

Overview of Financial and Business Method Patents

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Almost all formal disputes involving issued patents are tried in the Federal judicial system. The initial litigation must be undertaken in a district court. Prior to 1982, appeals of patent cases were heard in the appellate courts of the various circuits. These differed considerably in their interpretation of patent law. Because few appeals of patent cases were heard by the Supreme Court, substantial differences persisted, leading to widespread "forum shopping" by litigants.

In 1982, the U.S. Congress established a centralized appellate court for patent cases, the Court of Appeals for the Federal Circuit (CAFC). As Robert Merges [1992] observes,

While the CAFC was ostensibly formed strictly to unify patent doctrine, it was no doubt hoped by some (and expected by others) that the new court would make subtle alterations in the doctrinal fabric, with an eye to enhancing the patent system. To judge by results, that is exactly what happened.

The CAFC's rulings have been more "pro-patent" than the previous courts. For instance, the circuit courts had affirmed 62% of district court findings of patent infringement in the three decades prior to the creation of the CAFC, while the CAFC in its first eight years affirmed 90% of such decisions.¹

The strengthening of patent law has not gone unnoticed by corporations. Since 1985, patents awarded to U.S. corporations have doubled. Furthermore, the willingness of

firms to litigate patents has increased considerably. The number of patent suits instituted in the Federal courts has increased from 795 in 1981 to 1530 in 1997; adversarial proceedings within the U.S. Patent and Trademark Office have increased from 246 in 1980 to almost 500 in 1997.² My analysis of litigation by firms based in Middlesex County, Massachusetts suggests that six intellectual property-related suits are filed for every one hundred patent awards to corporations. These suits lead to significant expenditures by firms. Based on historical costs, patent litigation begun in 1991 will lead to total legal expenditures (in 1991 dollars) of over \$1 billion, a substantial amount relative to the \$3.7 billion spent by U.S. firms on basic research in 1991.³ Litigation also leads to substantial indirect costs. The discovery process is likely to require the alleged infringer to produce extensive documentation, time-consuming depositions from employees, and may generate unfavorable publicity. Its officers and directors may also be held individually liable.

As firms have realized the value of their patent positions, they have begun reviewing their stockpiles of issued patents. Several companies, including Texas Instruments, Intel, Wang Laboratories, and Digital Equipment, have established groups that approach rivals to demand royalties on old patent awards. In many cases, they have been successful in extracting license agreements and/or past royalties. For instance, Texas Instruments has netted \$500 million in recent years from patent licenses and settlements resulting from their general counsel's aggressive enforcement policy.⁴

¹This comparison is based on Koenig [1980] and Harmon [1991].

²Compiled from Administrative Office of the United States Courts [various years] and U.S. Department of Commerce, Patent and Trademark Office [various years].

³These estimates are based on Lerner [1995].

These effects have been particularly pernicious in emerging industries. Chronically strained for resources, USPTO officials are unlikely to assign many patent examiners to emerging technologies in advance of a wave of applications. As patent applications begin flowing in, the USPTO frequently finds the retention of the few examiners skilled in the new technologies difficult. Companies are likely to hire away all but the least able examiners. These examiners are valuable not only for their knowledge of the USPTO examination procedure in the new technology, but also for their understanding of what other patent applications are in process but not awarded. (U.S. patent applications are held confidential until time of award.) Many of the examinations in emerging technologies are as a result performed under severe time pressures by inexperienced examiners. Consequently, awards of patents in several critical new technologies have been delayed and highly inconsistent. The clearest examples of this problem are the biotechnology and software industries. In the latter industry, examples abound where inexperienced examiners have granted patents on technologies that were widely diffused but not previously patented.⁵ These ambiguities have created ample opportunities for firms that seek to aggressively litigate their patent awards.

B. The State Street Decision

With this background, I will now turn the specifics of financial and business method patents. Since the early days of the twentieth century, there has been considerable doubt as to whether methods of doing business fell under the definition of patentable subject matter, namely “any new and useful process, machine,

⁴This estimate is based on a review of Texas Instruments 10-K filings.

⁵See the examples discussed in Merges [1999].

manufacture, or composition of matter.”⁶ While the United States did not explicitly forbid business method patents, as many countries did, there was still a presumption that they did not fall into these four categories and hence were not patentable.⁷

This presumption changed with the CAFC’s July 1998 decision in *State Street Bank & Trust v. Signature Financial Group*.⁸ This case had originated with a software product used to fix closing prices of mutual funds for reporting purposes, on which Signature had obtained a patent for in 1993. The system essentially allowed managers of fund complexes to efficiently “mark to market” portfolios and allocate expenses, taxes, and other costs. After licensing talks with Signature broke down, State Street Bank sued in 1996 to have the patent invalidated on the grounds that it covered a business method and was hence not patentable. This was an important issue to State Street, since it serves as custodian for about 40% of U.S. mutual fund assets and is estimated to derive revenues of more than \$3 billion for its services.

While State Street’s argument prevailed in the Federal District of Massachusetts, where a summary judgment of patent invalidity was issued. The CAFC reversed the decision on appeal. In its decision, the appellate court explicitly rejected the notion that there was a “business method” exception for patentability. Rather, the CAFC stated that “the question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to ... but rather on

⁶35 U.S.C. 101.

⁷The crucial decision in establishing such an exception was *Hotel Security Checking Co. v. Lorraine Co.*, 160 F. 467 (2d Cir. 1908), which concerned a restaurant bookkeeping system.

the essential characteristics of the subject matter, in particular, its practical utility.”⁹ State Street’s certiorari petition to the Supreme Court, asking them to review this decision, was rejected in January 1999.

Assessing the extent to which this decision has affected firm behavior is difficult. Certainly, financial patents have issued for many years. (The patent issued to Merrill Lynch in 1982 for its cash management account was one highly publicized example.) But practitioner accounts suggest that the *State Street* decision has spurred many financial institutions to reconsider their policies regarding patenting. Informal conversations with patent examiners in the relevant examination groups suggest that a large number of applications, perhaps several hundred, have been received in the wake of the decision. Applications for other classes of business method patents also appear to be increasing. A particular area of activity appears to be electronic commerce. Interest here has been stirred by the award of at least one dozen broad patents to Walker Digital, parent of Priceline.com, an Internet company that conducts “reverse auctions.”

A casual examination of the financial patents that were filed prior to the *State Street* decision and have issued underscores many of the issues regarding examination quality discussed above. In some cases, awards have been made that make virtually no reference to the non-patented prior art, including the academic literature (one example is U.S. Patent No. 5,206,803, “System for Enhanced Management of Pension-Backed Credit,” awarded to Francis Vitagliano and Nobel Laureate Franco Modigliani). In other

⁸149 F.3d 1368 (Fed. Cir. 1998).

⁹*State Street*, 149 F.3d at 1375.

cases, the academic literature is referenced, but the claims of the award do not acknowledge the extensive earlier utilization of the concepts by practitioners (for instance, U.S. Patent No. 5,884,286, “Apparatus and Process for Executing an Expirationless Option Transaction” and No. 5,940,810, “Estimation Method and System for Complex Securities using Low-Discrepancy Deterministic Sequences”¹⁰). The front pages of these three patents are reproduced in the appendix.

¹⁰For a discussion of the novelty of the latter patent, see the discussion in Falloon [1999].

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