

Enhancing Patent Quality: Understanding NPEs’ Patents

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A principal goal of the patent quality initiative is to “provide certainty as to [patents’] validity to encourage investment in research, development, and commercialization.” However, my colleagues and I have evidence suggesting that a large number of patents are used by non-practicing entities (NPEs) in a fashion that is not only non-commercial, but directly impedes other firms’ research, development, and commercialization efforts.

Our research shows that NPEs—in particular, large patent aggregators—on average act as patent trolls: They target firms that are flush with cash (or have just had large positive cash shocks), even if that cash is not derived from alleged infringement. Moreover, NPEs typically target firms that are busy with non-intellectual property lawsuits, or are otherwise likely to settle. The cash-targeting behavior we observe seems to be unique to NPE-driven intellectual property litigation. Cash is neither a determinant of practicing entities’ (PEs’) intellectual property lawsuits, nor a driver of other forms of litigation (tort, contract, securities, environmental, or labor).

Meanwhile, as we also show, NPE litigation has a real negative impact on future innovative activity at targeted firms. Losing to an NPE (either in court or through settlement) leads a firm to decrease its future research and development activity by about 30%, on average.¹

To ensure that patents serve to encourage—rather than hinder—innovative activity, we must reduce (or preferably, eliminate) trolling behavior by non-practicing entities. Towards this goal, in this note I comment on how the Patent and Trademark Office can improve its understanding of the types of patents used in NPE litigation actions.²

My colleagues’ and my empirical results show that NPEs behave significantly differently from PEs. We have found robust evidence that NPEs target cash-rich firms that are embroiled in ongoing cases. By contrast, we found that PEs on average sue firms with *lower* cash balances, and are less

This comment is in response to the Patent and Trademark Office’s “Request for Comments on Enhancing Patent Quality” (80 *Federal Register* 6475, posted on February 2, 2015). The views presented herein are those of the author and his collaborators, Lauren Cohen and Scott Duke Kominers, and do not necessarily reflect the views of The University of Texas at Dallas or its affiliates.

¹The research findings described here are presented in “Patent Trolls: Evidence from Targeted Firms,” joint work with Lauren Cohen and Scott Duke Kominers, originally circulated as National Bureau of Economic Research Working Paper No. 20322. Our empirical analysis examines *all* NPE lawsuits filed against publicly-traded firms from 2000–2012 (over 3,500 lawsuits in total), using data from both PatentFreedom/RPX and the work of Christopher Anthony Cotropia, Jay P. Kesan, and David L. Schwartz (99 *Minnesota Law Review* 649, (2014)).

²Each of my collaborators has submitted a comment that begins with the same discussion of our research results, but focuses on a different aspect of patent quality.

likely to target firms that are dealing with other cases.³ This comparison suggests that our results on NPE litigation behavior are not just reflections of general characteristics of intellectual property litigation. Rather, our findings are consistent with agent-specific motivations for NPEs in targeting firms flush with cash just when favorable legal outcomes are more likely.

Given the marked disparity between NPEs' and PEs' litigation behaviors, it is essential to understand whether (and how) the patents asserted by NPEs differ from those asserted by PEs. *Are NPE patents systematically different from PE patents?* In particular, are NPE patents of significantly different quality?

Numerous anecdotal examples highlight especially low-quality NPE patents.⁴ However, many PEs also hold patents whose quality has been called into question.⁵ To clearly understand how NPEs' patents compare to PEs', a large-sample empirical approach is needed.

For example, it would be valuable to understand:

- differences in the compositions of NPEs' and PEs' patent portfolios;
- whether there are any visible differences between NPEs' and PEs' patents' patterns of progress through the prosecution process; and
- differences in frequency of patent invalidation, conditional on trial (or post-grant review).

To support these efforts, the Patent and Trademark Office could make available data that allows researchers to easily assess patents' quality levels in some summary sense. For example, each patent could have an associated "summary statistic panel" that reports values such as the number of claims and the number of years until expiration. It would also be useful to somehow measure "vagueness" of claims (broad vs. narrow), and/or to report similarity scores given by patent examiners. Combining these data with records of the patents' ownership histories would allow researchers to determine how, if at all, NPE patents' characteristics differ from those of PEs' patents.

Evidence on NPE patent quality is essential in guiding policy on NPE patent litigation. If trolling by NPEs just represents a difference in litigation targeting behavior, then it can be addressed at the level of policy regarding intellectual property lawsuits. But if trolling by NPEs is supported by low-quality patents, then it must also be addressed through patent evaluation and review.

³All of the other determinants of NPE targeting have (statistically and economically) no impact on PE litigation behavior.

⁴Lumen View Technology, for example, repeatedly asserted a patent on "multilateral decision-making" (US8069073), which US District Judge Denise Cote invalidated upon finding it to contain "no inventive idea," as it was "merely a mathematical manifestation of the underlying process behind matchmaking" (*Lumen View Technology LLC, v. Findthebest.com, Inc.*; see also the report by Joe Mullin in *Ars Technica*, published November 23, 2013).

⁵One commonly cited example is Apple's "Portable display device" design patent (USD670286), which covers a rectangular design with rounded corners (see, e.g., the report by Chris Foresman in *Ars Technica*, published November 7, 2012).