

UNDER THE BRIDGE: Patent Trolls and the Toll on Innovation

by Melissa Pogue

As part of our study of the infrastructure of democratic capitalism, we are exploring different themes associated with physical infrastructure (buildings, roads, sewers and other constructed resources that we share across a society), transactional infrastructure (the set of rules, decision-making institutions and mechanisms that allow a society to exchange goods and services and to interact effectively) and knowledge infrastructure (the set of systems and institutions—including education, media, and the Internet—that enable the creation and sharing of ideas and the reliable transfer of information). These short articles represent our early thoughts on these themes. We welcome your thoughts and reactions. Email us at assistant@martinprosperity.org.

In folklore, a troll lives under a bridge, waiting for an unsuspecting traveler to cross. As soon as a traveler journeys midway over the bridge, the evil troll emerges to demand a toll to cross the rest of the way, otherwise halting the traveler in his tracks. Patent trolls get their name for doing much the same; these individuals and organizations wait dormant until a new innovation emerges, springing into action to charge licensing fees or royalties against the innovator who has unknowingly infringed on the obscure patent. Unsuspecting defendants pay these fees to settle infringement lawsuits based on wide-ranging patents that had not previously been enforced or perhaps known. Often, this is carefully timed to when defendants

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have begun production on new offerings and would face huge costs to modify the product without the patented elements. In this way, patent trolls extract the most value they can.

Intellectual property rights and the patent system are designed to support innovation. By granting monopoly rights to inventions for a finite time, the system seeks to allow inventors to benefit from their proprietary ideas, ensuring that those ideas will not be appropriated by another user without permission. These systems were created in the belief that, without such structures, inventors would not be able to recover the costs of discovery and innovation would suffer; without recourse to protect ideas, there would be little incentive to invest in invention activities, since anyone could sell a product that was created using another's resources.

A byproduct of this protection process is that these patents become assets. And like most assets, they can be exchanged on the open market. A patent holder can buy or sell the patent to another organization. The purchasing organization then gains the full rights to the patent that the original holder, and any subsequent holder, had received.

It might seem odd to let people buy and sell the rights to something that another person invented, but the procedure can be very beneficial to the commercialization process. If inventors are unable to bring their patent to market, perhaps due to resource constraints, a secondary patent owner can pay the inventor for the idea and bring it to market. This brings liquidity to the market, enables the inventor to earn some sort of return and increases the odds that in-

novations do eventually see the light of day. An influx of cash from selling a patent means that the inventor can then turn his or her mind to the next innovation.

Indeed, many of the great inventors of the nineteenth and twentieth century specialized in invention. They produced returns to their work by selling and licensing their inventions, rather than by commercializing those inventions themselves. Accordingly, specialized patent agents and attorneys emerged to assist inventors with the process of selling their ideas, reducing search and transaction costs and helping secure venture capital.¹ An efficient market developed and sustained over time.

Even at the outset of the exchange of patents, some of the entities that bought patents had no desire to produce or use the inventions behind them. These organizations are called non-practicing entities, or NPEs. As they were intended, NPEs serve a useful purpose; they operate as a storehouse for patents, providing liquidity to investors while ensuring rights are protected over time. Some NPEs are Universities. Other NPEs are individual inventors who hope to someday incorporate the invention into new innovations or to sell it down the line. All of this is an unobjectionable use of the system.

But every system, every market, can be gamed and patents are no exception. The patent system is being gamed by a particular form of NPE: trolls. These are entities whose sole purpose is to acquire patents at a relatively low price and use them to litigate for millions. And, increasingly, their effect on the innovation landscape is frightening.

1 Khan, B. Zorina. "Trolls and Other Patent Inventions: Economic History and the Patent Controversy in the Twenty-First Century." (2013).

Trolls represent a significant and growing segment of patent litigation. RPX reports that trolls accounted for 62% of patent lawsuits initiated and 59% of patent defendants in the United States in 2012.² This compares to another study which cites the percentage of patent lawsuit for 2012 by trolls was 59%, up from 25% in 2007.³

The effect of NPEs on the U.S. economy cannot be oversold. A recent study found NPEs caused \$29 billion of direct costs to U.S. firms in 2011.⁴ This didn't even account for the indirect costs of resource changes, time delays and lost market share. Just comparing this to the \$267 billion of total business sector research and development investment in 2011,⁵ it is clear that the cost of NPE patent assertions constitutes a significant toll on business innovation. But this isn't just a large firm problem. The same study highlighted that 59% of the companies sued were small and medium-sized companies, and that small and medium sized companies ended up paying 37% of the direct costs of the lawsuits.⁶ As well, more than half of all U.S. patent troll defendants made \$10 million or less in revenue in 2012.⁷

It turns out, most patent claims made by NPEs are groundless. A 2012 Congressional study found that 92 percent of lawsuits from NPEs

were defeated.⁸ But most companies settle before trial; most of the time, it is more expensive to fight a patent lawsuit than to settle. And it's not just the companies who will lose out if the trolls win. The consequences of the patent trolls are felt by consumers, too, as the cost of settling patent troll lawsuits is passed on in the price of products. The problem is particularly pernicious in information technology and telecommunications, where thousands of innovations are aggregated to produce a single new product, like and iPhone. As Apple's Tim Cook put it, if everyone tried to collect on their patents, no one could afford to make a smartphone.⁹

Yet, the balance of legal power is squarely in the trolls' favour. Under U.S. patent law, patent owners have the right to not just the share of the value that its invention supplies to the end product, but also a share of the sales of that product until the producer is able to replace the violating patent. This clause can result in years and billions of dollars in excess returns. In the unlikely event that the troll wins the lawsuit, the court can also provide injunctive relief that could shut down the production process.¹⁰

To remedy this problem, we need to address the most harmful behavior of the trolls while recognizing that some NPEs, like universities, do

2 Based on RPX data reported by Chien, Colleen V. "Patent Trolls by the Numbers." *Santa Clara Univ. Legal Studies Research Paper* 08-13 (2013).

3 Feldman, Robin, Thomas Ewing, and Sara Jeruss. "The AIA 500 Expanded: The Effects of Patent Monetization Entities." *UC Hastings Research Paper* 45 (2013).

4 Bessen, James, and Michael J. Meurer. "Direct Costs from NPE Disputes, The." *Cornell L. Rev.* 99 (2013): 387.

5 National Science Foundation, "Research and Development: National Trends and International Comparisons." *Science and Engineering Indicators 2014* (2014). Available at <http://www.nsf.gov/statistics/seind14/index.cfm/chapter-4/c4h.htm>.

6 Bessen, James, and Michael J. Meurer. "Direct Costs from NPE Disputes, The." *Cornell L. Rev.* 99 (2013): 387.

7 Based on RPX data reported by Chien, Colleen V. "Patent Trolls by the Numbers." *Santa Clara Univ. Legal Studies Research Paper* 08-13 (2013).

8 Yeh, Brian T. *An Overview of the "Patent Trolls" Debate*. Congressional Research Service, 2012.

9 Levy, Steven. "The Patent Problem." *WIRED.com*, November 13 (2012).

10 Magliocca, Gerard N. "Blackberries and barnyards: Patent trolls and the perils of innovation." *Notre Dame Law Review* 82 (2007): 1809–1838, p. 1814.

add value to the system. Most of the problems with patent trolling stem from the failings of legislation. Patent inflation has been caused at least in part by the increase in invalid patents granted by the Patent and Trademark Office and by Federal Circuit regulation, which has dramatically expanded the definitions of patents.¹¹ Tweaks to legislation, then, may be a helpful avenue to pursue.

One solution may be to look at the structure of the patenting fees and the time frame that they are valid. The U.S. Patent and Trade Office earns the majority of its revenue through three types of fees: filing, issuance and maintenance. If a patent holder fails to pay periodic maintenance fees, she relinquishes her rights on the patent. Increasing the fees associated with patent maintenance over time would help curb troll-like behavior without excessively harming innovators.¹² And since patent trolls are more likely to file a patent claim later in the patent's life,¹³ higher maintenance fees could potentially curb abuse, since only the most useful patents will be kept that long in the face of mounting fees. Similarly, a marginal increase to patent filing fees could prevent the filing of those inventions that are of low-value, and make speculation in latent ones more costly.

The patent market was created with the assumption that, eventually, an invention would be brought to market. Some NPEs have been exploiting the market with no such intention; they exist to extract value rather than create it, using the patent system for precisely the opposite of its intended purpose. Rather than encouraging innovation, thanks to patent trolls, our systems now chill it.

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11 Masur, Jonathan. "Patent Inflation." *The Yale Law Journal* (2011): 470–532, p. 470.

12 Bessen, James E., and Brian J. Love. "Make the Patent 'Polluters' Pay: Using Pigovian Fees to Curb Patent Abuse." *California Law Review Circuit* 4 (2013): 84.

13 Love, Brian J. "An Empirical Study of Patent Litigation Timing: Could a Patent Term Reduction Decimate Trolls Without Harming Innovators?" *University of Pennsylvania Law Review* 161 (2013): 1309.