Order Code RL30451

CRS Report for Congress

Patent Law Reform: An Analysis of the American Inventors Protection Act of 1999 and Its Effect on Small, Entrepreneurial Firms

February 29, 2000

John R. Thomas
Visiting Scholar in Economic Growth
and Entrepreneurship
Resources, Science, and Industry Division



Congressional Research Service • The Library of Congress

ABSTRACT

The American Inventors Protection Act of 1999 (P.L. 106-113) resulted in substantial reforms to the U.S. patent system. This study assesses the potential impact of the American Inventors Protection Act upon entrepreneurs and small, entrepreneurial firms. The report first explains the significance of such businesses in high technology industries. It then introduces the patent system and describes the role of patents in the process of technological change. This report next provides a detailed review of the major provisions of the American Inventors Protection Act of 1999. Finally, this report considers the effect of these reforms upon small high tech enterprises, identifies issues that may deserve further consideration and highlights possibilities for future reform. This report will be updated if events warrant.

The Congressional Research Service works exclusively for the Congress, conducting research, analyzing legislation, and providing information at the request of committees, Members, and their staffs.

The Service makes such research available, without partisan bias, in many forms including studies, reports, compilations, digests, and background briefings. Upon request, CRS assists committees in analyzing legislative proposals and issues, and in assessing the possible effects of these proposals and their alternatives. The Service's senior specialists and subject analysts are also available for personal consultations in their respective fields of expertise.

Patent Law Reform: An Analysis of the American Inventors Protection Act of 1999 and Its Effect on Small, Entrepreneurial Firms

Summary

The American Inventors Protection Act of 1999, P.L. 106-113, worked substantial reforms to the U.S. patent system. These reforms include provisions to protect inventors from deceptive invention promotion services; reduce certain fees associated with filing applications at the United States Patent and Trademark Office (PTO); create an infringement defense to first inventors of business methods later patented by another; ensure that processing delays at the PTO would not adversely impact patent term; mandate the publication of certain pending patent applications; establish provisional patent rights following the publication of patent applications; provide for optional inter partes reexamination procedures; and establish the PTO as an independent agency within the Department of Commerce.

The eight different titles of the American Inventors Protection Act were shaped by diverse motivations. However, many of the Act's provisions were influenced by concern for entrepreneurs and small, entrepreneurial firms, actors that are generally perceived as a principal source of innovative products and processes in the U.S. economy.

This report assesses the potential impact of the American Inventors Protection Act upon entrepreneurs and small, entrepreneurial firms. It concludes that it is not possible to state the impact of the American Inventors Protection Act upon individual inventors and small businesses with great precision. Within these limits of confidence, however, there is evidence that most of the recent patent law reforms do not significantly impact these companies any differently than larger, more well-established enterprises. Whether a particular actor in the technological community will benefit from the Act, or is negatively impacted by its provisions, depends upon traits that likely arise without regard to the actor's size. These traits include the propensity of particular industrial sectors towards patent acquisition and enforcement, the marketplace importance of that actor's patent portfolio, and the innovative activity of the actor's competitors.

Contents

Introduction 1

The Significance of Entrepreneurs and Small, Entrepreneurial Firms in High Technology Industries 2

The Role of Patents in Small Business R&D 4

The American Inventors Protection Act of 1999 7
- Subtitle A – Inventors' Rights Act 7
- Subtitle B – Patent and Trademark Fee Fairness Act 8
- Subtitle C – First Inventor Defense Act 8
- Subtitle D – Patent Term Guarantee Act 10
- Subtitle E – Domestic Publication of Foreign Filed Patent Applications Act 10
- Subtitle F – Optional Inter Partes Reexamination Procedure Act 13
- Subtitle G – Patent and Trademark Office Efficiency Act 14

Assessment of Effect of Patent Law Reform on Entrepreneurial Firms in High Tech Industries 15
- Subtitle A – Inventors' Rights Act 15
- Subtitle B – Patent and Trademark Fee Fairness Act 16
- Subtitle C – First Inventor Defense Act 17
- Subtitle D – Patent Term Guarantee Act 17
- Subtitle E – Domestic Publication of Foreign Filed Patent Applications Act 18
- Subtitle F – Optional Inter Partes Reexamination Procedure Act 20
- Subtitle G – Patent and Trademark Office Efficiency Act 21

Issues and Options 21

Patent Law Reform: An Analysis of the American Inventors Protection Act of 1999 and Its Effect on Small, Entrepreneurial Firms

Introduction

As observers increasingly recognize the prominent role technological advances play in driving the U.S. economy,[1] interest in both entrepreneurial enterprises and the patent system has expanded. Entrepreneurs and small, entrepreneurial firms are generally perceived as a principal source of innovative products and processes.[2] The patent system too is understood to be a fundamental mechanism for encouraging the pursuit of technological knowledge.[3] The American Inventors Protection Act of 1999 (P.L. 106-113), which worked substantial reforms to the U.S. patent system, evidences congressional concern for achieving a legal environment conducive to technological progress.

Although diverse motivations shaped the eight different titles of the American Inventors Protection Act, many of its patent law reforms were influenced by the views of independent inventors and representatives of small companies.[4] These entities, along with larger entities and other members of the patent community, were offered considerable opportunity to voice their concerns regarding changes to the U.S. patent system. Participants in this discussion sometimes held sharply different perceptions

---

[1]Tassey, Gregory. *The Economics of R&D Policy* (Connecticut: Quorum Books, 1997); Edwin Mansfield, "Intellectual Property Rights, Technological Change, and Economic Growth," in *Intellectual Property Rights and Capital Formation in then Next Decade*, eds. Charles E. Walker & Mark A. Bloomfield, New York: University Press of America, 1988, p. 5.

[2]Cordes , Joseph J. et al. *A Survey of High Technology Firms*, Small Business Admin. Contract No. SBA-8141-OA94, February 1999.

[3]Adelman, Martin J. et al. *Patent Law: Cases and Materials.* Minnesota: West Publishing Co., 1998, p.1.

[4]House Committee on Small Business, Subcommittee on Government Programs and Oversight, *The Importance of Patent Term and Patent Application Disclosure Issues to Small Business: What Impact Will Proposed Changes in the Patent Laws Have on Small Business?*, 105th Cong., 1st sess., 24 April 1997, 2 (statement of the Hon. Roscoe Bartlett, soliciting views on the "issues raised by the proposed changes to the patent system and whether the implementation of those changes will have a beneficial or adverse impact upon small business.").

as to the impact of various reform proposals.[5] Given the role of entrepreneurs and small, entrepreneurial firms in our nation's technological progress, an analysis of the potential impact of the American Inventors Protection Act on independent inventors and small enterprises is worthwhile.

This report begins by explaining the significance of entrepreneurs and small, entrepreneurial firms in high technology industries. This report then introduces the patent system and describes the role of patents in the process of technological change. It next provides a detailed review of the major provisions of the American Inventors Protection Act of 1999. Finally, this report considers the effect of these reforms upon small, high tech enterprises, identifies issues that may deserve further consideration and highlights possibilities for future reform.

This report finds that it is not possible to state the impact of the American Inventors Protection Act upon entrepreneurs and small, entrepreneurial firms with great precision. Within these limits of confidence, however, there is evidence that most of the recent patent law reforms do not significantly impact these companies any differently than larger, more well-established enterprises. Although the reforms of the American Inventors Protection Act are extensive, they appear in large part even-handed with regard to smaller and larger enterprises.

Whether a particular actor in the technological community will stand to benefit from the American Inventors Protection Act, or be negatively impacted by its provisions, instead depends upon traits that likely arise without regard to the actor's size. These traits include the propensity of a particular industrial sector towards patent acquisition and enforcement, the marketplace importance of that actor's patent portfolio, and the innovative activity of the actor's competitors.

The Significance of Entrepreneurs and Small, Entrepreneurial Firms in High Technology Industries

Technological advancement is a principal driving force in the growth of the U.S. economy.[6] Technical innovations often contribute to the creation of new goods and services, new industries, new jobs and new capital. They can expand the range of services offered and extend the geographic distribution of those services. Where national problems are amenable to technological solutions, innovation can also contribute to the resolution of these problems.

Entrepreneurs and small, entrepreneurial firms play a role in the technological advancement and economic growth of the United States.[7] Several studies

---

[5]U.S. Library of Congress. Congressional Research Service, *Omnibus Patent Reform: An Overview of H.R. 400*, by Dorothy Schrader, Report 97-336, 14 May 1997, p.12.

[6]U.S. Library of Congress. Congressional Research Service. *Patents and Innovation: Issues in Patent Law Reform*, by Wendy H. Schacht, Report 97-599, 24 August 1999, p. 2-4.

[7]U.S. Library of Congress. Congressional Research Service, *Small, High Tech Companies*

(continued...)

commissioned by federal agencies have concluded that such enterprises are a significant source of innovative products and services. For example, the National Academy of Engineering concluded that "small high-tech companies play a critical and diverse role in creating new products and services, in developing new industries, and in driving technological change and growth in the U.S. economy."[8] This assessment was founded on the ability of small firms to develop markets rapidly, generate new goods and services, and offer diverse products. The study also concluded that small businesses were less risk adverse than larger, established corporations and were often better positioned to exploit market opportunities quickly.

Similarly, a 1982 study supported by the Small Business Administration (SBA) determined that small firms are 2.4 times as innovative per employee as large companies.[9] More recent SBA studies claim that 55% of the country's innovations originated with entrepreneurs and small, entrepreneurial firms.[10] A National Science Foundation report found that entrepreneurs and small firms are six times as effective as larger firms in utilizing research and development expenditures to generate new products.[11]

High technology industries contain an especially large number of small companies. According to SBA data, 94% of high technology companies have under 500 employees and 73% had less than 20 workers. These small firms accounted for 18% of the total receipts generated by high technology industries. In 1996, 37.9% of workers in private sector, high technology businesses were employed by small companies; 22.2% of all private sector, high technology workers worked in firms with less than 100 employees. High technology employees comprised 3.1% of the total number of workers in the small business community, compared to 4.6% for the number of high technology employees in all companies regardless of size.

Although these studies and data suggest that entrepreneurs and small, entrepreneurial firms play a critical role in the technological advancement of the United States, other observers are less sanguine about their contribution. Much of this skepticism follows from the teachings of the economist Joseph Schumpeter, who contended that a rational market actor would only seek to innovate if it could appropriate the returns on its research and development investment.[12] Following this reasoning, it would seem that technological change would be championed by large

---

[7](...continued)
and Their Role in the Economy: Issues in the Reauthorization of the Small Business Innovation (SBIR) Program, by Wendy H. Schacht, Report RL30216, 28 May 1999, p. 1-6.

[8]National Academy of Engineering. *Risk & Innovation: The Role and Importance of Small High-Tech Companies in the U.S. Economy*. Washington: National Academy Press, 1995, p. 37.

[9]National Science Board, *Science and Engineering Indicators*, December 8, 1993, p. 185.

[10]http://www.sba.gov/ADVO/stats/fact1.html.

[11]Anderson, Anne. "Small Businesses Make it Big in the SBIR Program," *New Technology Week*, June 6, 1998, 2.

[12]Schumpeter, Joseph. *Capitalism, Socialism and Democracy*, New York: Harper, 1984.

enterprises with significant market share.[13] Others have also maintained that no conclusive evidence suggests that firm size affects the success of research and development efforts.[14] However, even the more skeptical observers have recognized that large and small firms possess complementary strengths and weaknesses.

For example, the globalization of the economy increasingly requires firms to access foreign markets in order to remain competitive. Large companies may be better able to enter the international marketplace due to a number of comparative advantages. As compared with smaller enterprises, larger firms may be better able to tap external sources of finance and technical expertise, and maintain sophisticated management teams. Larger businesses also benefit from scale and scope economies due to size and diversification.[15] As a result, smaller firms often enter into joint ventures, or are absorbed into, larger enterprises for purposes of marketing and manufacturing. The relationships small, entrepreneurial companies enjoy with larger enterprises appears to be a crucial element influencing the ability of smaller firms to achieve technological advance.[16]

Observers have also explained that small, high tech firms enjoy certain advantages over larger enterprises. Small firms are perceived as enjoying organizational flexibility, lack of bureaucracy and efficient internal communications that depend upon informal channels. Such traits may allow smaller companies to respond more quickly to changing market demands than larger competitors.[17] In sum, even technological observers who would assign entrepreneurs and small, entrepreneurial firms a lesser role in technological advancement recognize that smaller entities complement larger enterprises in the innovative process.

The Role of Patents in Small Business R&D

Whether innovating directly or forging partnerships with larger enterprises, small, high tech companies have frequently turned to the regime of patents.[18] The patent system authorized by Article I, section 8, clause 8 of the U.S. Constitution serves to encourage the advancement of the useful arts. A principal effect of patent law in a market economy is to provide economic incentives to commit resources

---

[13]Cordes, *supra* note 2, at 16.

[14]Charles Brown et al., *Employers Large and Small* (Cambridge: Harvard University Press, 1990), 10.

[15]Cordes, *supra* note 2, at 16.

[16]Bennett Harrison, *The Dark Side of Flexible Production*, Technology Review, May/June 1994, at 40.

[17]Cordes, *supra* note 2, at 16-17.

[18]Congressional Research Service, *Patents and Innovation: Issues in Patent Law Reform*, by Wendy H. Schacht, CRS Report 97-599, 24 August 1999, 4-7.

towards technological innovation. This effect is achieved by granting inventors exclusive rights to practice the patented invention.[19]

Industrial response to the Plant Variety Protection Act of 1970 (PVPA) is often cited in support of the rationale that patent rights can stimulate invention. In a field in which proprietary rights were previously unavailable, the PVPA allowed plant breeders the ability to obtain patent-like protection on novel varieties of plants grown from seed.[20] In the decade prior to the promulgation of the PVPA, industry developed approximately 150 new plant varieties. But in the decade following the enactment of the PVPA, over 3000 new varieties were created.[21]

The regime of patents purportedly serves other goals as well. The patent system encourages the disclosure of products and processes, for each issued patent must include a description sufficient to enable skilled artisans to practice the patented invention.[22] When the patent expires, ordinarily twenty years from the date the application is filed,[23] others are given the ability to practice the patented invention. Although estimates vary, one report observed that 85-90% of the information available in published patent instruments would not otherwise be publicly available.[24]

Issued patents may also 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 patentee's disclosure to produce their own technologies that fall outside the exclusive rights associated with the patent.[25]

The patent system has also been identified as a facilitator of markets. Absent patent rights, an inventor may have scant tangible assets to sell or license, and even less ability to police the conduct of a contracting party. By reducing a licensee's opportunistic possibilities, the patent system lowers transactions costs and makes technology-based transactions more feasible.[26]

The extent to which the patent system practically achieves these goals is difficult to assess. Various economic studies have suggested that different industries attach

---

[19]Simone A. Rose, "Patent 'Monopolyphobia': A Means of Extinguishing the Fountainhead?," 49 *Case W. Res. L. Rev.* 509 (1999).

[20]7 U.S.C. § 2402(a).

[21]Hon. Pauline Newman, "Legal and Economic Theory of Patent Law," in Donald S. Chisum, *Principles of Patent Law: Cases and Materials* 67, 70 (New York: Foundation Press, 1998).

[22]35 U.S.C. § 112.

[23]35 U.S.C. § 154.

[24]Newman, *supra* note 21, at 72.

[25]Rebecca S. Eisenberg, "Patents and the Progress of Science: Exclusive Rights and Experimental Use," 56 *University of Chicago Law Review* (1989), 1017.

[26]Robert P. Merges, "Intellectual Property and the Costs of Commercial Exchange: A Review Essay," 93 *Michigan Law Review* (1995), 1570.

widely varying values to patents. For example, one study of the aircraft and semiconductor industries suggested that lead time and the strength of the learning curve were superior to patents in capturing the value of investments.[27] In contrast, members of the drug and chemical industries attached a higher value to patents. Differences in the perception of the patent system have been attributed to the extent to which patents introduced significant duplication costs and times for competitors of the patentee. Perhaps the best evidence available as to the perceived value patents is that, in the United States, the number of filed patent applications and issued patents continues to climb.[28] These data suggests that members of the technological community continue to view patents as valuable.

Studies have indicated that entrepreneurs and small, entrepreneurial firms rely more heavily upon the patent system than larger enterprises. Larger companies often possess a number of alternative means for achieving a proprietary or property-like interest in a particular technology. For example, trade secrecy, ready access to markets, trademark rights, speed of development, and consumer goodwill may to some degree act as substitutes to the patent system. As Sally Wyatt and Gilles Bertin reported in their survey of alternatives to patenting, a representative of one European corporation opined that "multinational corporations could easily cease to use patents and use other available methods to achieve the same aims."[29] However, individual inventors and small firms often do not have these mechanisms at their disposal. As a result, the patent system may enjoy heightened importance with respect to these enterprises.[30]

The American Inventors Protection Act of 1999

Following several years of discussion, on November 19, 1999, Congress lent final approval to a bill that made substantial changes to the patent law. This legislation, the American Inventors Protection Act of 1999, P.L. 106-113, was part of the Intellectual Property and Communications Omnibus Reform Act of 1999 (S. 1948), attached by reference to the Consolidated Appropriations Act for Fiscal Year 2000. President Clinton signed this bill on November 29, 1999.

The Commissioner of the United States Patent and Trademark Office (PTO) has identified this legislation as working the most significant reforms to patent law since

---

[27]Richard C. Levin et al., "Appropriating the Returns for Industrial Research and Development," *Brookings Papers on Economic Activity*, 1987, in *The Economics of Technical Change*, eds. Edwin Mansfield and Elizabeth Mansfield (Vermont, Edward Elgar Publishing Co., 1993), 243.

[28]Robert Hunt, "Patent Reform: A Mixed Blessing for the U.S. Economy?," Federal Reserve Bank of Philadelphia Business Review, available at http://www.phil.frb.org/files/br/brnd99rh.pdf.

[29]Sally Wyatt & Gilles Y. Bertin, *Multinationals and Industrial Property* 139 (Harvester 1988).

[30]J. Douglas Hawkins, "Importance and Access of International Patent Protection for the Independent Inventor," 3 *University of Baltimore Intellectual Property Journal* (1995), 145.

Congress enacted the 1952 Patent Act.[31] These reforms include provisions to protect inventors from deceptive invention promotion services; reduce certain fees associated with filing applications at the PTO; create an infringement defense to first inventors of business methods later patented by another; ensure that processing delays at the PTO would not adversely impact patent term; mandate the publication of certain pending patent applications; establish provisional patent rights following the publication of patent applications; provide for optional inter partes reexamination procedures; and establish the PTO as an independent agency within the Department of Commerce. A review of the most important provisions follows.

Subtitle A – Inventors' Rights Act

Many commercial enterprises provide invention promotion services. Independent inventors may employ invention promoters to assist in technology evaluation, acquisition of patent rights and exploitation of the technology on the marketplace. Invention promoters often provide valuable services, but some commentators have observed that the industry has achieved notoriety for its predatory practices.[32] Observers also recount that inexperienced inventors have sometimes paid considerable sums to invention promoters without receiving any real service in return.[33]

The Inventors' Rights Act mandates that invention promoters provide certain information in writing to prospective customers. This information includes the number of evaluated inventions; the percentage of inventions that obtain positive and negative evaluations; and the number of customers known to have licensed or obtained a net financial profit as a direct result of the invention promoter's services. The Act also exposes invention promoters to liability for any statement that was material and either false or fraudulent. As well, the PTO is obliged to make publicly available all complaints concerning invention promoters.

Subtitle B – Patent and Trademark Fee Fairness Act

This subtitle reduces certain patent fees associated with the filing of patent applications and the maintenance of issued patents. This legislation marks the second time in two years that patent-related fees have been reduced. Notable fee reductions include the original filing and reissue fees, which were both reduced from $760 to

---

[31]Steven R. Englund, "Recent IP Legislation Is Most Sweeping in Years," 22 *National L.J.* (31 Jan. 2000), at C18, col. 2.

[32]Lynn A. Bristol, "Invention Disclosure Services: Needed Change for a Needed System," 80 *Journal of the Patent & Trademark Office Society* (1998), 753; Paul S. Shemin, Idea Promoter Control: The Time Has Come, 60 *Journal of the Patent & Trademark Office Society* (1978), 261

[33] *See, e.g.*, Gary Klott, "New Rule Needed: Swindlers Targeting Inventors," *The San Francisco Chronicle*, Business (19 Sept. 1994); Teresa Riordan, "Patent Place," *The Washington Post Magazine* (13 Nov. 1994); Sharon Walsh, "Getting Stuck Over a Stick: FTC Says Inventor Paid Thousands for Worthless Patent Services," *The Washington Post,* Financial (24 July 1996).

$690, and the initial maintenance fee, which was reduced from $940 to $830. This subtitle also requires the PTO to conduct a study of alternative fee structures to encourage maximum participation of the U.S. inventive community in the patent system.

Subtitle C – First Inventor Defense Act

This subtitle creates an infringement defense for an earlier inventor of a "method of doing or conducting business" that was later patented by another. The defendant must have reduced the infringing subject matter to practice one year before the effective filing date of the patent and made commercial use of that subject matter in the United States before the effective filing date.

The impetus for this provision lies in the rather complex relationship between the law of trade secrets and the patent system. Trade secrecy protects individuals from misappropriation of valuable information that is useful in commerce. One reason an inventor might maintain the invention as a trade secret rather than seek patent protection is that the subject matter of the invention may not be regarded as patentable. Such inventions as customer lists or data compilations have traditionally been regarded as amenable to trade secret protection but not to patenting.[34] Inventors might also maintain trade secret protection due to ignorance of the patent system or because they believe they can keep their invention as a secret longer than the period of exclusivity granted through the patent system.[35]

It is important to note from the outset that the patent system has not favored trade secret holders. Well-established patent law provides that an inventor who makes a secret, commercial use of an invention for more than one year prior to filing a patent application at the PTO forfeits his own right to a patent.[36] This policy is principally based upon the desire to maintain the integrity of the statutory proscribed patent term. The patent law grants patents a term of twenty years, commencing from the date a patent application is filed.[37] If the trade secret holder could make commercial use of an invention for many years before choosing to file a patent application, he could disrupt this regime by delaying the expiration date of his patent.

On the other hand, settled patent law principles established that prior secret uses would not defeat the patents of later inventors.[38] If an earlier inventor made secret commercial use of an invention, and another person independently invented the same technology later and obtained patent protection, then the trade secret holder could

---

[34]Restatement of Unfair Competition § 39.

[35]Friedman, David D. "Some Economics of Trade Secret Law," 5 *Journal of Economic Perspectives* (1991), 61, 64.

[36]*Metallizing Engineering Co. v. Kenyon Bearing & Auto Parts*, 153 F.2d 516, *cert. denied*, 328 U.S. 840 (1946).

[37]35 U.S.C. § 154.

[38]*W.L. Gore & Associates. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

face liability for patent infringement. This policy was based upon the reasoning that issued, published patent instruments fully inform the public about the invention, while trade secrets do not. As between a subsequent inventor who patented the invention, and thus had disclosed the invention to the public, and an earlier trade secret holder who had not, the law favored the patent holder.

Recent legal developments concerning methods of doing business have focused attention upon the relationship between patents and trade secrets. Inventors of methods of doing business traditionally relied upon trade secret protection because such inventions had long been regarded as unpatentable subject matter. As a result, inventors of innovative business methods obtained legal advice not to file applications at the PTO on their inventions. This advice was sound under the patent law as it then stood.

The 1998 decision of the Court of Appeals for the Federal Circuit, *State Street Bank and Trust Co. v. Signature Financial Group,*[39] altered this traditional principle. In the *State Street Bank* opinion, the Federal Circuit overturned the historical bar denying patents on methods of doing business. As a consequence, inventors in fields ranging from such sectors as finance, insurance and services have sought proprietary interests in their inventions through the patent system.

This change in this background principle was perceived to have harmed individuals that invented business methods prior to the issuance of the *State Street Bank* opinion. Many of these inventors had maintained their innovative business methods as trade secrets for many years. As a result, they were unable belatedly to obtain patent protection on their business methods. As well, because trade secrets did not constitute prior art against the patent applications of others, a subsequent inventor would be able to obtain patent protection. Under these circumstances, a trade secret holder could find himself an adjudicated infringer of a patented business method that he actually invented first.[40]

The First Inventor Defense Act of 1999 reconciles these principles by providing an infringement defense for an earlier inventor of a method of doing business that was later patented by another. This infringement defense is subject to several qualifications. First, the defendant must have reduced the infringing subject matter to practice at least one year before the effective filing date of the application. Second, the defendant must have commercially used the infringing subject matter prior to the effective filing date of the patent. Finally, any reduction to practice or use must have been made in good faith, without derivation from the patentee or persons in privity with the patentee.

Subtitle D – Patent Term Guarantee Act

The Patent Term Guarantee Act of 1999 provides certain deadlines that, if not met by the PTO, result in an automatic extension of the term of individual patents.

---

[39]149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*,119 S.Ct. 851 (1999).

[40]Thomas, John R.. "The Post-Industrial Patent System," 10 Fordham Intellectual Property, Media & Entertainment Law Journal, (1999), 3, 32 n.156.

Among these deadlines are fourteen months for a first office action, four months for a subsequent office action, and four months between the payment of an issuance fee and the grant of a patent. As well, the prosecution of an original patent application must be completed within three years of the actual U.S. filing date, with exceptions granted for continuing applications and appeals. The PTO Director is charged with calculating any patent term extensions that might result from missed deadlines.

This statute appears to further the transition of the U.S. patent system from its previous system of patent term, which was 17 years from the date the PTO issued the patent.[41] As of 1995, however, patent term was set to 20 years from the date the corresponding patent application was filed.[42] Absent provisional rights obtained following publication of an application, however, the patentee obtains no legal rights until the PTO allows the patent to issue. A consequence of the current system of term calculation is that each day the application spends at the PTO amounts to a lost day for purposes of the duration of a patent. By ensuring prompt PTO performance through term extension, the Patent Term Guarantee Act of 1999 maintains the integrity of the 20-year patent term.

Subtitle E – Domestic Publication of Foreign Filed Patent Applications Act

The Domestic Publication of Foreign Filed Patent Applications Act of 1999 requires the PTO Director to publish pending patent applications 18 months from the earliest filing date to which they are entitled. Significantly, not all applications will be published. If an applicant certifies that the invention disclosed in the U.S. application will not be the subject of a patent application in another country that requires publication of applications 18 months after filing, then the PTO will not publish the application. As the PTO previously maintained all patent applications in secrecy, publishing them only when they had matured into formally approved patents, the Act marks a significant change in PTO procedures.

Some background into international and comparative patent law will assist understanding of this provision.[43] First, there is no global patent system. Patent rights must be applied for and secured in each jurisdiction. In a world where technology knows no borders and international trade increasingly dominates, patent protection in a single country is often insufficient to protect inventors.

---

[41]Lemley, Mark A. "An Empirical Study of the Twenty-Year Patent Term," 22 *American Intellectual Property Law Association Quarterly Journal*, Summer/Fall 1994, p. 369.

[42]Ibid.

[43]Smith, Len S. "Promoting the Progress of Science and America's Small Entity Inventors: Inventing An Improved U.S. Patent Application Provision Out of the Prior Art," 77 *Washington University Law Quarterly* (1999), 585; Christopher R. Balzan, Comment, "Mandatory Publication of Patent Applications Prior to Issuance of Patents: A Desirable Change in U.S. Policy?," 18 *Loyola Los Angeles International & Comparative Law Journal* 1995, p. 143.

In recognition of these realities, the United States has long been a signatory of the Paris Convention for the Protection of Industrial Property.[44] This treaty attempts to ease the burdens of maintaining patent rights in many jurisdictions. Among the chief provisions of the Paris Convention is the so-called priority right. The priority right allows patent applicants to benefit from an earlier filing date in a foreign country. So long as an inventor files abroad within one year of his first filing and complies with certain formalities, his subsequent foreign filings will be treated as if they were made as of the date of his initial filing.

A second important background principle is that foreign patent offices ordinarily publish patent applications 18 months after their first effective filing date.[45] As an example, suppose that an inventor filed an application at the U.S. PTO on June 1, 1996. Suppose further that the inventor sought patent rights in Germany, which is also a signatory to the Paris Convention. If the inventor files a German patent application by June 1, 1997, his application will be treated as having been filed on the U.S. filing date of June 1, 1996. The German Patent Office will publish the German application on December 1, 1997, 18 months after the first effective filing date to which the inventor is entitled.

In contrast to overseas regimes, the U.S. patent system traditionally maintained applications in secrecy. This regime advantaged patent applicants because it allowed them to understand exactly what the scope of any allowed claims might be prior to disclosing an invention. Thus, if the applicant maintained the invention that was subject to a patent application as a trade secret, then he could choose between obtaining the allowed patent claims and trade secret status.[46]

However, this secrecy regime has been perceived as imposing costs as well. Others might well engage in repetitive research efforts during the pendency of patent applications, unaware that an earlier inventor had already staked a claim to that technology. This arrangement also allows inventors to commence infringement litigation on the very day a patent issues, without any degree of notice to other members of the technological community.[47]

The Domestic Publication of Foreign Filed Patent Applications Act of 1999 attempts to strike a middle ground. U.S. patent applications will be published 18 months from the date of filing, except where the inventor represents that he will not seek patent protection abroad. To discourage applicants from delaying their claims of foreign priority under the Paris Convention, the Act allows the PTO Director to

---

[44]Daus, Donald G., "Paris Convention Priority," 77 *Journal of the Patent and Trademark Office Society* , 1995, p. 138.

[45]Todaro, John C., "Potential Upcoming Changes in U.S. Patent Laws: the Publication of Patent Applications," 36 *IDEA: Journal of Law and Technology*, 1996, p. 309.

[46]Goller, Mimi C., "Is a Padlock Better than a Patent? Trade Secrets vs. Patents," 71 *Wisconsin Lawyer* (May 1998), 20.

[47] Thomas, John R., "On Preparatory Texts and Proprietary Technologies: The Place of Prosecution Histories in Patent Claim Interpretation," 47 *UCLA Law Review* (1998), 187.

consider the failure of the applicant to file a timely claim for priority as a waiver of such claim.

Sometimes inventors seek more robust patent protection in some countries than in others. This step may be taken for business reasons or due to differences in the patent or competition laws in varying jurisdictions. The Domestic Publication of Foreign Filed Patent Applications Act therefore contains a provision allowing applicants to "submit a redacted copy of the application filed in the Patent and Trademark Office eliminating any part or description of the invention in such application that is not also contained in any of the corresponding application filed in a foreign country." As a result, if an applicant seeks broader patent protection in the United States than in other countries, only the more limited version of the application will be published here.

This Act also creates so-called provisional rights that may attach to published patent applications. Provisional rights are equivalent to a reasonable royalty, the amount that the patentee would have charged an infringer had the two parties entered into a licensing arrangement at the time the infringement began.[48] Persons who employ the invention as claimed in the published patent application are potentially liable for this amount. Provisional rights are subject to several qualifications. They are only effective at such time as the patent issues, apply only when the infringer had actual notice of the published patent application and the claims of the published application are "substantially identical" to those of the issued patent.

An example may clarify the workings of provisional rights. Suppose that an inventor files a U.S. patent application on February 1, 2001. Assuming the inventor does not file the appropriate certification, the PTO will publish the application 18 months later, on August 1, 2002. Suppose further that this application results in an issued patent that the PTO formally grants on June 1, 2003. Under these facts, the inventor may file a patent infringement suit on or after June 1, 2003. Assuming the statutory requirements are fulfilled, the inventor may claim provisional rights equivalent to a reasonable royalty from August 1, 2002, the date the application was published, through June 1, 2003, the date the patent was granted. Infringing acts that occur after June 1, 2003, will be subject to the full range of remedies under the Patent Act of 1952, including an injunction and damages based upon the lost profits of the patentee.[49]

Subtitle F – Optional Inter Partes Reexamination Procedure Act

The Optional Inter Partes Reexamination Procedure Act of 1999 provides members of the public with a degree of participation in the PTO post-grant proceeding known as reexamination. Under this legislation, individuals other than the patentee may opt to submit written comments to accompany patentee responses to the PTO. The requester may also appeal PTO determinations that a reexamined

---

[48] *Rodime PLC v. Seagate Technology, Inc.*, 174 F.3d 1294, 1308 (Fed. Cir. 1999), *cert. denied*, 120 S.Ct. 933 (2000).

[49] 35 U.S.C. § 288.

patent is not invalid to the PTO Board and the Court of Appeals for the Federal Circuit.

A feature of U.S. law since 1981,[50] the reexamination statute allows any individual, including the patentee, a licensee, and even the PTO Director himself, to cite a patent or printed publication to the PTO and request that a reexamination occur. If the PTO determines that this reference raises "a substantial new question of patentability," then it will essentially reinitiate examination of the patent. A principal goal of reexamination was to resolve validity disputes more quickly and less expensively than litigation.[51]

As originally structured, the reexamination statute encountered criticism. Reexamination was structured largely as a so-called "ex parte" proceeding. Much like the process of obtaining a patent in the first instance, reexaminations are structured as a dialogue between applicant and PTO examiner. The examiner does not assume an adversarial posture towards the patentee, but instead assists the patentee in ensuring that the patent fulfills the statutory requirements.[52] The patent law essentially limited the role of third parties to initiating the reexamination. Following this first step, third parties could only play the role of passive observer.

Some commentators did not believe the reexamination system provided a viable alternative to validity challenges in court.[53] Judicial proceedings are conducted in a so-called "inter partes" fashion, such that one litigant may contest the assertions of the other. The reexamination requestor may well have much to gain if the patent is struck down during reexamination, and so he would possess significant incentives to counter the arguments of the patentee. Traditional reexamination procedures did not provide that opportunity. As a result, the ability of reexamination to substitute for litigation of patent validity was compromised. Data supported these observations, for far fewer reexaminations were requested than had been originally anticipated.[54]

The Optional Inter Partes Reexamination Procedure Act of 1999 responds to these concerns by providing third party requesters with an additional option. They may employ the traditional reexamination system, which has been renamed an ex parte reexamination. Or, they may opt for a minimal degree of participation in a newly minted inter partes reexamination. Under the latter alternative, the third party requester may submit written comments to the PTO during the course of the

---

[50]Act to Amend the Patent and Trademark Laws, Pub. L. No. 96-517, ch. 30, 94 Stat. 3015 (1980).

[51]Conger, William G. "Patent Reexamination Re-examined," 1986 *Detroit College of Law Review* (1986), 523, 534.

[52]Russell E. Levine et al., "Ex Parte Patent Practice and the Rights of Third Parties," 45 *American University Law Review* (1996), 1987, 1990.

[53]Janis, Mark D. "Rethinking Reexamination: Toward a Viable Administrative Revocation System for U.S. Patent Law," 11 *Harvard Journal of Law & Technology* (1999),1.

[54]Conger, *supra* note 51, at 562 ("The current level of reexamination requests is only ten percent of that predicted and, as a result, the goals sought to be achieved through reexamination have not been met.").

reexamination. The third party requester may also appeal a PTO decision upholding the patent to the PTO Board or to the Court of Appeals for the Federal Circuit.

The statute includes one feature designed to discourage abuse of inter partes reexamination proceedings. Under the Optional Inter Partes Reexamination Procedure Act of 1999, issues that were raised, or could have been raised, during an inter partes reexamination may not be asserted later before the PTO or during litigation. In other words, an inter partes reexamination is essentially the final word on issues that were or should have been part of the proceeding, at least with respect to that requester. This provision does not prevent the requester from asserting invalidity based on prior art unavailable at the time of the inter partes reexamination.

Subtitle G – Patent and Trademark Office Efficiency Act

The Patent and Trademark Office Efficiency Act defines the PTO as an agency within the Department of Commerce and under the "policy direction" of the Secretary of Commerce. Significantly, the Act gives the PTO authority to "retain and use all of its revenues and receipts." The Act provides for the appointment of an Under Secretary of Commerce for Intellectual Property and Director of the PTO (Director), appointed by the President and confirmed by the Senate, to provide policy direction and management supervision for the PTO. In addition to the Director, a Deputy Director, a Commissioner of Patents, and a Commissioner of Trademarks will be appointed by the Secretary of Commerce. The Commissioners will serve five-year terms and act as the chief operating officers for PTO patent and trademark operations.

Finally, the new law establishes Public Advisory Committees for Patents and Trademarks, each with nine members appointed by the Secretary of Commerce for three-year periods, to review and report on the policies, goals, performance, budget, and user fees of the PTO. Not less than one-quarter of the membership of each committee must consist of representatives of independent inventors and small, entrepreneurial firms.

Assessment of the Effect of Patent Law Reform on Entrepreneurial Firms in High Tech Industries

Entrepreneurs and small, entrepreneurial firms have a role to play in the process of invention, innovation, and technological advance within the United States. The patent system may be a more significant part of this process for smaller entities, as compared with larger enterprises possessing more market power and material resources.[55] In that the American Inventors Protection Act of 1999 has worked

---

[55]House Committee on Small Business, Subcommittee on Government Programs and Oversight, *The Importance of Patent Term and Patent Application Disclosure Issues to Small Business: What Impact Will Proposed Changes in the Patent Laws Have on Small Business?*, 105th Cong., 1st sess., 24 April 1997, 44 (remarks of William D. Budinger, Rodel,

(continued...)

significant changes to the patent law, it is appropriate to consider the potential impact of patent law reform upon inventors and small companies in high tech industries.

Subtitle A – Inventors' Rights Act

Of all of the provisions of the American Inventors Protection Act of 1999, the Inventors' Rights Act is most oriented towards the needs of entrepreneurs. Invention promotion services are ordinarily marketed towards, and sought out by, individual inventors who are independent of a larger enterprise. Three components of the Inventors' Rights Act are worthy of discussion here.

One portion of the Inventors' Rights Act mandates that invention promoters disclose certain facts concerning their own services and the success of their clients. These disclosures could chill an invention promoter's desire to exaggerate its claims of success and thereby prove helpful to independent inventors. Experience with similar requirements in other areas of commercial law suggests that the effects of this reporting requirement may be modest, however. Disclosures of this sort are sometimes not fully understood by consumers and may not even be read.[56]

Another component of the Inventors' Rights Act creates a PTO-maintained log of complaints concerning invention promoters. Registration of complaints regarding invention promoters could be useful to the extent that inventors both report complaints to the PTO and consult the registry. Whether entrepreneurs diligently report complaints, or routinely contact the PTO prior to engaging the services of a promotion service, will remain a matter for future observation.

The Inventors' Rights Act also creates a cause of action for "any material false or fraudulent representation, or any omission of material fact" by invention promoters. Although potentially of use to the victim of a misrepresentation, this possibility is to some extent duplicative of preexisting causes of action under state tort and contract law.[57] Entrepreneurs already possessed mechanisms for achieving remedies against invention promoters who were fraudulent or otherwise misrepresented material facts to customers. The success of this cause of action could also be judged by the extent to which inventors employ it during litigation.

Subtitle B – Patent and Trademark Fee Fairness Act

It is well accepted that high costs present a significant barrier to patent acquisition.[58] These costs are keenly felt by entrepreneurs and small, entrepreneurial

---

[55](...continued)
Inc.).

[56]Restatement of the Law, Second, of Contracts § 211 (acknowledging that standardized agreements are often not read by consumers).

[57]Ibid at § 162 (defining misrepresentation).

[58]Meller, Michael N. "Costs Are Killing Patent Harmonization," 79 *Journal of the Patent &*
(continued...)

firms, which typically possess fewer financial resources than larger enterprises.[59] Reductions in the fees associated with patent acquisition should be of particular benefit to small companies. Two fundamental principles can be considered when assessing the impact of these fee reductions.

First, PTO fees do not comprise a large percentage of the total cost of patent acquisition. The bulk of these charges go towards the preparation and prosecution of the patent application by a patent attorney or agent. Although these fees vary markedly, depending upon locale, field of technology, amount of preparatory work associated with the application, and other factors, a 1993 study revealed that most inventors expend between $5,000 and $10,000 to acquire U.S. patent rights.[60] Within this financial setting, the reduction of the PTO filing fee by $70 may not be of great moment for patent applicants.

Second, the PTO currently provides a 50% fee discount for individual inventors and businesses with less than 500 employees.[61] Because the PTO is wholly funded by applicant fees, larger enterprises essentially subsidize small companies in their patent acquisition efforts at the PTO. As a result, only the larger firms will receive the entire discount. As entrepreneurs and small, entrepreneurial firms only bear 50% of the fees, they will also receive only 50% of the discount.

Subtitle C – First Inventor Defense Act

The effect of the First Inventor Defense Act of 1999 upon small, high technology enterprises is difficult to assess. Business method patents are a very recent phenomenon and empirical evidence of its effects are still not clear. However, some initial observations can be offered based upon past interactions between entrepreneurial firms and the intellectual property regime.

To the extent that small companies make an earlier use of a business method that is later patented by another, the First Inventor Defense Act could benefit them. As sole proprietorships and smaller firms may lack the funding to obtain patents on every

---

[58](...continued)
Trademark Office Society (March 1997), 211.

[59]Mogee, Mary Ellen. "Foreign Patenting Behavior of Small and Large Firms: Final Report" (5 March 1996), 30 (observing that "high cost obviously affects the ability of small companies to obtain and maintain foreign patents more than it does large companies.").

[60]Zisk, Matthew B., "Mediation and Settlement of Patent Disputes in the Shadow of the Public Interest,"14 *Ohio State Journal on Dispute Resolution* (1999), 481, 509 n.52 ("In 1993, the legal fees for drafting, filing, and arguing a normal high technology patent application through all stages short of appeal with the PTO were estimated to run between five and ten thousand dollars; when significant difficulty is encountered in the prosecution of a patent, the fees can go well beyond these numbers. A patent holder also must pay maintenance and application fees to the PTO that run into the thousands of dollars . . . .").

[61]Janis, Mark D. "Second Tier Patent Protection," 40 *Harvard International Law Journal* (1999),151, 180.

aspect of their technology portfolio,[62] they may well be the primary beneficiary of a statute that considerably augments the value of trade secrecy.

On the other hand, observers could justly question whether the entities that are best positioned to qualify as first inventors under the stringent provisions of the Act will actually be entrepreneurs and small, entrepreneurial firms. In this regard, it is important to note that the first inventor defense applies only when the putative first inventor "actually reduced the subject matter to practice at least one year before the effective filing date of such patent." The term "actual reduction to practice" refers to the construction of physical embodiment of a product invention or the actual practicing of a process invention.[63] An actual reduction to practice may be more difficult for small businesses to achieve than larger firms. Larger firms presumably have more resources available, and thus more able to put inventive ideas into commercial practice. Therefore, some contend that it is reasonable to believe that larger companies will find the first inventor defense more availing than independent inventors and small enterprises.

Holders of patents on business methods may also discover that their patent portfolios are of diminished value. A competitor's previous use of the patented invention may detract from the exclusive rights ordinarily enjoyed by patent proprietors. To the extent that small firms rely more heavily upon patents than larger enterprises, they may be more greatly impacted by the first inventor defense

Subtitle D – Patent Term Guarantee Act

The Patent Term Guarantee Act of 1999 appears to effect entrepreneurs, small entrepreneurial firms, and larger enterprises equally. Any sort of patent applicant may encounter PTO delays for any number of reasons, varying from simple personnel shortages to mandatory suspension of the prosecution due to the prior art definition within the patent law.[64] As a result, small, high tech companies stand to benefit from extended patent terms when PTO delays are encountered. However, they may also be subject to the lengthened terms of patents held by their competitors.

A difficulty with the Patent Term Guarantee Act is that some patents may enjoy terms that extend far beyond the usual duration of 20 years from the date the patent application was filed. In particular, patents not issued within three years of the filing date ordinarily will enjoy one day of additional term for each day of delay. As PTO delays can sometimes be considerable,[65] this provision might result in substantial term extension for patents in biotechnology and other fields. To the extent that the recent

---

[62]Cordes, *supra* note 2, at 58.

[63]*Scott v. Finney*, 34 F.3d 1058 (Fed. Cir. 1994).

[64]35 U.S.C. § 102(e).

[65]Lemley, *supra* note 41, presents a study that includes data on prosecution delays at the PTO.

adoption of a 20-year patent term was intended to encourage prompt patent acquisition efforts, the Patent Term Guarantee Act may undermine these efforts.[66]

The Patent Term Guarantee Act also charges the PTO to calculate the appropriate patent term and notify the applicant. This task may prove to be quite difficult. In particular, the Act requires that any term adjustment "shall be reduced by a period equal to the period of time during which the applicant failed to engage in reasonable efforts to conclude prosecution of the application." As a result, the Patent Term Guarantee Act may lead to a situation where members of the public will no longer be able to determine a patent's term based upon information on the face of the patent instrument. Instead, they must estimate the term based on information from the patent's prosecution history. Even then, the term may remain uncertain until a court resolves whether the patentee made "reasonable efforts" to conclude prosecution.[67]

Subtitle E – Domestic Publication of Foreign Filed Patent Applications Act

Some of the concerns of entrepreneurs and small, entrepreneurial firms appear to have been addressed during the drafting of legislation requiring the publication of pending patent applications. Indeed, a predecessor version of the Domestic Publication of Foreign Filed Patent Applications Act of 1999 expressly exempted small entities from the publication requirement.[68] As enacted, the Act allows applicants to certify that they will confine their patent acquisition efforts to the United States, and thereby avoid publication of their application prior to grant.

One explanation for this publication regime is that it ensures that U.S. inventors will be able to see the technology that foreign competition is seeking to patent much earlier than was possible before.[69] Detractors have observed that the Domestic Publication of Foreign Filed Patent Applications Act of 1999 essentially does nothing. Because the legislation only makes available applications that were already published by foreign patent offices, no more or less information is made available at particular times than was before.[70] One advantage of this legislation would lie in convenience.

---

[66]Blount, Steve, "The Use of Delaying Tactics to Obtain Submarine Patents and Amend Around a Patent that a Competitor Has Designed Around," 81 *Journal of the Patent & Trademark Office Society* (1999), 11.

[67]Michael R. McGurk, et al., *Report: The American Inventors Protection Act of 1999* (available at http://www.finnegan.com/fr_pubs.htm).

[68]House Committee on the Judiciary, *American Inventors Protection Act of 1999*, 106th Cong., 1st Sess., 1999, H.Rept. 106-287, p. 32.

[69]Ibid at pp. 52-53.

[70]House Committee on Small Business, Subcommittee on Government Programs and Oversight, *The Importance of Patent Term and Patent Application Disclosure Issues to Small Business: What Impact Will Proposed Changes in the Patent Laws Have on Small Business?*, 105th Cong., 1st sess., 24 April 1997, 48 (remarks of William D. Budinger, Rodel,

(continued...)

Inventors may find the U.S. PTO more accessible than foreign counterparts, and the published applications would be available in the English language.[71]

Detractors also note that this legislation may antagonize our trading partners. Inventors ordinarily file patent applications in their home jurisdictions first. Foreign filings are taken up later. As a practical matter, then, the only applications that will not be published under this statute are those filed by U.S. inventors. This domestic preference may violate the principle of national treatment, a pledge the United States made when it signed the Paris Convention to treat domestic and foreign inventors equally.[72]

The impact of the Domestic Publication of Foreign Filed Patent Applications Act of 1999 upon entrepreneurs and small, entrepreneurial firms appears uncertain. The Act ensures that inventors who only file patent applications in the United States need not disclose their technologies to the public until they are sure they know the scope of the grant the PTO will allow. However, small businesses will remain uncertain about the patent applications filed by others who have chosen not to file abroad. Even if the PTO does publish an application, applicants may have opted to redact portions of applications if they chose to seek more narrow patent rights overseas. As a result, considerable uncertainty surrounds this partial publication regime. Small, high tech firms may spend months engaging in wasteful and duplicative research efforts, only to discover that the PTO issued a patent foreclosing their commercialization of that technology.[73]

The Domestic Publication of Foreign Filed Patent Applications Act of 1999 may also discourage entrepreneurs and small, entrepreneurial firms from seeking patent protection abroad. Because this legislation attaches the penalty of publication to foreign filings, inventors may opt to forego the possibility of foreign patent rights. This incentive may impede small enterprises from receiving full compensation from the use of their technologies abroad and actually benefit overseas industry.[74]

Legislative concerns over theft, particularly by foreign actors, was among the motivations of the Domestic Publication of Foreign Filed Patent Applications Act of

---

[70](...continued)
Inc.).

[71]Ibid at p. 49.

[72]Thomas, John R. "Litigation Beyond the Technological Frontier: Comparative Approaches to Multinational Patent Enforcement," 27 *Law & Policy in International Business*, 1996, p. 277, 313 (discussing national treatment obligation).

[73]House Committee on Small Business, Subcommittee on Government Programs and Oversight, *The Importance of Patent Term and Patent Application Disclosure Issues to Small Business: What Impact Will Proposed Changes in the Patent Laws Have on Small Business?*, 105th Cong., 1st sess., 24 April 1997, 10 (testimony of Michael Kirk, American Intellectual Property Law Association).

[74]Hawkins, Douglas J. "Importance and Access of International Patent Protection for the Independent Inventor," 3 *University of Baltimore Intellectual Property Journal* (1995), 145.

1999.[75] For example, a representative of the Alliance for American Innovation remarked that a universal pre-grant publication would expose "the small entity to copying by both foreign and domestic imitators with only the illusory remedy of provisional rights being in place."[76] One inventor and entrepreneur stated that the publishing of patent applications before grant would "induce infringers to copy his invention before he has patent protection and when he may in fact never be granted a patent."[77]

Other observers have noted that once the PTO has granted a patent, the corresponding patent instrument is available for inspection on a global basis. U.S. patents may be freely read by individuals located in foreign jurisdictions, even though such patents offer exclusive rights only within the United States. If foreign patent rights have not been obtained or are not yet in the pipeline, then concerns over theft by foreigners may be besides the point.[78]

Subtitle F – Optional Inter Partes Reexamination Procedure Act

The Optional Inter Partes Reexamination Procedure Act could provide a more effective mechanism for interested parties to challenge the validity of issued patents. To the extent they wish to challenge the patents of others, entrepreneurs and small, entrepreneurial firms stand to benefit from this legislation. Presumably these types of companies possess less financial resources than other market entrants, so less costly alternatives than patent litigation would seem highly beneficial.

However, small businesses may also bear additional costs as a result of the Optional Inter Partes Reexamination Procedure Act. Prior to this legislative reform, patentees that did not sue or threaten to sue their competitors could ensure that they would not be subject to costly patent litigation. Following the Optional Inter Partes Reexamination Procedure Act of 1999, patents held by entrepreneurs may be subject to inter partes reexamination as well. Inter partes reexaminations will undoubtedly prove more costly than traditional, ex parte reexaminations, particularly if PTO findings of patent validity are appealed to the PTO Board or Court of Appeals for the Federal Circuit. And to the extent that inter partes reexaminations are cheaper then litigation, then industry actors will be more willing to launch them against competitors, including entrepreneurs and small, entrepreneurial firms.[79]

---

[75]Barta, Jr., James J. "Death of a Superior Intellectual Property Law System," 17 *St. Louis University Public Law Review* (1998), 383, 396.

[76]House Committee on Small Business, Subcommittee on Government Programs and Oversight, *The Importance of Patent Term and Patent Application Disclosure Issues to Small Business: What Impact Will Proposed Changes in the Patent Laws Have on Small Business?*, 105th Cong., 1st sess., 24 April 1997, 98 (remarks of Dr. B.N. "Biff" Kramer, Alliance for American Innovation).

[77]Ibid at 60 (remarks of Raymond Damadian, Fonar Corporation).

[78]Ibid at 47 (remarks of William D. Budinger, Rodel, Inc.).

[79]U.S. Library of Congress. Congressional Research Service, *Omnibus Patent Reform: An* (continued...)

Subtitle G – Patent and Trademark Office Efficiency Act

Entrepreneurs and small, entrepreneurial firms will likely gain two principal benefits from the Patent and Trademark Office Efficiency Act. First, the Act allows the PTO to "retain and use all of its revenues and receipts." This legislation should ensure that PTO revenues are not diverted to pay for other government functions. The entire patent community could benefit from a PTO that can deploy its revenue to retain qualified personnel, maintain an appropriate technical library and devote appropriate amounts of time to the examination process.[80]

Second, the Public Advisory Committees for Patents could provide small, high tech companies with a mechanism for dialogue with the PTO Director and Commissioner of Patents. The Act mandates that one member of the Committee must be an independent inventor. As well, not less than one-quarter of the nine-member Committee must consist of representatives of small entities. Curiously, this formula does not result in an integer, but it does ensure that delegates of entrepreneurs and small, entrepreneurial firms will have the opportunity to address PTO management. However, it should be noted that the members of the Public Advisory Committee will be appointed by the Secretary of Commerce, and that the Committee possesses no rule-making or other formal authority.

Issues and Options

Many of the provisions of the American Inventors Protection Act of 1999 were drafted in view of concerns expressed by entrepreneurs and small, entrepreneurial firms. However, the impact of most of the Act's significant reforms will likely depend not so much on the size of a specific entity, but upon other factors. Pertinent factors include the marketplace importance of the actor's patent portfolio; the innovative activity of the actor's competitors; and the general propensity of the actor's industrial sector towards patent acquisition and enforcement.

More specifically, both the Inventor's Rights Act and the Patent and Trademark Efficiency Act appear principally to benefit small, high tech businesses. Independent inventors have long been the favored targets of invention promotion services, and the creation of a Public Advisory Committee for Patents should promote communication with PTO management. Yet the reforms achieved by this legislation appear modest in view of more significant changes wrought by the other titles of the American Inventors Protection Act. This group of statutory amendments appear to be of neutral application to entrepreneurs; small, entrepreneurial firms; and larger entities.

---

[79](...continued)
Overview of H.R. 400, by Dorothy Schrader, Report 97-336, 14 May 1997, p.12.

[80]For further discussion of the value of proper examination of applications by the PTO, see Robert P. Merges, "As Many As Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform," 14 *Berkeley Technology Law Journal* (1999), 577.

For example, entrepreneurs and small, entrepreneurial firms stand to benefit from the First Inventor Defense Act to the extent they have held methods of doing business as trade secrets. Yet the first inventor defense also decreases the value of patents on methods of doing business, whether or not the holder of such a patent is a small or large entity. Similarly, the Optional Inter Partes Reexamination Procedure Act makes it easier for anyone to challenge issued patents. While small companies may find it easier to defeat the patents of others, to the extent that they are patentees they may have to fend off more reexaminations themselves.

The Domestic Publication of Patent Applications Filed Abroad Act also appears even-handed in application. Among its effects is to delay public access to patent-related information until such time as the patent issues if the inventor seeks patent protection only within the United States. The Domestic Publication of Patent Applications Filed Abroad Act may well protect individual inventors and small businesses from unscrupulous individuals who steal information from published patent applications. But to the extent that these firms have competitors who seek patent applications only in the United States, they may suffer from a lack of forewarning over the proprietary interests of others. As the Domestic Public of Patent Applications Filed Abroad Act seemingly discourages entrepreneurs and small, entrepreneurial companies from seeking patent rights abroad, its directives also appear inconsistent with the current trends in international trade.

The provisions of the Inventors Protection Act that decrease PTO fees and extend patent terms also appear to impact small and large entities impartially. The costs of obtaining patents will become marginally less expensive for both, perhaps making it easier for them to obtain patents, but potentially increasing the number of competitor patents for which concern must be had. Last, PTO delays in processing applications occur independently of the size of the patent applicant. Some entrepreneurs and small, entrepreneurial firms may reap the benefits associated with longer patent terms, but others may have to deal with the delayed expiration dates of patents owned by competitors.

Several provisions of the Inventors Protection Act may deserve further congressional observation and consideration. Among them is the current articulation of the first inventor defense. The First Inventor Defense Act of 1999 provides only a brief explanation of the patented subject matter to which it applies. In contrast to its extended definition of "commercially used," the statute provides only that "the term 'method' means a method of doing or conducting business." This succinct delineation may contain some ambiguity. As an example, consider an accused infringer whose sole commercial practice is the manufacturing of a particular chemical compound. Methods of manufacturing have traditionally been among the subject matter of the patent system. Yet, should another patent that method, the accused infringer may well argue that a chemical manufacturing technique is also a method of doing business.

Given that the statute's legislative history makes clear that the First Inventor Defense Act of 1999 was inspired by the Federal Circuit opinion in *State Street Bank*, this argument may at first appear untenable. The House Report to accompany H.R. 1907 expressly states, however, that this legislation is "not confined to the financial

services industry."[81] Further, while the *State Street Bank* opinion undoubtedly triggered a boom in filing patents on such inventions in such industries as finance and insurance, a review of patents issued prior to that opinion suggests that numerous previous patents had issued that could arguably be described as business methods. For example, two such issued patents, one relating to managing a dry cleaning establishment and the other relating to a plan for saving for anticipated college tuition expenses, were the subject of recent opinions from the United States Supreme Court.[82] With no articulated definition of the term "method of doing or conducting business" in the statute, no clear record of congressional intent, and no shared meaning of this term prevalent within the patent community, judicial interpretation of this term will be crucial.[83]

The statute also contains a limitation regarding the manner in which the patent claim is drafted that may prove difficult to apply in practice. The First Inventor Defense Act of 1999 provides that "[a] person may not assert the defense under this section unless the invention for which the defense is asserted is for a method." However, the House Report to accompany H.R. 1907 provides:

> An invention is considered to be a process or method if it is used in connection with the production of a useful end-product or -service and is or could have been claimed in the form of a business process or method in a patent. A software-related invention, for example, that was claimed by the patent draftsman as a programmed machine when the same invention could have been protected with process or method patent claims is a process or method for purposes of § 273.[84]

A difficulty with this language is that experienced patent practitioners know that virtually any invention can be drafted in either product and method format.[85] The choice of one format or the other is most typically a matter of drafting style. That the first inventor defense is supposedly limited to methods appears to have almost no substantive legal effect whatsoever.

Looking forward, these issues may lead Congress to explore an expansion of the First Inventor Defense Act of 1999. A simple adjustment to this statute could allow

---

[81]House Committee on the Judiciary, *American Inventors Protection Act of 1999*, 106th Cong., 1st sess., 1999, H.Rept. 106-287, 46.

[82]*Florida Prepaid Postsecondary Education Expense Board v. College Savings Bank*, 527 U.S. 627 (1999); *Markman v. Westview Instruments Inc.*, 517 U.S. 370 (1996).

[83]"Signing of IP Reforms Amends Work-for-Hire, Leaves 'First Inventor Defense' Unclear," 59 *Patent, Trademark & Copyright Journal* (2 Dec. 1999), 330, 331-32.

[84]House Committee on the Judiciary, *American Inventors Protection Act of 1999*, 106th Cong., 1st sess., 1999, H.Rept. 106-287, 46.

[85]John R. Thomas, "Of Text, Technique and the Tangible: Drafting Patent Claims Around Patent Rules," 17 *John Marshall Journal of Computer and Information Law* (1998), 219, 222.

for a more expansive group of patentable subject matter.[86] In this regard the first inventor defense could prove quite similar to those prevailing in other countries.[87] These statutes are commonly referred to as creating "prior user rights." Unlike the more limited regime created by the First Inventor Defense Act of 1999, prior user rights abroad are not limited to methods of doing or conducting business. They instead apply to any sort of invention. Experience with the First Inventor Defense Act of 1999 might suggest whether the United States should consider a more full-fledged prior user rights regime, or be maintained as a limited cure of a specific problem.

Finally, to whatever range of inventions it applies, a first inventor defense appears to augment the value of trade secrets at the expense of the patent regime. In a system where trade secret holders may face liability for patent infringement in the future, inventors face significant incentives to file applications at the PTO. Even if inventors never plan to enforce their patents against competitors, the patents nonetheless possess defensive value should others come to the same invention later. But where trade secret holders may employ a first inventor defense, the incentive to obtain patent protection is diminished. A prior trade secret status will block liability for patent infringement. This system may reduce the number of filed patents, and as a consequence diminish the public trove of knowledge that appears only in issued patent instruments.[88]

The manner in which the PTO implements the Domestic Publication of Patent Applications Published Abroad Act of 1999 may also be of interest to Congress. Inventors often amend their applications during the eighteen months following the filing date, either unilaterally or in response to statements by the examiner. Whether the application should be published as filed or with regard to later developments appears to be an open question. As well, whether the PTO will publish the entire application or merely a representative portion, and the precise medium of presentation, appear unsettled.

The Act's piecemeal publication regime might be considered as providing a first step towards an ecumenical publication system. In August 1994, the United States and Japan signed an agreement under which the Japanese Patent Office agreed, among other things, to end its practice of allowing third-party, pre-issuance oppositions and to allow the filing of patent applications in the English language. In return, the United States in part agreed to introduce legislation requiring the publication of patent application eighteen months after filing. The Japanese Patent Office has met its commitments.[89] Experience with the publication of a subset of pending U.S.

---

[86]Jean Hubert, Pierre. "The Prior User Right of H.R. 400: A Careful Balancing of Competing Interests," 14 *Santa Clara Computer & High Technology Law Journal* (1998), 189.

[87]The Advisory Commission on Patent Law Reform, *A Report to the Secretary of Commerce* (1992), 48.

[88]Rohrback, Robert L. "Prior User Rights: Roses or Thorns?," 2 *University of Baltimore Intellectual Property Journal* (1993), 1.

[89]James E. Hudson, III, Comment, "The U.S.-Japan Agreement for Eighteen Month Publication of U.S. Patent Applications: How Should it Be Implemented?", 5 *Journal of*

(continued...)

applications may lead Congress to revisit the wisdom of moving to a universal publication regime as was promised nearly six years ago.

Finally, the PTO response to the new inter partes reexamination system may be of interest to Congress. As the Patent and Trademark Office moves to a somewhat unfamiliar regime of adversarial proceedings, examiners must bear increased adjudicatory responsibilities.[90] The Optional Inter Partes Reexamination Procedure Act of 1999 calls for a PTO report progress following the passage of five years, and the experience of the PTO should be well worth considering.

It should also be noted that some patent practitioners have doubted whether industry will make significant use of the inter partes reexamination statute.[91] Although many commentators have called for more robust third party participation in reexaminations, the preclusive effect attached to inter partes reexamination proceedings may have a chilling effect upon such proceedings. Potential requesters may be reluctant to provoke reexaminations if they lack further opportunities to challenge the reexamined patent based upon prior art that was, or should have been, before the PTO during the reexamination. The fact that inter partes reexaminations are more narrow in scope than judicial proceedings, and that many observers consider the courts to be a more neutral forum than the PTO, may contribute to this prediction. Whether the new inter partes reexamination will fulfill its expectations remains to be seen.

A final observation is that the American Inventors Protection Act of 1999 highlights the dynamic between Congress, the PTO, and the courts in administering the patent system. Until recently, patent policy was largely controlled by the PTO and the Court of Appeals for the Federal Circuit, with little input from the legislature. Certain problems are associated with judicial and administrative oversight, however. Patent litigation is increasingly the subject of jury trials,[92] which may not provide the optimal mechanism for the advancement of sound patent policies. The assignment of a significant policy role to the PTO, an agency which issues patents following ex parte examination, may create an environment favoring proprietary rights holders without a significant advocacy role for the larger public interest.

This environment has not gone unnoticed by the Supreme Court. The Court on several occasions has proposed that Congress provide guidance on crucial issues within the patent law, including the scope of patent coverage and the patentability of

---

[89](...continued)
International Law and Practice (Spring 1996), 87.

[90]Teresa Riordan, "An overhaul of the rules is possible, but opposition to the plan remains fierce," *New York Times*, Jan. 5, 1998: D1 (quoting Jay R. Thomas, Associate Professor of Law, George Washington University Law School).

[91]Michael R. McGurk, et al., *supra* note 67 (concluding that "it is easy to see why most people—at least those well-informed—are not likely to opt for inter partes reexamination.").

[92]Robert A. Armitage, "Corporate Counsel's Role in Patent Litigation: Managing a Legal Team to Meet Business Objectives," 375 *Practicing Law Institute: Patents* (1993), 135, 148.

computer software and life forms.[93] To date, Congress has not accepted these suggestions. The American Inventors Protection Act testifies to the growing importance of intellectual property in the U.S. economy and suggests increased legislative interest in the once obscure field of patents.

---

[93] *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 28 (1997) (noting congressional ability to mandate the appropriate scope accorded to individual patent instruments); *Diamond v. Chakrabarty*, 447 U.S. 303, 317-18 (1980) (suggesting that concerns over the patentability of living organisms be presented to Congress); *Gottschalk v. Benson*, 409 U.S. 63, 73 (1972) (noting, with regard to computer software, that "[t]he technological problems tendered in the many briefs before us indicate to us that considered action by the Congress is needed.").