 35 U.S.C. § 101 (2006) (identifying processes, machines, manufactures, and compositions of matter as patentable subject matter).

⁵³ 927 F. Supp. 502 (D. Mass. 1996).

⁵⁴ *Id.* at 515.

⁵⁵ *Id.*

⁵⁶ *Id.* at 516.

the court found that “abstract ideas are not patentable, either as methods of doing business or as mathematical algorithms,”⁵⁷ the patent was held to be invalid.

Following an appeal, the Federal Circuit reversed. The court of appeals concluded that the patent claimed not merely an abstract idea, but rather a programmed machine that produced a “useful, concrete, and tangible result.”⁵⁸ Because the invention achieved a useful result, it constituted patentable subject matter even though its result was expressed numerically.⁵⁹ The court further explained that:

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.⁶⁰

The court of appeals then turned to the district court’s business methods rejection, opting to “take [the] opportunity to lay this ill-conceived exception to rest.”⁶¹ The court explained restrictions upon patents for methods of doing business had not been the law since at least the enactment of the 1952 Patent Act. The Federal Circuit then concluded that methods of doing business should be subject to the same patentability analysis as any other sort of process.⁶² In the wake of *State Street Bank*, numerous patents that arguably claim business methods have issued from the USPTO,⁶³ and several have been the subject of litigation in the federal courts.⁶⁴

Congressional reaction to the patenting of business methods has to this point been limited. In 1999, Congress enacted the First Inventor Defense Act as part of the American Inventors Protection Act.⁶⁵ That statute provides an earlier inventor of a “method of doing or conducting business” that was later patented by another to assert a defense to patent infringement in certain circumstances.

In enacting the First Inventor Defense Act, Congress recognized that some firms may have operated under the view that business methods could not be patented prior to the *State Street Bank* decision. As a result, they may have maintained their innovative business methods as trade secrets. Having used these trade secrets in furtherance of their marketplace activities for a period of time, however, these firms may be unable to obtain a patent upon their business method. Further, should a competitor later independently invent and patent the same business method, the trade secret holder would potentially be liable for patent infringement. Following the confirmation of the patenting of business methods by the *State Street Bank* court, the creation of

⁵⁷ *Id.*

⁵⁸ 149 F.3d at 1373.

⁵⁹ *Id.* at 1375.

⁶⁰ *Id.* at 1373.

⁶¹ *Id.* at 1375.

⁶² *Id.*

⁶³ See, e.g., John R. Allison and Emerson H. Tiller, “The Business Method Patent Myth,” 18 *Berkeley Technology Law Journal* (2003), 987.

⁶⁴ See, e.g., Nicholas A. Smith, “Business Method Patents and Their Limits: Justifications, History, and the Emergence of a Claim Construction Jurisprudence,” 9 *Michigan Telecommunications and Technology Law Review* (2002), 171.

⁶⁵ P.L. 106-113, 113 Stat. 1536 (1999) (codified at 35 U.S.C. § 273(b) (2006)).

the first inventor defense was intended to provide a defense to patent infringement in favor of the first inventor/trade secret holder.⁶⁶

By stipulating that the first inventor defense applied only to a “method of doing or conducting business,” Congress arguably recognized the validity of these sorts of patents.⁶⁷ The First Inventor Defense Act did not define the term “method of doing or conducting business,” however. To date, no published judicial opinion addresses the precise scope of this defense.⁶⁸

Patents on Tax Strategies

Although the *State Street Bank* opinion rejected a *per se* rule denying patents on business methods, the invention claimed by the Signature patent was arguably motivated by a desire to reduce tax liability.⁶⁹ In some sense, then, *State Street Bank* may be seen as the first tax patent case. Some commentators believe that the “increase in the number of tax strategy patents requested and approved by the [USPTO] came on the heels” of *State Street Bank*.⁷⁰

Notably, at least one observer rejects this view. Attorney Andrew Schwartz has opined that although business methods may be patented following *State Street Bank*, the conclusion that tax and other legal methods are patentable subject matter does not result. Mr. Schwartz has asserted that while “most if not all novel business methods either save time or harness a law of nature for human benefit,”⁷¹ legal methods instead manipulate “positive law” in order to achieve their advantages.⁷² According to Mr. Schwartz, legal methods, including tax strategies, therefore do not qualify as inventions within the meaning of the Patent Act. It remains to be seen whether this view will gain more widespread acceptance.

The USPTO classification scheme reflects the relationship between business method patents and tax patents. Under USPTO practice, business method patents are organized within class 705, titled “Data Processing: Financial, Business Practice, Management, or Cost/Price Determination.” Tax strategy patents fall into a subclass under this heading, being identified under classification number 705/36T.

As of January 6, 2010, the USPTO identified 90 issued patents and 136 published applications under classification number 705/36T.⁷³ As the USPTO received 485,312 patent applications in

⁶⁶ See generally David H. Hollander, Jr., “The First Inventor Defense: A Limited Prior User Right Finds Its Way Into U.S. Patent Law,” 30 *American Intellectual Property Law Association Quarterly Journal* (2002), 37.

⁶⁷ See Rochelle Cooper Dreyfuss, “Are Business Method Patents Bad for Business?,” 16 *Santa Clara Computer and High Technology Law Journal* (2000), 263.

⁶⁸ John R. Allison and Starling D. Hunter, “On the Feasibility of Improving Patent Quality One Technology At a Time: The Case of Business Methods,” 21 *Berkeley Technology Law Journal* (2006), 729.

⁶⁹ See, e.g., Paul E. Schaafsma, “A Gathering Storm in the Financial Industry,” 9 *Stanford Journal of Law, Business and Finance* (2004), 176.

⁷⁰ Meyer, *supra*, at 187. See also Dan L. Burk and Brett H. McDonnell, “Patents, Tax Strategies, and the Firm,” 26 *Virginia Tax Review* (2007), 981.

⁷¹ Andrew A. Schwartz, “The Patent Office Meets the Poison Pill: Why Legal Methods Cannot Be Patented,” 20 *Harvard Journal of Law and Technology* (2007), 371.

⁷² *Id.* at 367.

⁷³ It should be appreciated that some observers have criticized the USPTO classification system as unreliable. See, e.g., John R. Allison and Mark A. Lemley, “The Growing Complexity of the United States Patent System,” 82 *Boston University Law Review* (2002), 77. As a result, it is possible that some patents arguably directed towards tax strategies (continued...)

2008, and granted 185,224 patents during that year, it should be appreciated that tax strategy patents represent a very small share of that agency's workload.⁷⁴ Among the titles of the issued patents are:

- Method and apparatus for tax efficient investment management, U.S. Patent No. 7,031,937
- Method and apparatus for tax-efficient investment using both long and short positions, U.S. Patent No. 6,832,209
- Tax advantaged transaction structure (TATS) and method, U.S. Patent No. 6,578,016
- Use tax optimization process and system, U.S. Patent No. 6,298,333
- Computerized system and method for optimizing after-tax proceeds, U.S. Patent No. 6,115,697

Perhaps the most notable tax strategy patent that has been subject to enforcement litigation is the so-called "SOGRAT" patent, U.S. Patent No. 6,567,790.⁷⁵ The SOGRAT patent is titled "[e]stablishing and managing grantor retained annuity trusts funded by nonqualified stock options." The patent's abstract explains that it concerns:

An estate planning method for minimizing transfer tax liability with respect to the transfer of the value of stock options from a holder of stock options to a family member of the holder. The method comprises establishing a Grantor Retained Annuity Trust (GRAT) funded with nonqualified stock options. The method maximizes the transfer of wealth from the grantor of the GRAT to a family member by minimizing the amount of estate and gift taxes paid. By placing the options outside the grantor's estate, the method takes advantage of the appreciation of the options in said GRAT.

On January 6, 2006, the proprietor of the SOGRAT patent, Wealth Transfer Group L.L.C., brought charges of infringement against John W. Rowe, the former executive chairman of Aetna Inc. Wealth Transfer Group reportedly asserted that Rowe had infringed the SOGRAT patent by establishing one or more GRATs that were funded by nonqualified stock options from Aetna. Because the parties to the litigation reached a confidential settlement on March 12, 2007,⁷⁶ the courts did not have the opportunity to address the validity and infringement of the SOGRAT patent specifically, nor the concept of tax strategy patents more generally.

(...continued)

may presently be classified under different categories.

⁷⁴ USPTO, U.S. Patent Statistics, Calendar Years 1963-2008 (available at http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.pdf).

⁷⁵ See Michael Brier, "Patently Foolish? Allowing Firms to Patent Tax Strategies Means That You and Your Clients Have to Foot the Bill," *Financial Advisor* (June 2007).

⁷⁶ *Wealth Transfer Group LL v. Rowe*, D. Conn., No. 3:06CV00245, Consent Final Judgment Regarding Settlement Agreement (March 12, 2007).

In re Bilski

Increasing public scrutiny of business and tax strategy patents in recent years has corresponded with heightened attention to patent eligibility issues by the USPTO and the courts. On October 30, 2008, the Federal Circuit issued its opinion in *In re Bilski*. The *Bilski* appeal was decided en banc—that is to say, with the participation of each of the active judges of the court. *Bilski*'s application concerned a method of hedging risk in the field of commodities trading. In particular, his application claimed the following method:

A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

identifying market participants for said commodity having a counter-risk position to said consumers; and

initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.⁷⁷

The USPTO rejected the application as claiming subject matter that was ineligible for patenting under section 101.

On appeal, the Federal Circuit characterized the “true issue before us then is whether Applicants are seeking to claim a fundamental principle (such as an abstract idea) or a mental process.” Applying Supreme Court precedent, the Federal Circuit explained:

A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.⁷⁸

Applying this standard, the Federal Circuit concluded that *Bilski*'s application did not claim patentable subject matter. The Court of Appeals acknowledged *Bilski*'s admission that his claimed invention was not limited to any specific machine or apparatus, and therefore did not satisfy the first prong of the section 101 inquiry.⁷⁹ The Federal Circuit also reasoned that the claimed process did not achieve a physical transformation. According to Chief Judge Michel, “[p]urported transformations or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.”⁸⁰ As a result, the decision of the USPTO to deny *Bilski*'s application was affirmed.

Opinions about the impact of the *Bilski* opinion upon the future availability of business method and tax strategy patents vary. Randall Picker, a member of the law faculty of the University of

⁷⁷ 545 F.3d at 949.

⁷⁸ *Id.* at 954.

⁷⁹ *Id.* at 962.

⁸⁰ *Id.* at 965.

Chicago, explained that the Federal Circuit “sharply cut back on the availability of patents for processes” and “substantially stepped back from its prior decision in *State Street Bank*, the decision that brought us the business-method patents controversy.”⁸¹ According to commentator Mike Masnick of Techdirt.com, the opinion “will significantly limit software and business method patents....”⁸² Some experts believe that in view of the *Bilski* standard, many patents that the USPTO previously issued would now be judged invalid.⁸³

On the other hand, the *Bilski* opinion arguably does not explain in detail precisely the extent to which a process must be “tied to a particular machine or apparatus” in order to qualify as patentable subject matter. As a result, attorney James Myers explains that future litigation may “focus on what degree of computerized involvement you have to have in order to meet the threshold.”⁸⁴ In view of this possible ambiguity, other observers suggest that the primary impact of the *Bilski* opinion may be to alter the way patent applications are drafted. Patent lawyers have been advised to ensure that claimed methods make use of a computer system, or are instead directed to a specific computer system, so that they may be viewed as involving “a particular machine or apparatus” or being transformative in nature.⁸⁵ Future developments will provide better perspectives upon the effect of the *Bilski* opinion upon business methods and tax strategy patents.

On June 1, 2009, the United States Supreme Court granted *certiorari* in *In re Bilski*. The Supreme Court will therefore have the opportunity to review the Federal Circuit’s holding in this case. The Supreme Court decision can be expected to be issued, at the latest, by July 2010.

Innovation Policy Issues

Although business method patents have been held to be patentable at least since the issuance of the *State Street Bank* opinion in 1998, the more recent phenomenon of tax strategy patents has resulted in a spirited discussion. Some commentators, and in particular tax professionals, have found tax strategy patents to be “ridiculous,”⁸⁶ “bizarre”⁸⁷ and “deeply unsettling.”⁸⁸ On the other hand, other observers, including many patent professionals, believe both that concerns over tax patents are overstated, and that the patenting of tax strategies may lead to numerous positive consequences. This report next reviews some of the competing concerns about tax strategy patents.

⁸¹ Randall Picker, “*In re Bilski*: The Fed Circuit Tells Inventors to Stuff It,” *The University of Chicago: The Law School Faculty Blog* (Oct. 30, 2008).

⁸² Mike Masnick, “Court Greatly Limits Software and Business Method Patents,” *Techdirt.com* (Oct. 30, 2008).

⁸³ See Glenn W. Trost *et al.*, *Federal Circuit Revises Test for Patentability of Processes/Business Methods* (Nov. 3, 2008) (available at http://www.whitecase.com/alert_fed_complicates_patents_11032008/).

⁸⁴ See Nate Raymond, “Patent Bar is Atwitter About the *Bilski* Decision,” *The AmLaw Daily* (Oct. 31, 2008) (available at <http://amlawdaily.typepad.com/amlawdaily/2008/10/patent-bar-is-a.html>).

⁸⁵ See Robert R. Sachs & Robert A. Hulse, “On Shaky Ground: The (Near) Future of Patents After *Bilski*,” 15 *The Intellectual Property Strategist* no. 3 (Dec. 2008).

⁸⁶ Editorial, “Pay to Obey,” *New York Times* (October 31, 2006).

⁸⁷ David Nolte, “USPTO is Getting It Wrong on Tax Strategy Patents,” (July 20, 2006) (available at <http://www.expertclick.com>).

⁸⁸ Melone, *supra*, at 438.

Stated Concerns Over Tax Strategy Patents

Many commentators have asserted that the issuance of tax strategy patents is improvident as a matter of both innovation and tax policy. Some observers believe that innovation in tax avoidance techniques has flourished absent the stimulus of patent protection. For example, the Tax Section of the New York State Bar Association has stated that “[o]ur experience suggests ... that tax advisors do not need the protection of the patent laws to develop tax strategies or to comply with their obligations to represent the interests of their (usually paying) clients.”⁸⁹ The views of the American Institute of Certified Public Accountants (AICPA) are similar. According to the AICPA, “[p]eople already have substantial incentives to comply with tax law and lower their taxes.”⁹⁰

Other observers go further, believing that to the extent that tax patents encourage further innovation in developing innovative tax avoidance strategies, such an incentive is not socially desirable. William A. Drennan, a member of the law faculty at Southern Illinois University, contrasts the grant of tax strategy patents with recent Treasury Department Regulations that, in his view, “reduce the economic incentive to create tax loopholes.”⁹¹ Mr. Drennan thus explains:

[O]ne government agency—the Treasury Department—is taking action to discourage loopholes. In contrast, the Patent Office (at the direction of the Federal Circuit) is providing a new incentive to create loopholes. Since the Treasury Department is in charge of the sound administration of the U.S. tax system, the Treasury Department’s views on sound tax policy should be given greater weight than the view of the Patent Office on this subject.⁹²

As summarized by the Joint Committee on Taxation, “some may argue that innovation is either not socially beneficial, or requires no special protection to encourage its undertaking, and thus a fundamental premise behind a patent system is missing.”⁹³

Other experts believe that tax strategy patents are inappropriate because they are said to inject private control over a system of public laws.⁹⁴ Under this view, a patent may potentially grant one individual the ability to prevent others from using a new tax provision. In turn, private actors may effect the ability of federal, state, and local governments to raise revenue, influence taxpayer behavior, and otherwise achieve the intended purposes of the tax laws.⁹⁵ These concerns were voiced by the AICPA in the following way:

Tax strategy patents also preempt Congress’s prerogative to have full legislative control over tax policy. Congress enacts tax law provisions applicable to various taxpayers and intends that taxpayers will be able to use them. Tax strategy patents thwart this Congressional intent

⁸⁹ New York State Bar Association, “Patentability of Tax Advice and Tax Strategies” (August 17, 2006) (available at <http://www.nysba.org>).

⁹⁰ AICPA, “Analysis and Legislative Proposals Regarding Patents for Tax Strategies” (February 28, 2007) (available at tax.aicpa.org) (hereinafter “AICPA Analysis”).

⁹¹ Drennan, *supra*, at 280.

⁹² *Id.*

⁹³ Staff of the Joint Committee on Taxation, “Background and Issues Relating to the Patenting of Tax Advice” (July 13, 2006), 25 (available at <http://www.house.gov/jct>).

⁹⁴ See Richard S. Marshall, “Tax Strategy Patents—Legislative, Judicial and Other Developments,” 48 *Tax Management Memo* (2007), 243.

⁹⁵ Steve Seidenberg, “Taxation Innovation: Patent Office Receives Criticism for Issuing Patents on Tax Strategies,” *Inside Counsel* (December 2006).

by giving tax strategy patent holders the power to decide how select tax law provisions can be used and who can use them.⁹⁶

Tax professionals have also expressed concerns over the impact of tax strategy patents upon their own practices, as well as taxpayers in general. Some observers believe that the burdens of investigating whether a taxpayer's planned course of action is covered by a tax strategy patent, determining whether the patent was providently granted by the USPTO, and potentially negotiating with the patent proprietor in order to employ the strategy, will be costly and impractical for many taxpayers.⁹⁷ Further, because compliance with the tax laws and its self-assessment system is obligatory for all citizens of the United States, the scope of this burden could be considerable.⁹⁸

Some commentators have also opined that the grant of a patent may mislead taxpayers. They believe that issuance of a patent may be seen as the government's imprimatur that a particular technique may be useful in limiting an individual's tax obligations. Because the USPTO does not necessarily evaluate the legality and comparative effectiveness of a particular tax strategy as part of its decision to issue a patent, however, such an impression would be mistaken. As the AICPA has stated:

Taxpayers may be misled into believing that a patented tax strategy bears the approval of other government agencies, such as the IRS, and therefore is a valid and viable technique under tax law. This is not the case.⁹⁹

Finally, some commentators have expressed concerns that the USPTO does not have sufficient expertise to assess whether a particular tax strategy meets the patentability criteria of novelty and nonobviousness.¹⁰⁰ As Ellen P. Aprill, a member of the law faculty of the Loyola Law School of Los Angeles, has asserted:

It is the duty of patent examiners in the PTO to make the determination that a patent is novel and not obvious. In order to review the validity under the patent law of applications for tax strategy patents, patent examiners need expertise not only in software and finance, but also, of course, tax. They need to understand the conceptual basis of a range of areas of tax—financial products, estate and gift tax, pension and deferred compensation, to name a few where tax strategy patents already exist. Such expertise is difficult to obtain. Few tax practitioners have such broad knowledge in such varied aspects of the tax law. Most work very hard just to keep up in developments and changes in the law in their areas of specialization. Yet the patent examiners evaluating these tax strategy patents are trained as engineers, with few having some additional financial education, such as an MBA. They are not tax lawyers or accountants.¹⁰¹

In addition, identifying state of the art knowledge may present complications within the tax field. Tax return information is maintained in confidence,¹⁰² and communications between taxpayers

⁹⁶ AICPA Analysis, *supra*, at 5.

⁹⁷ Gary C. Bubb, "Patented Tax Strategies—Are You Serious?," *Rhode Island Lawyers Weekly* (August 20, 2007).

⁹⁸ Ellen P. Aprill, "Responding to Tax Strategy Patents," American Bar Association Annual Meeting (August 11, 2007), 7.

⁹⁹ AICPA Analysis, *supra*, at 2.

¹⁰⁰ 35 U.S.C. §§ 102, 103 (2006).

¹⁰¹ Aprill, *supra*, at 7.

¹⁰² 26 U.S.C. § 6103(a) (2006).

and their advisors may also be subject to a legal privilege of nondisclosure.¹⁰³ Due to these circumstances, reportedly “tax practitioners are concerned that many of the patents that have or will be issued for tax strategies will inevitably involve techniques that have long been accepted as routine.”¹⁰⁴

Support for Tax Strategy Patents

In contrast, other observers have expressed support for the allowance of patents on tax strategies. Some of these commentators believe that previously articulated concerns about tax strategy patents are overstated. Others make the affirmative case that tax strategy patents will produce positive social benefits.

Some experts disagree that patents will necessarily prove ineffective in encouraging the development of new tax strategies. Patent attorney Michael Sandonato is reported as explaining: “Of course, tax advisers will give their best advice, but if they can patent it and have some exclusive rights to it, you may see the extra level of activity that patents can motivate.”¹⁰⁵ Others observe that new ways to reduce tax liability can be both costly to develop and the source of considerable value for a particular inventor.¹⁰⁶ As with more traditional sorts of patents, tax strategy patents may reward these efforts and differentiate products and services among competing tax advisors.¹⁰⁷

Tax strategy patenting is also said to lead to the affirmative social benefit of enhanced public disclosure. Each issued patent is required to incorporate a full description of the patented invention.¹⁰⁸ As a result, patents may provide an effective mechanism for disseminating information regarding the current state of the art in particular disciplines. Although existing regulations require that certain “tax shelters” be disclosed to the Department of the Treasury,¹⁰⁹ the patent system could arguably improve the availability of information regarding tax strategies to tax professionals and regulators alike.¹¹⁰

Some commentators further discount stated concerns that tax strategy patents potentially allow someone to appropriate a method of complying with the law. They observe that a variety of patented inventions could be described in this manner. As explained by patent professionals Stephen T. Schreiner and George Y. Wang, “[m]any different types of patentable inventions involve a manner of complying with the law, but they are not prohibited from patenting for that reason.”¹¹¹ Schreiner and Wang explain that such inventions as an improved catalytic converter, child’s safety seat, and machine for weighing trucks may relate to laws governing automobile emissions, transportation safety, and highway traffic. Because each of these inventions is

¹⁰³ 26 U.S.C. § 7525(a)(1) (2006).

¹⁰⁴ *Aprill, supra*, at 9.

¹⁰⁵ Quoted in *Seidenberg, supra*.

¹⁰⁶ See Dennis I. Belcher and Dana G. Fitzsimmons, Jr., “Tax Planners—Beware of Patented Estate Planning Techniques!,” *Probate and Property* (November/December 2006), 24.

¹⁰⁷ *Id.*

¹⁰⁸ 35 U.S.C. § 112 (2006).

¹⁰⁹ *Treas. Reg. 1-6011-4(a)*.

¹¹⁰ *House Report, supra*, at 23-24.

¹¹¹ *Schreiner and Wang, supra*, at 1.

nonetheless eligible for patenting, Schreiner and Wang assert that “eligibility for patent protection should not turn on whether the inventions pertain to compliance with the law.”¹¹²

Observers also note that professionals in many spheres of endeavor have long had to account for the patent system during their decision-making process. Chemists, biologists, engineers, computer scientists, and medical doctors are among those individuals who may obtain patents, but must also be mindful of the patents of others during the course of their professional activities. These observers find no persuasive justification for treating tax professionals differently. As Schreiner and Wang state:

[S]ome seem to have taken the position that tax attorneys and wealthy tax clients should simply not have to be burdened with tax patents. However, this is not persuasive. If doctors and patients must observe patent restrictions on new medical techniques and new medicines that may have life-altering consequences, we can think of no moral, legal or policy basis for why tax attorneys and their clients should enjoy a special exemption while those in the medical profession do not.¹¹³

Patent experts also explain that patents do not provide the affirmative right to use the patented invention, but rather the right to exclude others from doing so.¹¹⁴ As a result, in their view the notion that the grant of patent implies that the patented invention is effective and approved for use is simply incorrect. This situation is commonplace in other fields of endeavor: For example, the USPTO commonly issues patents on pharmaceuticals and medical devices that have not yet received marketing approval from the Food and Drug Administration.¹¹⁵ In the view of these experts, if taxpayers mistakenly believe that the grant of a patent implies government approval of the patented strategy, then the proper response is to promote taxpayer awareness, not to limit or prohibit tax strategy patents altogether.¹¹⁶

Observers further note that the USPTO has consistently been called upon to address new categories of inventions throughout that agency’s long history. For example, contemporary USPTO examiners must respond to cutting-edge innovations in fields such as nanotechnology by developing technical expertise and establishing documentation regarding the state of the art. The USPTO potentially faces a similar challenge with respect to tax strategies, but many observers believe that there is nothing particularly noteworthy or unusual about this task.¹¹⁷

Congressional Issues and Options

Should Congress conclude that the current situation with respect to tax strategy patents is satisfactory, then no action need be taken. If Congress wishes to intervene, however, a number of options present themselves.

¹¹² *Id.*

¹¹³ *Id.* at 2.

¹¹⁴ E. Anthony Figg, “Should the Patent Laws Exempt Certain Innovations from Patent Eligibility?,” *IPL Newsletter* (Summer 2006), 3.

¹¹⁵ See John R. Thomas, *Pharmaceutical Patent Law* (Bureau of National Affairs, 2005), 7 (“An award of marketing approval by the FDA and the grant of a patent by the PTO are distinct events that depend upon different criteria.”).

¹¹⁶ Schreiner and Wang, *supra*, at 2.

¹¹⁷ Figg, *supra*, at 3; Schreiner and Wang, *supra*, at 2.

In the 111th Congress, three bills have been introduced that would limit the enforcement of tax strategy patents.¹¹⁸ None has yet been enacted. H.R. 1265 and S. 506 define the excluded category of “tax planning invention[s]” to mean “a plan, strategy, technique, scheme, process, or system that is designed to reduce, minimize, determine, avoid, or defer, or has, when implemented, the effect of reducing, minimizing, determining, avoiding, or deferring, a taxpayer’s tax liability or is designed to facilitate compliance with tax laws, but does not include tax preparation software and other tools or systems used solely to prepare tax or information returns....”¹¹⁹ H.R. 2584 would prevent any patent claiming a “tax planning method,” which is defined similarly.¹²⁰ The legislation would apply to any application filed at the USPTO on or after the date of enactment.¹²¹

Other legislative responses are also possible. In furtherance of its oversight over the USPTO, Congress could continue to track that agency’s activities with respect to tax strategy patents. In this vein, commentators have proposed several reforms, including USPTO hiring of examiners with expertise in taxation and related disciplines.¹²² Congress could also encourage continued cooperation between the USPTO and the IRS with respect to tax strategy patents.

Congress may also wish to promote the engagement of the community of tax professionals with the patent system. The patent laws allow members of the public both to comment upon many pending patent applications and to challenge issued patents through administrative proceedings.¹²³ The voluntary contributions of knowledgeable specialists, through these and other mechanisms, may help promote a high level of quality of issued tax strategy patents.

Concluding Observations

Tax strategies represent the latest area of controversy regarding patentable subject matter. Other sorts of inventions, such as business methods, biotechnologies, and computer software, have also raised considerable legal and policy questions when they were initially brought before the patent system.¹²⁴ Some observers believe that patents on these and other innovations have been allowed for many years, without any evidence of harm to the U.S. innovation environment.¹²⁵ Others contend that the affirmative case for granting patents on business methods remains weak, and that patents on tax strategies present uniquely deleterious social consequences.¹²⁶ Although proposed legislative responses to the phenomenon of tax strategy patents have thus far been limited to those instruments, this episode might also promote broader congressional thinking of the sorts of inventions that may be appropriately patented.

¹¹⁸ H.R. 1265, § 303; H.R. 2584, §1; S. 506, § 303.

¹¹⁹ H.R. 1265, § 303(a); S. 506, § 303(a).

¹²⁰ H.R. 2584, §1(a).

¹²¹ H.R. 1265, § 303(b); H.R. 2584, §1(b); S. 506, § 303(b).

¹²² Aprill, *supra*, at 21.

¹²³ See 35 U.S.C. §§ 301, 311 (2006) (allowing members of the public to commence reexamination proceedings before the USPTO); 37 C.F.R. § 1.99 (2006) (allowing members of the public to submit information that they believe is relevant to a published, pending application to the USPTO under certain circumstances).

¹²⁴ See Alan L. Durham, “‘Useful Arts’ in the Information Age,” 1999 *BYU Law Review*, 1419.

¹²⁵ See Schreiner and Wang, *supra*.

¹²⁶ See Moore, *supra*.

Author Contact Information

John R. Thomas
Visiting Scholar
jrthomas@crs.loc.gov, 7-0975

Acknowledgments

This report was funded in part by a grant from the John D. and Catherine T. MacArthur Foundation.



<http://www.crsdocuments.com>