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## Non-practicing entities: Enforcement specialists?

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### ABSTRACT

We examine whether non-practicing entities (NPEs) have a superior ability to pursue patent lawsuits. We develop a theoretical model that predicts that cases with superior abled patentees resolve faster than cases with opponents of equal ability. Our empirical analysis of a sample of US patent litigation cases shows this duration pattern for NPE cases. The result is robust to controlling for patent and court characteristics but also for an important feature of NPE cases, a lack of product market interaction with the potential infringers. Finally, we observe, in line with our theory, a similar duration pattern for large firm patentees; firms with access to a similar legal expertise.

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### 1. Introduction

Firms specializing on generating licensing revenues from patents without using them for own production, so called non-practicing entities (NPE), received recently particular attention. These entities are discussed controversially by legal scholars, economists, and politicians (e.g., Bessen et al., 2012; Reitzig et al., 2007) because the number of patent litigation cases involving NPEs increased tremendously in recent years (Economist, 2013; Chien, 2013). The debate about NPEs has even reached the highest legislative levels of the United States; 19 bills were put before Congress proposing to regulate NPE activities since 2013.<sup>1</sup> The prevalent negative perception of NPEs is expressed by the term patent troll, which compares them to the mythical trolls who hide under bridges built by others, unexpectedly popping up to demand payment of tolls (Bessen et al., 2012, p. 26). This notion describes the presumption that NPEs create hold-up situations by suing their targets at the most vulnerable times, e.g., after they made a large sunk investment. Related to this, NPEs are criticized for a lack of transparency,

dubious demand letters and forum shopping. Furthermore, NPEs are seen as a threat because they are usually not prone to counter lawsuits because they are only active on the licensing market.

We focus on an alternative explanation why NPEs are a danger for suspected infringers<sup>2</sup>; specialization benefits in enforcement. Firms like NPEs that are specialized on generating revenues from licensing have to be able to protect their intellectual property and for a sustainable business model they require a high level of legal expertise. In addition to in-house expertise, it is claimed that NPEs are skilled in hiring and supervising law firms, and that their regular interaction with lawyers leads to benefits of repeated interaction (Cotropia et al., 2014). Furthermore, McDonough (2006) argues that NPEs have ample of funds for litigation. The argument that resources and ability matter is in line with the observation that large firms are more likely to prevail at court (e.g., Galanter, 1974; Black and Boyd, 2010; Eisenberg and Farber, 1997) and that patents owned by individuals and firms with small patent portfolios are more likely to be part of a lawsuit (Lanjouw and Schankerman, 2001, 2004). Even more specifically, Galasso et al. (2013) show that the transfer of patents owned by individual inventors to firms with large patent portfolios reduces litigation risk.

On the positive side, advantages in enforcement are a source for gains from trade, especially vis-a-vis small financially constrained

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<sup>1</sup> See the Patent Progress Guide to Federal Patent Reform Legislation for a full list and description of each individual bill (<http://www.patentprogress.org/patent-progress-legislation-guides/patent-progress-guide-patent-reform-legislation/>, August 18, 2017).

<sup>2</sup> For the sake of brevity, we use the term infringer throughout the article. Though, we do not mean to prejudice and actually mean suspected infringer.

inventors. Even though not all NPEs acquire patents and some rather file patents themselves, the defenders highlight the intermediary role of NPEs. Because small innovators lack the resources to pursue litigation, [Ronspies \(2004\)](#) and [McDonough \(2006\)](#) argue that small entities are disadvantaged in protecting their intellectual property rights, and are not able to litigate large, financially potent infringers.

However, even though [Haber and Werfel \(2016\)](#) identify in an experimental setup financial constraints as a main driver for individual inventors to sell their patents, there exists so far no evidence on the presumed superior enforcement ability of NPEs. We focus our analysis on providing evidence on this claim by analyzing NPEs through the lens of litigation. If specialization effects of NPEs exist, they should influence the behavior at court, leading to different observable outcome patterns. In patent infringement cases the patentee sues an infringer for compensation of damages and potentially for injunctive relief. Because the vast majority of cases end in a settlement (roughly 90 percent between 2004 and 2007) we follow [Galasso and Schankerman \(2010\)](#) and focus the analysis on the settlement timing. We extend the theoretical model and empirical analysis of [Galasso and Schankerman \(2010\)](#) and analyze the role of litigation ability. If the patentee is more productive in convincing the judge or jury, the model predicts a shorter duration because the infringer anticipates this advantage and is willing to pay more in order to settle the claims. However, if the patentee is disadvantaged, the infringer is willing to pay less. According to this reasoning we expect cases with a, relative to the infringer, stronger patentee to settle earlier, and cases with a weaker patentee to settle later compared to cases with symmetric litigants. Consequently, if NPEs have a superior ability, NPE cases should settle earlier as long as the NPEs do not litigate similarly strong infringers.

We test this prediction using an unique sample of patent litigation cases filed between 2004 and 2007 in the United States. This detailed data set allows the identification of different types of patentees and infringers, and the matching of patent and court characteristics. We first compare cases brought to court by NPEs with cases brought to court by non-NPE patentees. We show that NPE cases differ from other patent cases. NPEs sue more often large firms, and they rely on more valuable patents, measured by a variety of citation-based indexes, from technology classes with less fragmented patent rights.

In line with our prediction we find that NPE cases are indeed resolved significantly faster. However, this effect vanishes completely if NPEs sue large firms<sup>3</sup>; firms that are presumably similarly capable of pursuing lawsuits. In our analysis we control for patent as well as for court characteristics. Furthermore, in NPE cases the patentee does not compete with the accused infringer; NPEs are rather in a (potential) technology providing position. We rely on the case documents to characterize the business relationship between the litigants for all of our cases, i.e., we differentiate between cases in which the accused infringement took place through a competing product and cases in which the accused infringer relied on the patent as an input. We find not only that the duration pattern cannot be explained by a lack of product market competition between the litigants but also that the business relationship between the litigants does not affect the case duration. Finally, in line with our theory, we also show that cases with large firm patentees show a very similar pattern.

In a final step we match the patent applicants to the patents in our sample in order to investigate whether NPEs acquire their patents from small, potentially financially constrained, innovators. By relying on the patent portfolio size of the patent applicants

<sup>3</sup> We define firms as large if they are covered by the Forbes list, see p. 13 for the definition.

we find that the acquired NPE patents are indeed filed by smaller inventors than other traded patents in our sample.

Our results provide indirect evidence for the hypothesis that NPEs are enforcement specialists, an alternative explanation why NPEs are a danger for suspected infringers. However, enforcement advantages also highlight the potential role of NPEs as patent intermediaries. Enforcement advantages complement other benefits of intermediaries, such as their match-maker function between inventors and firms with the necessary complementary assets, and the exploitation of complementarities among patents by forming patents to portfolios ([Gans and Stern, 2010](#); [Parchomovsky and Wagner, 2005](#)). By acquiring patents, NPEs provide liquidity ([Shrestha, 2010](#)) to the patent market. A liquid market for patents or technology allows vertical specialization along the innovation commercialization supply chain ([Teece, 1986](#); [Arora et al., 2001](#)). On the one hand, by being able to sell their patents innovators can monetize their innovation efforts without access to the complementary assets that are required to develop an innovation for the final product or service market. Consequently, the possibility to sell patents is a source for innovation incentives. On the other hand, it also allows owners of complementary assets to specialize on the development process.

Enforcement advantages are not only different from the most common criticisms of NPEs but also in principle independent from them. Policy discussions as well as recent political actions target transparency, dubious demand letters, fee shifting, forum shopping, and the overall quality of patents. Whereas all of these factors are related to (potential) imperfections of the current patent system, the same cannot be said about enforcement advantages. Enforcement advantages do not rely on an imperfection. It is therefore important to take a differentiated look at NPEs rather than condemning them generally. However, despite this independence, the existence of enforcement advantages plays an important role within the current debate because they may interact with the (potential) inefficiencies, and further amplify them. For example, a very efficient enforcer whose strategy rests on enforcing patents with unclear boundaries is likely to be more successful than a less efficient enforcer. The same holds true for the presumed ability to create hold-up situations and the invulnerability to counter lawsuits.

Furthermore, the emergence of efficient NPEs has negative consequences for the suspected, and potential, infringers; their litigation risk and costs increase, while the probability of prevailing at court decreases. If the increased risk and costs decrease innovation incentives of potential targets of NPEs, the emergence of NPEs might imply also a negative effect for the society. Moreover, the benefit for small innovators may be limited because their individual benefit of a patent transaction depends on their bargaining power. Our result should, therefore, not be misinterpreted as an overall positive welfare evaluation of NPEs; a full welfare evaluation is clearly beyond the scope of this article.

Our analysis complements the study of [Mazzeo et al. \(2013\)](#) who analyze the effect of NPEs on the award in judged cases. The authors find no significant difference between NPE and non-NPE cases. Furthermore, several other empirical studies on patent litigation are related to our study. [Somaya \(2003\)](#) shows that a higher patent value and a higher strategic value for the patentee decrease the settlement likelihood, and therefore increase the case duration. [Galasso and Schankerman \(2010\)](#) show that less uncertainty about the court outcome and more fragmented patent rights decrease the case duration. Furthermore, a few articles discuss the duration of litigation in general. The duration of litigation is affected by the legal rules ([Fournier and Zuehlke, 1996](#)), value at stake and uncertainty ([Fenn and Rickman, 1999](#)), and the actions taken at court ([Boyd and Hoffman, 2013](#)). We complement these findings by providing insights on the role of party characteristics.

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