

## *Timing is Everything: Could Shortening the Patent Term Decimate Trolls Without Harming Innovators?*

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Scholars, it seems, have had a hard time measuring the magnitude of NPEs' role in patent litigation. NPEs account for two, four, seventeen, or eighteen percent of patent litigation depending on whom you ask. Though diverse, these relatively modest estimates have led at least one scholar to declare that "the uniform findings indicate that NPEs file only a small fraction of all patent infringement suits." Other tantalizing clues, however, suggest that NPEs have anything but a modest effect on the patent system. A study of patents litigated eight or more times, for example, found that NPEs asserted more than sixty percent, and multiple studies have found that NPEs file as much as forty percent of suits asserting high-tech patents.

What accounts for these seemingly inconsistent results? This article tests the hypothesis that existing studies of NPE litigation are incomplete because they fail to take into account differences in the relative ages of patents asserted by practicing and non-practicing entities. To date, no scholar studying NPEs' share of patent litigation has included a temporal component in her analysis. This omission is surprising because there is good reason to believe that product-producing companies and NPEs assert their patents on very different timelines. If, as many suggest, patentees who sell products covered by their patent rights primarily value patents for their exclusionary power, these patentees should file suit (if at all) soon after their patents issue to fend off competitors developing or introducing similar products. In addition, because products generally have short lifecycles relative to the patent term and next generation products may be protected by newer patents, practicing patentees should generally cease litigating a patent well before it expires and move on to litigating newer patents covering newer products.

By contrast, there is good reason to believe that NPEs overwhelmingly litigate their patents late in the patent term. For one, many NPEs do not file their own patent applications, but instead purchase patents on the secondary market (often from failed companies) for the purposes of litigation. Naturally, it takes time for such patents to reach NPEs. Further because NPEs primarily value patents for their usefulness in extracting royalties and damages from product-producing companies, these patentees should generally wait to file suit until a lucrative industry has developed and continue filing suits as long as deep-pocketed targets remain.

To test these hypotheses, I study a random sample of recently expired patents and collect data on all patent enforcement undertaken prior to their expiration. With this data, I can for the first time report results taking into account the relative timing of litigation filed by practicing and non-practicing entities. My findings are dramatic. Product companies predominately enforce their patents soon after they issue and complete their enforcement activities well before their patents expire. NPEs, on the other hand, begin asserting their patents relatively late in the patent term and frequently continue to litigate their patents to

the verge of expiration. Indeed, I find that the average product-company patent has been shelved by its owner before the average NPE patent has even been asserted.

The degree to which NPEs dominate the final few years of the patent term is especially shocking. Though asserting just over twenty percent of all studied patents, NPEs account for more than two-thirds of suits and over eighty percent of patent claims litigated in the final three years of the patent term. Notably, NPEs' domination of late-term litigation is almost completely attributable to firms that do nothing more than hold patents. NPEs that many do not consider trolls – universities and individual inventors, in particular – do not drive these results.

I also compare the relative litigiousness of product companies and NPEs, as well as differences in the subject matter and strength of their infringement claims. In addition to overall findings, I report how these statistics change among patents litigated in the final years of the patent term. I find that NPEs are especially litigious, overwhelmingly assert high-tech patents, and lose at a relatively high rate when their infringement claims are adjudicated on the merits. I also find that, with patents litigated late the patent term, NPEs are more litigious, more high-tech focused, and more likely to lose on the merits of their infringement claims. Interestingly, I also find that an outsized percentage of product company patents litigated late in the term are high-tech related. These patents, I find, are asserted by a unique group of companies that, though they sell a product, blur the line between practicing entities and trolls.

My findings cast doubt on NPEs' chief alleged benefits: that paper patentees help create a market for innovation and contribute to the dissemination of useful technology. Instead, it seems, NPEs overwhelmingly wait to assert their rights until the underlying technology is stale and unlikely to be of much use to accused infringers, who very likely independently developed the technology years earlier. Overall, my findings suggest that Congress may be well-advised to shorten the patent term by three years or even longer. In these final years of patent protection, more than eighty percent of patent assertions are brought by patent-holding firms that have no intention of commercializing a product. Much of the remaining litigation is brought by product companies asserting high-tech patents with what appear to be troll-like motives. At the very least, I recommend that Congress act to increase the frequency and magnitude of maintenance fee payments required in the final years of the patent term.