

Remarks by Vice Chairman Roger W. Ferguson, Jr.

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Patent Policy in a Broader Context

Good morning. I want to thank Bob Eisenbeis for inviting me to participate in this year's Financial Markets Conference. The organizers at the Atlanta Fed, as well as the Center for Banking and Finance at the UNC School of Law, have put together an amazing event. It has been a pleasure to be here. I am confident that everyone is still going strong and is ready to engage in a lively discussion during this final session.

Earlier in the conference, we heard about the domestic and international legal frameworks surrounding business method patenting. We discussed business strategy and the potential for individual firms to use components of the intellectual property regime in both offensive and defensive ways. And just this morning, we examined some of the evidence on patenting and its effects on innovation. With Bronwyn Hall's paper as a starting point, this final session will focus on the public policy issues related to business method patents. To introduce this session, I would like to step back and place the public policy debate in a broader context.

In particular, I want to briefly discuss the importance of information technology and intellectual property in the "new" economy. Throughout history, economic growth and an increasing standard of living have been driven by an economy's capacity for invention and innovation. The economies of the United States and other countries have seen huge productivity gains from the development and rapid adoption of new information and communication technologies. The mechanisms for protecting intellectual property, and the degree to which they are used, vary from industry to industry and over time, but the incentives created by intellectual property protections have likely been important in fostering economic growth.

Over the past several years, and particularly since the State Street decision, those protections have been extended and now encompass the processes and methods of doing business that use these technologies. In many regards, such business method patents may be no different from traditional product and process patents; however, the fact that we are all here to discuss this topic suggests that business method patents may be distinctive in some important ways. Are the risks of a too-lenient, or too-stringent, patent system the same for these innovations? Are the current institutions capable of assessing the novelty and non-obviousness of such inventions? Is a second level of review really necessary for these patents? Our goal here is consider these and related questions. How should we structure our intellectual property institutions? What roles should each of these institutions play to ensure an overall public policy geared toward the continued innovation and adoption that is central to strong economic growth.

The State Street case was decided during a period of intense innovation and creativity in the

U.S. economy that led to gains in productivity. As we are coming to understand, the sources of these productivity gains go way beyond the increased technological ability to gather, store, process, and disseminate information. Rather, much of the increase in productivity we have seen stems from the simultaneous invention of new forms of economic organization and of innovations in business practices, both within and across economic entities. For example, just-in-time inventory systems allow more efficient sharing of risk between suppliers and retailers. The ability of on-board computers to monitor driver behavior has altered contracting between vehicle owners and operators, fostering a more efficient use of trucks. The decreased search and transaction costs in new electronic marketplaces allow transactions to occur that were prohibitively expensive before.

As many of you in the audience are aware, economists have argued that information technology is best thought of as general purpose technology (GPT). A key characteristic of GPT is that technical progress depends not only on invention but also on so-called co-invention, that is innovation in complementary technologies that increases the productivity of the GPT. New processes and new procedures that best use the technology.

These processes and procedures are precisely the focal point of business method patenting. Following State Street, inventors can now gain protection for their innovations in this area: Not only the hardware and software but also the embedded business method is patentable. Inventors of new ways of using these technologies can now gain protection for their work. For example, a patent was issued for "reverse auctions," in which the buyer names a price and the first willing seller gets the sale. Netcentives was granted the patent for online incentive and reward programs. In the financial arena, the original State Street patent was granted on the software, hardware, and algorithms that computed share prices for a hub and spoke system of mutual funds. Various computer methods that allow the securitization of financial instruments have now been patented. In all these cases, the transformation of electronic data to create a new product or new method of transacting has won patent protection.

However, innovations in the new economy are in some sense broader than these examples suggest. Economic gains are likely to be found not just in the invention of new products but also in reorganizing the firms and markets themselves. Here, too, business method patents are likely to be important. In recent years, huge improvements have occurred in supply-chain management linking manufacturers directly with their distributors. Several dot.com companies were founded on the notion of bringing industry participants together in new ways, using new technologies and business practices. Although some of these firms are no longer with us, the electronic sharing and processing of information that they introduced is unlikely to stop.

The widespread adoption of technologies in these latter cases rests fundamentally on the adoption of standards, on the idea that all industry participants use compatible technologies. In the parlance of economics, such technologies exhibit network effects: The value of the innovation to a given user increases with the number of other users. In this case, the efficiency gains arise when a large number of users sign on to the standard. The key issue, therefore, is who owns this standard, that is, whether any market participant may have open access to a public standard or whether the property rights to that technology are owned by a given firm. Further, with business method patents, these property rights may attach not to a specific technological standard but more generally to a method of transacting or some other business process. In such cases, how should the market determine the outcome, and what effect could the patenting system have?

An example in the financial services arena highlights the issues involved. A patent was recently issued for a "system and method for conducting web-based financial transactions in capital markets." The patent holders claim that "the system enables institutional investors and financial institutions to seamlessly create, price, negotiate, execute, settle and analyze complex, capital market transactions, including interest and currency derivatives, foreign exchange, loans and deposits, and fixed income instruments, using a standard vocabulary and messaging system that enables seamless integration with the proprietary, existing systems of the users."

In essence, this technology connects market participants and allows easy and standardized trading of a host of financial instruments. Efficiency gains are likely to be realized as transaction costs are lowered and as markets become thicker. However, as the owners of the patent admit, this is a highly competitive market in which many firms endeavored to build such a system. Given the large network effects inherent in any such centralized technology, how should we view the patent? How should we think about the race that led up to it? What is likely to happen with legal challenges?

The task for public policy in the post State Street world is to strike the right balance--to encourage innovation and rapid adoption of new products and processes while limiting the damage from granting monopoly power. The United States has been in the forefront of the financial services industry, a position we want to maintain. But how do we structure the institutions of public policy to attain these goals? To make matters more complex, how do we achieve this balance when not only is the technology rapidly advancing but the realm of patentable material is expanding as well? State Street opened the door to a new world, a world that innovators have only just begun to explore. To date, most patent filings are still modeled on traditional "machine-plus-method" patents, emphasizing the technology as much as the process. However, the model may change. As the Patent and Trademark Office remarked in its recent white paper, the subject of patents is slowly moving away from "the implementing or enabling engineering" toward "the end result the inventor is trying to achieve with that technology." When inventors start approaching the patent office with patents for true business methods, how should they be handled? What should be the role of the courts? What processes need to be in place?

To discuss just these issues, we have a great panel, with some interesting ideas and some very strong opinions. Moderating a conference call among session participants a few weeks ago proved to be quite the challenge, so I am a little nervous about what happens next. To begin, I would like to ask Bronwyn Hall, Professor of Economics at the University of California at Berkeley, to present her paper. We will then hear comments from a distinguished panel composed of Todd Dickinson, Alec French, and William Young. At that point, I will let the panel members pester each other a bit before I open the floor to your questions and comments.

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