

EKONOMI OCH SAMHÄLLE  
ECONOMICS AND SOCIETY



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# THE EXPLOITATION AND ENFORCEMENT OF PATENTS BY NON- PRACTICING ENTITIES

PRACTICES, DEVELOPMENTS, AND FUTURE  
CHALLENGES

KELLI LARSON



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Practices, Developments, and Future Challenges

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# The Exploitation and Enforcement of Patents By Non-practicing Entities: Practices, Developments, and Future Challenges

Key words: Non-practicing Entities, patents, intellectual property, patent enforcement, patent exploitation, patent trolls, NPEs

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*Kelli Larson  
Melbourne  
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## TABLE OF LEGISLATION

### **Chinese Legislation**

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### **EU Legislation**

#### *Treaties*

EC Treaty

Treaty on European Union

Treaty on the Functioning of the European Union

#### *Regulations*

Regulation (EU) 1257/2012 of 17 Dec. 2012 implementing enhanced cooperation in the area of the creation of the unitary patent protection [2012] OJ L 361/1

Regulation (EU) 1260/2012 of 17 Dec. 2012 implementing enhanced cooperation in the area of the creation of the unitary patent protection with regard to the applicable translation arrangements [2012] OJ L 361/89

### **International Conventions and Agreements**

Agreement on Trade Related Aspects of Intellectual Property Rights

Agreement of a Unified Patent Court, [2013] C 175/1

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### **US National Legislation**

Demand Letter Transparency Act H.R.3540/1896

End Anonymous Patents Act H.R.2024

Lawsuit Abuse Reduction Act H.R.758

Leahy-Smith America Invents Act (AIA), Pub. L. No. 112- 29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.)

Patent Abuse Reduction Act S.1013

Patent Litigation and Innovation Act H.R.2639

Patent Litigation Integrity Act S.1612

Patent Quality Improvement Act S.866

Patent Transparency and Improvements Act S.1720

Protecting American Talent & Entrepreneurship Act S.1137

Saving High-tech Innovators from Egregious Legal Disputes H.R.845

Stopping the Offensive Use of Patents Act H.R.2766

Strong Patents Act S.632

Targeting Rogue and Opaque Letters Act H.R.2045

The Innovation Act H.R.9

The Innovation Act H.R.3309

United States Code Title 35

## **ABBREVIATIONS**

AIA	Leahy-Smith America Invents Act
BREXIT	U.K. referendum vote to leave the European Union
CAFC	Court of Appeal for the Federal Circuit
CJEU	Court of Justice of the European Union
DOJ	U.S. Department of Justice
EC	European Communities
EPC	European Patent Convention
EPO	European Patent Office
EU	European Union
FRCP	Federal Rules of Civil Procedure
FTC	U.S. Federal Trade Commission
GAO	U.S. Government Accountability Office
IP	Intellectual Property
ITC	U.S. International Trade Commission
NPE	Non-practicing Entity
SIPO	State Intellectual Property Office of the People's Republic of China
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property
UPC	Unified Patent Court
USPTO	U.S. Patent and Trademark Office

## **Research Papers included in the dissertation**

### **Research Paper I:**

(Single authored) (An earlier version of the publication) Larson, K. “**An Inside View to Non-practicing Entities Business Models: A Case Study**”, *Int. J. Intellectual Property Management*, Vol. 6, No. 4, pp. 294–315 (2013) (Peer-reviewed)

### **Research Paper II:**

(Single authored) Larson, K. “**Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe**”, in Ballardini, R., Norrgard, M and Bruun, N (eds.) *Transitions in European Patent Law; Influences of the Unitary Patent Package*, Kluwer Law International, pp. 147-165 (2015) (Peer- reviewed)

### **Research Paper III:**

(Single authored) (An earlier version of the publication) Larson, K. “**The Emergence of Non-practicing Entities in China**”, in Lee, N., Bruun, N and Li, M (eds.) *Governance of Intellectual Property Rights in China and Europe*, Edward Elgar Publishing, pp. 287-302 (2016)



## **PART I**



## 1 INTRODUCTION\*

*“The main part of intellectual education is not the acquisition of facts, but learning how to make facts live.” – American Judge Oliver Wendell Holmes, Jr.*

The last fifteen years has brought about rapid and dramatic changes in the world of patent law and patent litigation. The impetus for these changes has not only come from the usual sources – the judiciary, legislators, and administrative agencies, and from advances in technologies and innovation, but also from actors operating within the patent landscape. One particular type of patent actor in the intellectual property (IP) world that seemingly everyone is talking about today is “Non-practicing Entities” (NPEs), or their more pejorative alternate, “patent trolls”.<sup>1</sup> As one type of actor operating within the patent landscape, NPEs are generally described as entities that create business models focusing solely on the exploitation and enforcement of patents to generate revenues, mainly through executing patent licensing campaigns, and sometimes, patent litigations.<sup>2</sup>

In patent literature, NPEs are often referred to by several monikers, such as “patent trolls”,<sup>3</sup> “patent sharks”,<sup>4</sup> “patent assertion entities”,<sup>5</sup> and even “patent terrorists”,<sup>6</sup> as negative terms used to portray the central notion that NPEs typically use patents to build licensing business models, and sometimes assert patents, to generate revenues rather than using patents to build or manufacture products.<sup>7</sup> These names, particularly the popular “patent troll”, are more “rhetorical epithets than settled, objective terms evidenced by the fact they are commonly applied arbitrarily to all types of patent owners”<sup>8</sup> that enforce patents against others alleging infringement. Unfortunately, it is headline-catching terms like “patent troll” that have easily captured much of the public’s imagination and policymakers’ attention of such patent licensing entities. The NPE and patent troll rhetoric has arguably contributed to much of the misunderstanding and disapproving perceptions of such entities operating in

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\*The dissertation title uses the word “exploitation” in the sense of “using”, “utilizing”, “using something for benefit”, not in the sense of “misuse” or “abuse”.

<sup>1</sup> Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 1001 (2013).

<sup>2</sup> Amy L. Landers, *Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 SANTA CLARA L. REV. 307, 308 (2006). There is no negative connotation implied by the use of “NPE” in this dissertation; it is used as the contemporary term of art in the patent law field.

<sup>3</sup> Jason Rantanen, *Slaying the Troll: Litigation as an Effective Strategy Against Patent Threats*, 23 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 165 (2006).

<sup>4</sup> Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1811 (2007).

<sup>5</sup> Christopher A. Cotropia, Jay P. Kesan & David L. Schwartz, *Unpacking Patent Assertion Entities (PAEs)*, 99 MINNESOTA L. REV. 649 (2014).

<sup>6</sup> See *Abusive Patent Litigation: The Impact on American Innovation and Jobs, and Potential Solutions: Hearing Before the Subcomm. on Courts, Intellectual Prop., and the Internet of the H. Comm. on the Judiciary*, 113th Cong. (2013) (testimony of John Boswell, Senior Vice President & Gen. Counsel, SAS, describing his company’s experience in the discovery process in litigation with an NPE, referring to the NPE as a “patent terrorist”).

<sup>7</sup> See, e.g. Kristen Osenga, *Formerly Manufacturing Entities: Piercing the “Patent Troll” Rhetoric*, 47 CONN. L. REV. 435 (2014).

<sup>8</sup> Adam Mossoff, *The History of Patent Licensing and Secondary Markets in Patents: An Antidote to False Rhetoric*, Center for the Protection of Intellectual Property Blog Website, (Dec. 9, 2013), <http://cpip.gmu.edu/2013/12/09/the-history-of-patent-licensing-and-secondary-markets-in-patents-an-antidote-to-false-rhetoric/>. See generally Adam Mossoff, *Patent Licensing and Secondary Markets in the Nineteenth Century*, 22 GEO. MASON L. REV. 960 (2015).

the patent marketplace and the business world,<sup>9</sup> and to a greater extent, negative perceptions being formed of the patent system overall.

Labeled as “the most significant problem facing the patent system today”,<sup>10</sup> the NPE phenomenon has become a highly polarized debate in academia and on the political stage. Vilified by companies,<sup>11</sup> academics,<sup>12</sup> congresspersons,<sup>13</sup> former U.S. President Barack Obama,<sup>14</sup> lobbying groups,<sup>15</sup> and the U.S. Supreme Court,<sup>16</sup> NPEs are at the center of a contentious patent law and policy debate focused on alleged vexatious patent exploitation and enforcement. The apparent vexatious patent exploitation and enforcement by NPEs is associated to supposed abusive behaviors of patent owners demanding “excessive” patent licensing fees, allegedly creating an “explosion” of unwarranted patent litigation that imposes undue burdens on industry, and thereby stifling innovation for society.<sup>17</sup>

Many of these concerns stem from discontent with the patent system and the reiterated proposition that the patent system is “in crisis”,<sup>18</sup> and to a large extent, NPEs are to blame.<sup>19</sup>

<sup>9</sup> Osenga (*Formerly Manufacturing Entities*), *supra* note 7. Professor Osenga explores the rhetoric of the word “patent troll” and its synonyms and how this rhetoric shapes the perception people have (mainly negative) of companies that own intellectual property but no longer employ manufacturing business models.

<sup>10</sup> Mark A. Lemley, *Should Patent Infringement Require Proof of Copying?*, 105 MICH. L. REV. 1525, 1542 (2007).

<sup>11</sup> See, e.g. Rachael King, *Acacia: The Company Tech Loves to Hate*, BLOOMBERG Website (Feb. 2, 2010), available at <https://www.bloomberg.com/news/articles/2010-02-01/acacia-the-company-tech-loves-to-hate>; *businessweek-business-news-stock-market-and-financial-advice*.

<sup>12</sup> See, e.g. James Bessen and Michael J. Meurer, *A Third of the Economy is at Stake – And Patent Trolls are to Blame*, THE WASHINGTON POST (Nov. 18, 2015), available at [https://www.washingtonpost.com/news/in-theory/wp/2015/11/18/patent-trolls-are-costing-us-billions-they-must-be-stopped/?utm\\_term=.f13076378876](https://www.washingtonpost.com/news/in-theory/wp/2015/11/18/patent-trolls-are-costing-us-billions-they-must-be-stopped/?utm_term=.f13076378876).

<sup>13</sup> See, e.g. Congressman Bob Goodlatte Press Release Goodlatte Introduces Patent Litigation Reform Bill (Washington, DC Feb. 5, 2015), available at <http://goodlatte.house.gov/news/documentsingle.aspx?DocumentID=266>.

<sup>14</sup> See Patent Progress website and accompanying video, *Obama Acknowledges Patent Troll Problem*, (Feb. 14, 2013), available at <http://www.patentprogress.org/2013/02/14/obama-acknowledges-patent-troll-problem-w-transcript/> (President Obama addressing a question on alleged software patent abuses).

<sup>15</sup> See, e.g. Brian Fung, *Patent Reform Advocates Are Launching a ‘Super Coalition’ to Whack Patent Trolls*, THE WASHINGTON POST (Jan. 15, 2015), available at <https://www.washingtonpost.com/news/the-switch/wp/2015/01/15/patent-reform-advocates-are-launching-a-super-coalition-to-whack-patent-trolls/>.

<sup>16</sup> *eBay Inc. v MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (the Supreme Court did away with awarding automatic injunctions upon a finding of infringement and implemented a four-factor test which must first be satisfied to be granted injunctive relief. A plaintiff must now demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.) (Justice Kennedy stating: “An industry has developed in which firms use patents not as a basis for producing and selling goods, but instead, primarily for obtaining licensing fees...For these firms an injunction...can be employed as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent...legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest.”).

<sup>17</sup> James Bessen & Michael J. Meurer, *The Direct Costs From NPE Disputes*, 99 CORNELL L. REV. 387, 388 (2014).

<sup>18</sup> See Dan L. Burk & Mark A. Lemley, *The Patent Crisis and How the Courts Can Solve It* 1, 4-6, 52 (2009); and see Adam B. Jaffe & Josh Lerner, *Innovation and Its Discontents: How our broken Patent System is Endangering Innovation and Progress, and What to Do About It* 170-171 (2004). See, e.g. Adam Mossoff, *The Trespass Fallacy in Patent Law*, 65 FLA. L. REV. 1687 (2013) (providing a good overview of the complaints of the (U.S.) patent system).

<sup>19</sup> See Colleen V. Chien, *Reforming Software Patents*, 50 HOUS. L. REV. 325, 328 (2012); see generally accord Richard A. Posner, *Patent Trolls – Posner*, BECKER-POSNER Blog (July 21, 2013, 5:12 PM), available at <http://www.becker-posner-blog.com/2013/07/patent-trollposner.html>.

News reports are filled with stories on the “smartphone patent wars”,<sup>20</sup> or “patent wars” whereby smartphone manufacturers, and technology and software companies battle competitors by asserting their patents in patent litigation in order to secure and dominate technology markets. Yet, what many people do not realize is that many of the same companies that have criticized and lobbied against NPEs have at the same time also collaborated and worked with NPEs, while some have created their own NPEs to enforce patents.<sup>21</sup>

Such discontent with NPEs is further evidenced by the increasing number of patent reform bills proposed in the U.S. Congress to “fix” several of the patent system problems allegedly created by NPEs by focusing specifically on NPE patent enforcement activities.<sup>22</sup> It appeared, particularly during the 113<sup>th</sup> and 114<sup>th</sup> Congressional Sessions, that in every direction one looked, patent reforms were being hastily written and proposed in the House of Representatives or in the Senate, implicitly or explicitly addressing patent exploitation and enforcement by such NPE actors.<sup>23</sup> At the (U.S) State level, for example, Vermont has taken an interest in anti-NPE legislation being the first State to create its own law (House Bill 299)<sup>24</sup> meant to curb NPEs alleged bad faith assertions of patent infringements. Even the White House has become engaged in the NPE debate, releasing five executive actions and seven legislative recommendations designed to protect innovators from challenges allegedly caused by NPE patent litigation.<sup>25</sup>

To be clear, however, discontent with the patent system is nothing new, nor are concerns over NPEs.<sup>26</sup> There has likely always been some form of disapproval over patents and patent enforcement in every legal system since there have been patents, while history is filled with examples of inventors who did not develop products based on the inventions they patented, but instead chose to license their inventions.<sup>27</sup> Thomas Edison (electric light and phonograph), the Wright Brothers (aviation pioneers), Elias Howe (sewing machine), and George Eastman (roll film), great American inventors of the nineteenth century, would all

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<sup>20</sup> See, e.g. Samuel Gibbs, *Facebook, Google, Dell, HP, eBay, back Samsung in Patent War with Apple*, THE GUARDIAN (July 21, 2015), available at <https://www.theguardian.com/technology/2015/jul/21/facebook-google-dell-hp-ebay-samsung-apple>; Joe Mullin, *Smartphone Patent Wars Redux: Nokia Sues Apple, Big Time*, ARSTECHNICA (Dec. 21, 2016), available at <http://arstechnica.com/tech-policy/2016/12/smartphone-patent-wars-redux-nokia-sues-apple-big-time/>; and Greg Stohr and Susan Decker, *Apple and Samsung Take Design Dispute to Supreme Court*, BLOOMBERG (Oct. 10, 2015), available at <http://www.bloomberg.com/politics/articles/2016-10-10/apple-fights-samsung-at-u-s-high-court-as-smartphone-wars-wane>.

<sup>21</sup> For example, in 2012 Apple, Microsoft, RIM, Ericsson and Sony successfully bid to purchase Nortel’s patents for a staggering \$USD4.5 billion dollars, created the patent assertion entity “Rockstar Consortium”. See Charles Arthur, *Nortel Patents Sold from \$4.5bn*, THEGUARDIAN (July 1, 2011), available at <https://www.theguardian.com/technology/2011/jul/01/nortel-patents-sold-apple-sony-microsoft>. Microsoft has lobbied for legislation that would effectively disrupt NPE patent assertions. See *infra* note 266 and accompanying text.

<sup>22</sup> See *infra* Part 2.4.3

<sup>23</sup> For a review of the proposed legislative bills, see *Patent Progress’s Guide to Federal Patent Reform Legislation*, PATENT PROGRESS, available at <http://www.patentprogress.org/patent-progress-legislation-guides/patent-progress-guide-patent-reform-legislation/>. See *infra* Part 2.4.3 (describing that most of these proposed bills died upon the conclusion of the 113th Congressional Session 16 December 2014).

<sup>24</sup> H.299 (Act 44) 9 V.S.A. § 2460 Civil Investigation.

<sup>25</sup> See The White House Fact Sheet: White House Task Force on High-Tech Patent Issues, The White House Office of the Press Secretary (2013), available at <https://www.whitehouse.gov/the-press-office/2013/06/04/fact-sheet-white-house-task-force-high-tech-patent-issues>.

<sup>26</sup> See *infra* Part 2.2.

<sup>27</sup> See B. Zorina Khan, *Trolls and Other Patent Inventions: Economic History and the Patent Controversy in the Twenty-First Century*, 21 GEO. MASON L. REV. 825 (2014).

be considered “patent trolls” of their day by licensing their inventions rather than creating product manufacturing businesses. Instead, these inventors benefited from the “division of labour” and the efficiencies captured through licensing their technologies to the most capable manufacturers.<sup>28</sup>

While the narrative over a broken patent system, and NPEs being portrayed in a rather negative light, is nothing new,<sup>29</sup> what is new today about the patent system and the NPE phenomenon is that there are many more diverse and sophisticated patent players operating in a much larger, more complicated, and more interactive global patent system. Many of these sophisticated players have well-coordinated and well-funded lobbying campaigns dedicated to promoting an “NPEs are bad” narrative and having it dominate not only in patent literature, but also at the highest levels of government, particularly in the U.S. jurisdiction.<sup>30</sup>

Today, what is much less discussed in patent scholarship, in the media, and at a higher political level, is the other side of the NPE patent litigation debate - that of an infringer which engages in the unauthorized use of patented technology and refuses to pay for such use. This includes the issue of the “efficient infringement” phenomenon,<sup>31</sup> whereby businesses calculate that it will be cheaper, and thus more efficient, to infringe another’s patented technology without paying for a licensing royalty. In such circumstances, for a patent owner to secure rightful compensation to the use of their invention, there may be no other option for a patent owner other than to initiate litigation against an alleged infringer. Here, it is worth emphasizing that enforcing one’s legitimate right to exclude does not make a patent owner a “patent troll”, whatever that may be in reality. What is also much less discussed in patent scholarship is what the alternative to non-enforcement is. In other words, what is the cost and implications of not enforcing one’s patent against an alleged infringer? What is lacking from much of the current NPE debate, and NPE policy discussions to a greater extent, is a more balanced view on the NPE phenomenon; a view that not only takes into consideration that of the alleged infringer, but equally, also takes into consideration the perspective of the patent owner. Furthermore, there is lack of discussion on the many benefits that NPEs provide to the patent system; benefits that undoubtedly help to retain the value and respect of patent protection for the patent system overall.

The NPE phenomenon has predominately been an American phenomenon. However, the U.S. patent enforcement landscape and regulatory environment is evolving with a trend towards a weakening of patent enforcement. The trend towards a weakening of patent enforcement in the U.S., may lead to, and has arguably already lead, many NPEs in the U.S. to search for more favorable patent enforcement markets abroad to enforce patents in, such as Europe and Asia. In Europe, the proposed European Unitary Patent regime and its effect of unifying patent protection and enforcement across most of the European region will likely create significant efficiencies in the procurement and enforcement of patents in the region,

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<sup>28</sup> Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, W. Strahan and T. Cadell Publishers Vol. I, London (1776). Smith is well-known for advancing the economic concept of the “division of labour” whereby dividing the production process into different stages allows workers to become specialized on one asset of production, thereby increasing overall efficiency so long as there is sufficient volume and quantity produced.

<sup>29</sup> See *infra* Part 2.2.

<sup>30</sup> See *infra* Part 2.4.

<sup>31</sup> Chris Gallagher & Gene Quinn, *Move Over Patent Trolls, Efficient Infringement Has Arrived on the Hill*, IPWatchdog Blog (Oct. 25, 2016), available at <http://www.ipwatchdog.com/2016/10/25/efficient-infringement-arrived-hill/id=74131/>.

potentially much to the benefit of NPEs and their patent enforcement campaigns.<sup>32</sup> Looking East to Asia, it is difficult to ignore the vast economic and legal transformation taking place in the development of China's intellectual property regime. The overall strengthening of China's patent enforcement system, the staggering numbers of patents being applied for and granted, and the potential for future patent licensing revenues to be generated from technology use in China may be attractive features for NPE patent exploitation and enforcement.<sup>33</sup> Consequently, given an increasingly hostile environment in the U.S. towards NPE patent enforcement, NPEs may be interested in pursuing new patent enforcement opportunities under Europe's incoming new patent system or to take advantage of China's new profit driven approach to patents.

This dissertation, including the three research articles it contains, further explores and discusses these issues in the context of NPE patent exploitation and enforcement. This dissertation is not an in-depth study of individual legal questions (e.g. patentability criteria, scope of claims, etc.), but rather a study of NPEs as a *behavioral* concept within the global patent landscape. Various legal doctrines are referred to illustrate how the legal environment either has, or may, react to NPE patent enforcement behavior. The dissertation aims to enhance our understanding of the NPE phenomenon in the present context of the global intellectual property regime and diverging international patent marketplaces.

A specific aim of the thesis is to contribute to a more balanced academic discussion on the highly polarized NPE debate and NPE phenomenon by empirically exploring NPE patent enforcement practices, providing analysis on recent developments affecting NPE patent enforcement activities, and contemplating some of the future challenges confronting NPEs in the ever-evolving legal and regulatory patent environment.<sup>34</sup> This thesis adds to the scarce knowledge on NPE patent exploitation and enforcement through the presentation of three different research papers. The main proposition of the dissertation argues that despite some of their drawbacks, NPEs effectively contribute to the patent ecosystem in several ways, and play a crucial role in the enforcement of patents, which is a key element in any well-functioning patent system.

This work begins by describing the research problem, posing the research objectives and questions, overviews the study's limitations, discusses the positioning of the dissertation in the relevant patent literature, and finally discusses the research assumptions, methodology and source material. Following the description of the fundamental research processes, this work introduces the background to the study, followed by a summary of the contents of each research paper and the main contributions forming this dissertation. Finally, conclusions of the research results are drawn and their implications are discussed, while suggestions for future research are put forth.

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<sup>32</sup> See *infra* Part II of the dissertation, Research Paper II "Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe".

<sup>33</sup> See *infra* Part II of the dissertation, Research Paper III "The Emergence of Non-practicing Entities in China".

<sup>34</sup> Because the NPE phenomenon is predominantly (and currently) an American phenomenon, PART I of the dissertation focuses mainly on the U.S. jurisdiction. The U.S. jurisdiction is thus a good starting point for comparison of the NPE phenomenon to other jurisdictions.

## 1.1 Research Problem

It is easy to forget just how difficult it may be to be a patent owner in today's intellectual property landscape, let alone how complicated, challenging, and strenuous it may be to engage in patent litigation.<sup>35</sup> It not only takes time, money, and other resources for patent owners to conduct prior art or "freedom to operate" searches, and apply for and maintain patents (or a patent portfolio), but it is also inherently risky to own patents.<sup>36</sup> Patent claims can be challenged, invalidated, cancelled, and may "read on" or infringe another patent's claims. Patents are time sensitive, and depending on the type of patent and the jurisdiction, generally expire 20 years from the date on which the application for the patent was filed.<sup>37</sup>

Patents are granted to individuals and entities that have invented or discovered new, useful and non-obvious inventions.<sup>38</sup> The purpose of patent protection is to try to encourage and incentivize people to create new inventions and to disclose the knowledge of that invention for the benefit of society. In exchange for sharing that knowledge, the inventor is given an exclusive legal right to that invention for a limited duration. This is the patent bargain. However, just because a patent has been granted does not mean that an inventor or a business will be on a path to prosperity or that any type of innovation will have necessarily taken place. Appropriating any returns from patents is also impaired by the fact that the inventor may have to enforce or defend their patent through costly and lengthy litigation. Patent litigation, if undertaken, is extremely expensive, estimated in the millions of dollars, and full of uncertainties.<sup>39</sup> Without such ability to enforce the right to exclude others from using the patented technology, patent protection is essentially useless.

Furthermore, patent law is inherently complicated, conducted at the crossroads of business, law, and technology, and filled with terms and a language only a few can eloquently speak. Being a patent owner in today's patent landscape requires a certain level of sophistication to navigate the patent system and the patent landscape successfully, or at least an understanding that requires cooperation with sophisticated partners that can help navigate the rules and strategies in the game of patent enforcement. After all, patent litigation has been called the "Sport of Kings,"<sup>40</sup> and the "business of sharks."<sup>41</sup>

Patent litigation initiated by NPEs has seemed to cause a wave of eruption across the American intellectual property business, law, and political world, while there are concerns

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<sup>35</sup> Kristen Osenga, *Sticks and Stones: How the FTC's Name Calling Misses the Complexity of Licensing-Based Business Models*, 22 GEO. MASON L. REV. 1001 (2015) ("It is a scary time to be a firm that operates under a patent licensing business model ("patent licensing firms")").

<sup>36</sup> Mark A. Lemley, *Probabilistic Patents*, 19 J. ECON. PERSP. 75 (2005).

<sup>37</sup> 35 U.S.C. § 154.

<sup>38</sup> 35 U.S.C. § § 101, 102, 103. See Art. 52 EPC. European patents shall be granted for any inventions (in all fields of technology) provided they are new, involve an inventive step, and are susceptible of industrial application.

<sup>39</sup> According to the American Intellectual Property Association (AIPLA) Economic Survey Report (2015), the average cost of a lawsuit where \$1 million to \$25 million is at risk is \$1.6 million through to the end of discovery and \$2.8 million through final deposition; where \$10-\$25 million is at risk, the average fees and costs for ONE patent is \$5 million. Ending Q3 2016, there were approximately 3,376 cases filed at U.S. district courts. The top three U.S. district court venues for patent litigations for the past five years were Texas, Delaware, and California (AIPLA, 2015).

<sup>40</sup> Douglas J. Kline, *Patent Litigation: The Sport of Kings*, MIT TECHNOLOGY REVIEW (Apr. 28, 2004), available at <https://www.technologyreview.com/s/402686/patent-litigation-the-sport-of-kings/>.

<sup>41</sup> Markus G. Reitzig, Joachim Henkel & Christopher Heath, *On Sharks, Trolls and Other Patent Animals – 'Being Infringed' as a Normatively Induced Innovation Exploitation Strategy*, available at SSRN: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=885914](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=885914).

such disruption could soon arrive at foreign shores.<sup>42</sup> The increasing cost of patent litigation, escalating infringement damage amounts, and the proliferation of apparent “low quality” patents being granted, combined with an alleged patent litigation explosion in recent years have all led to NPEs being blamed for systemic problems within the patent system.

It is widely argued in patent literature that NPEs “abuse” the patent system in several ways. NPEs allegedly employ “an exploitative business model that uses shotgun tactics to threaten patent infringement claims against numerous companies,”<sup>43</sup> where it is the cost of defense, rather than the economic value of the patent that dictates settlement. There are also claims that NPEs apparently purchase or acquire “low quality” patents only to aggressively enforce them against operating or product producing companies to obtain licensing fees,<sup>44</sup> while NPEs also apparently send thousands of deceptive demand letters to businesses in hopes for a quick payday.<sup>45</sup>

There are also claims that NPEs “hold-up” companies to maximize the amount of royalties they can retrieve.<sup>46</sup> Patent hold-up is a theoretical possibility where companies have already invested heavily in new products, design, manufacturing, marketing, and selling products with the allegedly infringing feature. Essentially, patent implementers become “locked-in” to using the technology, meaning that the patent implementer can no longer use alternative designs that may have been available in *ex ante* licensing negotiations. This may be because it becomes either too expensive to switch to an alternative technology or design around the infringing feature (or in the context of standard essential patents, there very likely is no alternative technology available since the technology is standardized leaving no other compliant technological options). Theoretically, patent hold-up allows patent owners the opportunity to charge excessive licensing royalties that apparently exceed the true economic contribution of the patented technology. The possibility of the downstream patent implementer having to pull its product from the market due to the potential risk of patent hold-up may indeed be very powerful, and can influence the bargaining power of the patent holder in licensing negotiations. In licensing negotiations, a patent holder may theoretically be able to use the threat of obtaining an injunction against a patent infringer to seek higher

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<sup>42</sup> See *infra* PART II of the dissertation and accompanying Research Papers. See, e.g. Anastasia Rab, *America’s “Patent Trolls” on the Move to Europe?* LA JEUNE POLITIQUE (Oct. 3, 2013), available at <http://ljpol.com/americas-patent-trolls-on-the-move-to-europe/>.

<sup>43</sup> Eric Rogers & Young Jeon, *Inhibiting Patent Trolling: A New Approach for Applying Rule 11*, 12 NW. J. TECH. & INTEL. PROP. 293 (2014).

<sup>44</sup> See Robert P. Merges, *The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform*, 24 BERKELEY TECH L.J. 1583, 1603-04 (2009).

<sup>45</sup> See Caroline Coker Coursey, *Battling the Patent Troll: Tips for Defending Patent Infringement Claims by Non-Manufacturing Patentees*, 33 AM. J. TRIAL ADVOC. 237, 240-41 (2009).

<sup>46</sup> See Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEXAS L. REV. 1991, 2000 (2007) (describing how injunctive relief, or threat thereof, can result in patent holdup tactics apparently allowing the patent holder to overcharge for royalty rates); See U.S. Government Accountability Office Report (GAO-13-465 Report) to Congressional Committees [hereinafter GAO Report], *Intellectual Property: Assessing Factors that Affect Patent Infringement Litigation Could Help Improve Patent Quality* (2013) available at <http://www.gao.gov/assets/660/657103.pdf>. The GAO Report states that:

Some legal commentators, technology companies, the Federal Trade Commission (FTC), among others, have raised concerns that patent infringement litigation by NPEs is increasing and that this litigation, in some cases, has imposed high costs on firms that are actually developing and manufacturing products, especially in the software and technology sectors... because NPEs generally face lower litigation costs than those they are accusing of infringement, NPEs are likely to use the threat of imposing these costs as leverage in seeking infringement compensation.

royalties. However, there is very little empirical evidence to support the patent hold-up conjecture in practice.<sup>47</sup>

Furthermore, it is also argued that NPEs apparently engage in questionable legal tactics, suing several defendants in a single lawsuit, and take advantage of the patent system by not using patents to produce products, but only to assert patents to make money.<sup>48</sup> Moreover, it may be difficult for defendants to garner counter-attack mechanisms to fight against NPE assertions since NPEs are typically immune to accusations of infringement, as they have no manufactured products.<sup>49</sup> Additionally, much of the current patent literature suggests that NPEs bring the majority amount of patent litigations, hampering innovation and economic growth and abusing the patent system overall.<sup>50</sup> One recent study famously claimed that NPEs cost U.S. businesses \$USD29 billion in direct costs in 2011;<sup>51</sup> although, this study has been rightly criticized and contains significant limitations, namely for its flawed methodology.<sup>52</sup>

However, the alleged problems that NPEs apparently create in the patent system are more complicated than criticism would suggest. For instance, the increasing number of patent reforms being proposed to address an alleged patent litigation problem supposedly caused by NPEs in the U.S. is highly peculiar given the fact that U.S. patent law has just recently undergone significant changes from the passage of the landmark America Invents Act (AIA) in September 2011 (with provisions fully implemented by 2013).<sup>53</sup> The evident need for numerous patent reforms to fix an apparent patent litigation crisis allegedly caused by NPEs is not entirely convincing given the lack of robust empirical evidence verifying such alleged patent litigation abuses.<sup>54</sup> It may also be difficult to gather reliable data on patent litigations

<sup>47</sup> See, e.g. Damien Geradin, Anne Layne-Farrar & Jorge A. Padilla, *Competing Away Market Power? An Economic Assessment of Ex Ante Auctions in Standard Setting*, 4 EUR. COMPETITION J. 443 (2008); Jonathan M. Barnett, *From Patent Thickets to Patent Networks: The Legal Infrastructure of the Digital Economy* Stanford University Hoover Institute Working Paper No. 15-001 (2014). See, e.g. Kirti Gupta & Mark Snyder, *Smart Phone Litigation and Standard Essential Patents*, Hoover Institution IP Working Paper Series No. 14006 (2014). Moreover, in some jurisdictions, such as the U.S., it appears extremely difficult for patent owners to be granted an injunction since eBay, which did away with granting an automatic injunction upon a finding of infringement and replacing it with a four-factor test (eBay v MercExchange, LLC, 547 US 388, 391 (2006)).

<sup>48</sup> Rantanen, *supra* note 3.

<sup>49</sup> Christopher A. Cotropia, *The Individual Inventor Motif in the Age of the Patent Troll*, 12 YALE J.L. & TECH. 52, 55 (2009).

<sup>50</sup> Bessen & Meurer (*The Direct Costs From NPE Disputes*), *supra* note 17, at 387, 388, 389 (“the American patent system has experienced an explosion of patent litigation initiated by parties called “Non-practicing Entities”). See Sannu K. Shrestha, *Trolls or Market-Makers? An Empirical Analysis of Nonpracticing Entities*, 110 COLUM. L. REV. 114, 129 (2010).

<sup>51</sup> *Id.* (Bessen & Meurer), at 389 (“the estimated direct costs of NPE assertions totaled \$29 billion in 2011”).

<sup>52</sup> David L. Schwartz & Jay P. Kesan, *Analyzing the Role of Non-Practicing Entities in the Patent System*, 99 CORNELL L. REV. 425, 433 (2014) (“Some of their findings are provocative, but we find their methodology to be deficient in several respects, which limits the usefulness of the data and thus the implications that can be drawn from them.”).

<sup>53</sup> Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.). The most notable change the AIA created was that of the priority rule from the “first-to-invent” to the “first-to-file” rule, aligning the U.S. patent system with those of the rest of the world.

<sup>54</sup> Michael J. Mazzeo, Jonathan H. Ashtor & Samantha Zyontz, *Do NPEs Matter? Non-practicing Entities and Patent Litigation Outcomes*, 9 J. COMP. L. and ECON. 879 (2013) (“...the existence and extent of any systematic effects of so-called “troll-like” behavior, and the implications of modern patent assertion practices of non-practicing entities (“NPEs”), remains unclear.”); see Magliocca (*Blackberries and Barnyards*), *supra* note 4, at 1811 (“The only thing that both sides might agree upon is that there is no real evidence about the impact that trolls are having on technology investment, which makes drawing policy conclusions in this area especially hazardous.”); see Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 459 (2012) (“... there has been little research about the patents litigated by NPEs and even less about the sources of those patents.”); see

initiated specifically by NPEs due to the ambiguity in characterizing such pure patent licensing entities, and given the reality that numerous companies of all types and sizes, manufacturing and non-manufacturing, may utilize patent licensing business models and engage in the procurement, monetization, and enforcement of patents.<sup>55</sup>

While there is likely to remain some bad actors in every legal system, whether they exist in such large enough numbers to cause a total breakdown of the patent system requiring systemic intervention via legislation is a different question, and in the context of NPEs, one that remains largely unanswered. It also seems peculiar that several studies challenging much of the literature that depicts NPEs in a negative light goes unnoticed. For instance, upon the implementation of the AIA in 2011, Congress directed the U.S. Government Accountability Office (GOA) to conduct a study on the factors affecting patent litigation and found that companies that manufacture products and provide services – not NPEs– brought most of the patent infringement lawsuits from 2007 - 2011.<sup>56</sup> The same study found that NPEs brought only a fifth of patent lawsuits during the same time-period.<sup>57</sup> Furthermore, what also appears to go unnoticed is that patent litigation in the U.S. has had a decreasing trend for the past two years.<sup>58</sup> The decreasing trend in patent litigation is likely due to several provisions that were implemented from the enactment of the AIA that affected litigation procedures, such as limiting joinder provisions, and the implementation of two new post-grant review procedures, post-grant review and *inter partes* review.<sup>59</sup>

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Schwartz & Kesan, *supra* note 52, at 427 (“...data is critical to evaluating broad trends in patent litigation and patent-related behavior. Yet there is little hard data, and much of the data that exists is mixed or inconclusive. A much more thorough analysis of the issue is needed.”); and see Sara Jeruss, Robin Feldman, & Joshua Walker, *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation*, 11 DUKE TECH. L. REV. 357 (2012) (“For many years, however, discussions about non-practicing entities has been long on speculation and short on data.”). This is not to say, however, that NPE patent assertions and litigations may not be problematic, only that further empirical evidence is needed before accurate policy considerations can be drawn and supported.

<sup>55</sup> See Raymond Millien & Ron Laurie, *A Survey of Established & Emerging IP Business Models*, 9 SEDONA CONF. J. 77, 84 (2007) (describing several IP intermediary business models). It may be difficult to gather reliable data on NPEs given the difficulty in characterizing and identifying their patent enforcements (i.e. which criteria are used to characterize NPE patent litigations from non-NPE patent litigations) as several companies and institutions utilize and employ patent licensing business models in their operations. See, e.g. Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611 (2008) (discussing whether universities are akin to patent trolls; Lemley finds that universities are not patent trolls for the fact that they create new inventions and conduct extensive research); and see Osenga (*Formerly Manufacturing Entities*), *supra* note 7, at 439 (“Why does a licensing business model cause concern simply because the company that owns the intellectual property no longer employs a manufacturing business model as well?”). See Adam Mossoff, *The SHIELD Act: When Bad Economic Studies Make Bad Laws*, CPIP Blog (Mar. 15, 2013), available at <http://cpip.gmu.edu/2013/03/15/the-shield-act-when-bad-economic-studies-make-bad-laws/> (“[patent troll] lacks an agreed-upon objective definition”).

<sup>56</sup> See GAO Report, *supra* note 46, and accompanying text. Section 34 of the AIA mandated that the Government Accountability Office (GAO) conduct a study on the consequences of patent litigations by NPEs. Yet, no one can say for certainty how much patent litigation is caused by NPEs, and whether it has created some amount of economic harm.

<sup>57</sup> *Id.*, at 18.

<sup>58</sup> See PricewaterhouseCoopers 2015 Patent Litigation Study: A Change in Patentees Fortunes, available at <https://www.pwc.com/us/en/forensic-services/publications/assets/2015-pwc-patent-litigation-study.pdf> (“patent litigation decreased by 13%”). See Gene Quinn, *Decrease in Patent Litigation Questions Need for Patent Reform*, IPWATCHDOG BLOG (Mar. 30, 2015), available at <http://www.ipwatchdog.com/2015/03/30/decrease-in-patent-litigation-questions-need-for-patent-reform/id=56159/>.

<sup>59</sup> See *infra* Part 2.4.

Finally, not enough attention has been paid to research that has inquired into the potential benefits NPEs bring the patent system and the patent marketplace. Such benefits include, for instance, providing liquidity in the market for patents, which enhances investment in start-ups and other ventures;<sup>60</sup> offering specialized monetization and enforcement services and helping inventors to monetize their inventions and be paid for their efforts;<sup>61</sup> helping businesses enforce patents against competitors that infringe and refuse to negotiate;<sup>62</sup> lowering transactions costs of patent licensing and facilitating technology transfer; and finally, in combination of the above, helping to retain the overall appreciation and notion of patents as valuable assets.

## **1.2 Research Objectives and Research Questions**

Supporting the primary aim of this dissertation to help bring further clarity and provide a more balanced perspective on the NPE debate, while contributing to our overall knowledge on the NPE phenomenon, the overall purpose of the dissertation project is divided into three research objectives. This section explains the overall purpose, specific research objectives, and the resulting research questions. The correspondence between the research objectives, the research questions, and the research paper is presented in Table 1 below. Each research paper fulfills a different aspect of the overall purpose of the project.

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<sup>60</sup> Risch, *supra* note 54, at 459.

<sup>61</sup> Cotropia, Kesan & Schwartz, *supra* note 5, at 653.

<sup>62</sup> Shrestha, *supra* note 50, at 126-28.

**Table 1** Research objectives and research questions

Research Objective	Research Question	Research Paper
1. Investigate further how NPE business models operate in practice; empirically explore the <i>modus operandi</i> of NPE business models	<p><i>1. How do NPE business models work/function?</i></p> <p><i>1a. How do NPEs obtain their patents and where from?</i></p> <p><i>1b. How do NPEs fund their patent purchases/litigations?</i></p> <p><i>1c. Who are NPEs clients and how do they find prospective licensees?</i></p> <p><i>1d. How do NPEs determine which licensing/enforcement projects to initiate?</i></p>	Research Paper I: An Inside View to Non-practicing Entities' Business Models: A Case Study
2. To identify and examine the potential legal implications of the proposed unitary patent system for NPEs; how such implications may affect NPE patent enforcement in Europe; to expand our knowledge on the NPE phenomenon specifically in Europe	<p><i>2. What are the potential legal implications of the unitary patent system for NPE patent enforcement in Europe?; and in contrast to the legal implications of the current European patent system?</i></p>	Research Paper II: Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe
3. Analyze how NPE business models may emerge in the Chinese jurisdiction based on a developed conceptual framework of three drivers for NPE success	<p><i>3. How NPEs may emerge in China applying a conceptual framework of three drivers of NPE success: the patent enforcement landscape; the economics of patent enforcement; and patent enforcement culture?(applied in the context of China)</i></p>	Research Paper III: The Emergence of Non-practicing Entities in China

The first objective relates to investigating how NPE business models operate and are conducted in reality. In order to advance this objective, an empirical approach was taken to further explore, and understand in reality, how NPEs conducted their patent licensing business models. The empirical approach was necessary for two key reasons. First, there are only a few empirical studies available on NPE business models, and second, much of the information that is available, is based on anecdotal evidence and questionable descriptions provided by the media. Thus, in academic literature, several studies illustrate an understanding of what NPEs primarily do, they create patent licensing business models, but

many studies do not explain how such patent licensing business models function, or how NPEs enforce patents in practice. The lack of such empirical research on how NPE business models function in reality may be problematic. It may leave many stakeholders in the patent system, including CEOs, lawyers, managers, academics, and patent law and innovation policy makers, with a lack of information on how such NPEs operate, and/or with potentially false or distorted views of the potential implications such business models may have on commerce, law, and innovation.

As the changing economic and competitive landscape has forced several companies to take measures to ensure that every asset they own is being utilized efficiently to support their business operations entirely, particularly their IP, patents have become an important tool for companies and others to generate revenues from. This has resulted in a recognition that monetizing patents alone through patent licensing could be a viable business in itself, and that some patents covering key technologies could be extremely valuable for certain entities. Accordingly, the research question *How do NPE business models work/function?* was advanced in Research Paper I: An Inside View to Non-practicing Entities' Business Models: A Case Study. The research question was then broken down into sub-research questions that included: *how do NPEs obtain their patents and where from?; how do NPEs fund their patent purchases/acquisitions, and if necessary litigations?; who are NPEs clients and partners; how do NPEs find prospective licensees?; and generally how do NPEs monetize patents?*

The second research objective is to identify and examine the potential legal implications of the proposed unitary patent system for NPE patent enforcement in Europe. The proposed unitary patent system in Europe would create a patent with *unitary* affect covering most of the European area, and would theoretically be very attractive for NPEs. A unitary patent would operate within a system with features similar to the U.S. system where NPEs have predominately operated with relative success. Similar features include a unified enforcement procedure consisting of wide territorial effect, in addition to infringement remedies, such as injunctive relief, also consisting of wide territorial effect.

Given the relatively low level of NPE activity currently in Europe, compared to the U.S. where the NPE phenomenon is predominately concentrated,<sup>63</sup> there is value in further examining the potential legal implications of the proposed unitary patent system for NPE patent enforcement in Europe. Such further examination may help reveal insightful knowledge not only for European IP policymakers, but also for those who will actively participate in the new patent system once it is operational. Yet, a comprehensive understanding of legal implications of the unitary patent system would not be feasible without first having a more thorough perception of the current European patent system and its current implications for NPE patent enforcement in Europe. Thus, considering these factors, and in efforts to further our knowledge on the NPE phenomenon specifically in Europe, the research question *What are the potential legal implications of the European and Unitary Patent system for NPE patent enforcement in Europe?* was advanced in Research Paper II: Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe.

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<sup>63</sup> See, e.g., *infra* Part II of the dissertation, Research Paper II "Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe".

The third research objective is to analyze how NPEs may emerge in the Chinese jurisdiction applying a conceptual framework of three drivers of NPE success in the context of features apparent in the patent enforcement landscape, the economics of patent enforcement, and patent enforcement culture. As the U.S. patent enforcement landscape undergoes a transformation towards a weakening of patent rights, which may negatively impact upon NPE patent licensing business models, and the current fragmented European patent enforcement landscape which makes patent enforcement expensive and time consuming, NPEs may need to look to other jurisdictions to initiate their patent enforcement campaigns. As the second largest economy in the world, many foreign technology companies invest in and transfer technology to China in order to remain competitive. As such, the vast amount of patents that are issued in China and the Chinese government's profit driven policy approach to patents may allow for significant future patent licensing opportunities for NPEs to conduct profitable licensing deals.

China is also implementing measures to strengthen its patent enforcement environment, while the Chinese government may be interested in NPEs emerging in China to assist in the further development of a viable secondary patent market in China, while the Chinese government itself recently established a partly-government owned, partly-privately owned NPE called *RuiChuang IPR Funds*. However, the Chinese IP system in general is still developing, and there are concerns about how patent procurement is managed and how serious patent enforcement is valued in practice. Accordingly, the research question *How NPEs may emerge in China? (applying a conceptual framework of three drivers of NPE success related to: the patent enforcement landscape in China, the economics of patent enforcement in China, and the patent enforcement culture in China)* is advanced in Research Paper III: The Emergence of Non-practising Entities in China.

### 1.3 Limitations

This study focuses on the exploitation and enforcement of patents by NPEs. A specific aim of the dissertation is to contribute to a more balanced international academic discussion on the highly polarized NPE debate by further exploring NPE patent enforcement practices, recent developments affecting NPE enforcement activities, and overviewing some of the future challenges NPEs may face in the continuously evolving legal and regulatory environment in which they operate. As discussed previously, this thesis is not an in-depth study of individual legal questions (e.g. on patentability criteria, scope of claims, etc.), but rather a study of NPEs as a *behavioral* concept within the patent ecosystem. Various legal doctrines have been referred to illustrate how the legal environment either has, or may, react to NPE patent enforcement behavior. A focus has been placed on the *ex post* nature of NPE transactions in regards to patent enforcement, including patent licensing and patent litigation.

The analysis and discussion in Part I of the dissertation focuses mainly on the law, policy and legal and business environment of the U.S. jurisdiction. The decision to focus here on the U.S. jurisdiction has been purposely made by practical reason. Not only is the topic most relevant to the U.S., and the U.S. jurisdiction is where NPEs predominately are the most active, there are also specific features within the U.S. legal system that facilitate NPE patent enforcement, such as, parties being responsible for their own legal costs (no loser-pays system as found in most other jurisdictions).<sup>64</sup> The decision to focus here on the U.S.

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<sup>64</sup> These features include, for example, parties being responsible for paying their own legal fees and the availability of high damage award amounts.

jurisdiction has also been made because research on the NPE phenomenon in Europe and China is limited. The strong U.S. focus may be considered a limitation. However, Research Papers II and III opens up any limitation resulting from the strong U.S. focus by examining and presenting analysis on the NPE phenomenon in the European and Chinese jurisdictions respectively. It is also for other practical reasons that the U.S. has a major focus in the dissertation. There are language barriers in respect of references made to the Chinese jurisdiction, and also to an extent in Europe. German laws and materials on the NPE phenomenon would have contributed to the dissertation in the European context, as Germany is a popular venue for NPE patent enforcement due to the (generally) automatic grant of injunctive relief upon a finding of infringement, in addition to the overall relatively well-known efficient litigation proceedings of the German legal system.<sup>65</sup>

A further limitation in Research Paper I is the ability to make generalizations from the limited number of NPE business models that are described. This limitation is acknowledged; however, it is still viewed that the variety of models uncovered provides a useful starting point for future empirical research to be conducted on NPE business models. The six models explored provide a useful foundation to begin a typology of NPE business models from which to conduct further empirical research and hypothesis testing on such NPE business models.

Finally, a deliberate choice was made not to describe the basic legal frameworks covering patent rights, although this is described to an extent in the individual research papers. It is presumed that the reader has a general understanding of such basic issues such as a patent system. If the reader is not familiar with such basic principles, there are a number of good textbooks and treatises available to assist the reader.

#### **1.4 Position of the Dissertation in the Literature**

This section briefly explains how this dissertation is positioned among various research streams on the NPE phenomenon in patent (and to an extent economic) literature. This body of work is situated in the patent literature consisting of three single-authored research papers, one that is based on a published version in an international IP journal, and two book chapters published with different international book publishers.

Reviewing some of the influential occurrences that led to the growth in different research streams on the contemporary NPE phenomenon, a helpful starting point is the 1998 *State Street* decision from the U.S. Federal Circuit confirming that business methods could be patented.<sup>66</sup> Although the same court eventually discarded this decision ten years later in 2008,<sup>67</sup> the *State Street* decision led to a significant increase in the number of business method and software patents being granted. Around this same time, the dot-com Internet bubble occurred leading to the selling of still valuable IP from several companies that went bankrupt. As a result, there was an increase in the number of patents not only being granted but also an increasing number of patents coming to the market and being made available to purchase. What ensued in the succeeding years since *State Street* has been called the “patent arms race”,<sup>68</sup> where high-tech companies began increasingly applying for, purchasing, and

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<sup>65</sup> See, e.g., *infra* Part II of the dissertation, Research Paper II “Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe”.

<sup>66</sup> See *State St. Bank v. Signature Fin. Grp.*, 149 F.3d 1368 (Fed. Cir. 1998), abrogated by *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008).

<sup>67</sup> *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008).

<sup>68</sup> Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 300 (2010).

acquiring patents to build “patent arsenals” to guard against the risk of patent litigation, or to retaliate or neutralize threats of patent infringement by competitors. Against this background, a patent marketplace developed, as patents increasingly changed hands and many inventors, companies, and others sold off their patent assets to those in a better position to exploit them.

Several companies came to the realization that there was a need in the patent marketplace with thousands of small innovative companies that developed new-patented technologies that neither had the financial wherewithal to compete with larger established firms to go out and build major technology products, nor that had the ability to adequately enforce their patents against larger firms.<sup>69</sup> Subsequently, many NPEs were formed around this time in efforts to help facilitate the patent enforcement of individual inventors and smaller companies, while some of the most visible buyers in the growing patent marketplace at this time were NPEs.<sup>70</sup>

Generally, important works on NPEs began appearing in patent literature in the U.S. after the seminal 2006 U.S. Supreme Court decision in *eBay v. MercExchange* (MercExchange was a patent holding company, or an NPE).<sup>71</sup> In *eBay*, the Supreme Court reversed on the long-standing rule of awarding automatic injunctions upon a finding of infringement (absent exceptional circumstances), and instead implemented a four-factor test that claimants must first satisfy in order to be granted injunctive relief.<sup>72</sup> The Justices in *eBay* criticized firms that used patents “primarily for obtaining licensing fees”, stating that “for these firms, an injunction” could be used as a “bargaining tool to charge exorbitant fees” from product producing companies.<sup>73</sup> The *eBay* decision ultimately elevated the enforcement of others’ IP to be a serious issue. Shortly after the decision, several works were produced, for instance, on the availability of injunctive relief for such non-patent-practicing entities, and also on the patent “hold-up” conjecture, where NPEs allegedly use the threat of obtaining an injunction as leverage in licensing negotiations to demand “excessive” licensing royalty payments.<sup>74</sup>

Generally, many early studies on NPEs focused on the nature of the actor, the fact that the patent owner did not manufacture a product or have any other business related to the patent, rather than on the act of enforcement and litigation.<sup>75</sup> As NPEs began to enforce patents

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<sup>69</sup> See *infra* Part II of the dissertation, Research Paper I “An Inside View to Non-practicing Entities’ Business Models: A Case Study”.

<sup>70</sup> Chien (*From Arms Race*), *supra* note 68, at 300.

<sup>71</sup> *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006). See Miranda Jones, Case Note: *Permanent Injunction, A Remedy By Any Other Name is Not Patently the Same: How Ebay v. MercExchange Affects the Patent Right of Non-Practicing Entities*, 14 GEO. MASON L. REV. 1035, 1043 (2007).

<sup>72</sup> See *supra* note 16 and accompanying text.

<sup>73</sup> *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 396 (2006).

<sup>74</sup> See, e.g., John M. Golden, “Patent Trolls” and Patent Remedies, 85 TEX. L. REV. 2111, 2112 (2007) and Lemley & Shapiro, *supra* note 46; Todd Klein, *eBay v. MercExchange and KSR Int’l Co. v. Teleflex, Inc.: The Supreme Court Wages War Against Patent Trolls*, 112 PENN. ST. L. REV. 295, 296 (2007); Mark Liang, *The Aftermath of TS Tech: The End of Forum Shopping in Patent Litigation and Implications for Non-practicing Entities*, 19 TEX. INTELL. PROP. L.J. 29, 37 (2010).

<sup>75</sup> James F. McDonough III, Comment, *The myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L.J. 189, 209-11 (2006); Jennifer Kahalelio Gregory, Note, *The Troll Next Door*, 6 J. MARSHALL REV. INTELL. PROP. L. 292 (2007); Shrestha, *supra* note 50; Lemley (*Are Universities Patent Trolls?*), *supra* note 55; Merges (*The Trouble With Trolls*), *supra* note 44.

through the International Trade Commission (ITC),<sup>76</sup> where injunctive relief is argued to be more easily attainable than in district courts due to the fact that the ITC is an administrative body, and not a federal court - and thus not bound by the four-factor test in *eBay*,<sup>77</sup> NPE patent assertion began garnering the attention of other federal agencies such as the Federal Trade Commission (FTC).<sup>78</sup> Next came works on patent litigation and how NPEs were allegedly the cause of an explosion of patent litigation and related costs.<sup>79</sup> More recently, there has been a stream of literature focused on regulating NPE actors in the patent landscape and how the regulation of such actors should take place.<sup>80</sup>

In Europe, literature on NPEs started appearing much later than in the U.S., likely due to a lower level of NPE activity in the European jurisdiction. One study conducted a comparative investigation of NPEs in the U.S. and Europe,<sup>81</sup> finding that NPEs are present in Europe, although their operations are minimal compared to the U.S. Other important works have studied for instance “patent trolls” in the UK.<sup>82</sup> In China, literature on the NPE phenomenon appears scarce<sup>83</sup> (particularly in the context of literature available in English), although research on NPEs in the context of China appears to be of increasing interest to patent/IP scholars.<sup>84</sup>

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<sup>76</sup> Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1 (2012).

<sup>77</sup> See 19 U.S.C. § 1337(d), (f) (2006).

<sup>78</sup> See Fed. Trade Comm. The Evolving IP Marketplace Aligning Patent Notice and Remedies with Competition 8 (2011); See Fed. Trade Comm. Report Patent Assertion Entity Activity: An FTC Study (hereinafter FTC Study) (2016).

<sup>79</sup> See Bessen & Meurer (*The Direct Costs from NPE Disputes*), *supra* note 17, at 387, 412-13; James E. Bessen, Michael J. Meurer & Jennifer Ford, *The Private and Social Costs of Patent Trolls*, Boston University School of Law, Law and Economics Paper No. 11-45 (2011) available at SSRN [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1930272](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1930272); John R. Allison, Mark A. Lemley & Joshua Walker, *Extreme Value or Trolls on Top? The Characteristics of the Most Litigated Patents*, 158 U. PA. L. REV. 1, 32 (2009); Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-tech Patents*, 87 N.C. L. REV. 1571, 1572 (2009); Colleen V. Chien, *Predicting Patent Litigation*, 90 TEX. L. REV. 283 (2011); Brian J. Love, *An Empirical Study of Patent Litigation Timing: Could a Patent Term Reduction Decimate Trolls Without Harming Innovators?*, 161 U. PA. L. REV. 1309, 1359 (2013).

<sup>80</sup> See Paul R. Gugliuzza, *Regulating Patent Assertions*, in D. Daniel Sokol (ed.) *Patent Assertion Entities and Competition Policy*, (Cambridge University Press, UK) (2017); see Ralf Boscheck, *Patent Trolls: In Search of Efficient Regulatory Standards*, 39 World Competition Law and Economics Review 67 (2016). There have also been a few, and arguably growing number of, post-graduate works conducted on the NPE phenomenon, some focused on issues relating to patent remedies and injunctive relief, while some economic works have focused on the effect of NPEs on operating firms and innovation. See, e.g., Jae-il Park, *Non-practicing Entities (NPEs) and Patent Remedies for Future Infringement*, the University of Nottingham (2013); Aleksandar Nikolic, *A Comparative Study of Patent Infringement Remedies Related to Non-Practicing Entities in the Courts of Canada, the United Kingdom, and the United States*, Osgoode Law School Canada (2014); Menno Driesse, *Trolling Strategies of Non-practicing Entities in Europe*, Eindhoven University of Technology (2012).

<sup>81</sup> Stefania Fusco, *Markets and Patent Enforcement: A Comparative Investigation of Non-practicing Entities in the United States and Europe*, 20 MICH. TELECOMM. & TECH. L. REV. 439 (2014).

<sup>82</sup> See Christian Helmers, Brian Love & Luke McDonagh, *Is There a Patent Troll Problem in the U.K.? 24 FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 509 (2014); Christian Helmers and Luke McDonagh, *Patent Litigation in the UK*, LSE Law, Society and Economy Working Paper 12/2012 London School of Economics (2012); Christian Helmers and Luke McDonagh, *Trolls at the High Court?*, LSE Law, Society and Economy Working Paper 13/2012 London School of Economics (2012).

<sup>83</sup> See *infra* Part II of the dissertation, Research Paper III “The Emergence of Non-practicing Entities in China”.

<sup>84</sup> See, e.g., Meng Yanbei, *Patent Assertion Entities Issues in China*, in D. Daniel Sokol (ed.) *Patent Assertion Entities and Competition Policy*, (Cambridge University Press, UK) (2017). See *infra* Part II of the dissertation, Research Paper III “The Emergence of Non-practicing Entities in China”.

This thesis builds on the general theme of research conducted on the NPE phenomenon and contributes to the stream of literature in regards to regulating NPE behavior or patent assertion, and raises questions regarding whether NPEs ought to be regulated, and if so, how. However, the dissertation also raises questions in a broader context related to the regulation of the rights of IP owners, and whether there are limits to such rights, whether there should be limits to such rights, and what are the means to enforce such limits (e.g. within IP law or through anti-trust/other laws).

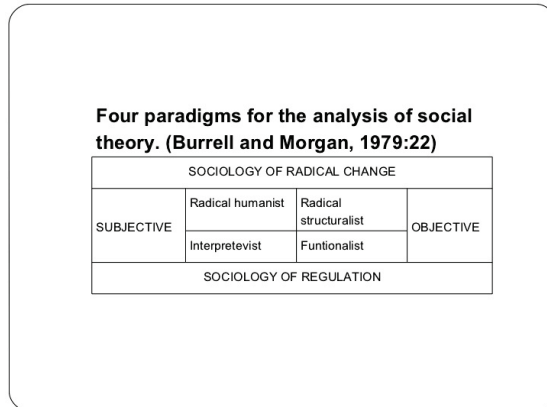
## 1.5 Research Assumptions, Methodology & Source Material

This section first briefly outlines important concerns for the scientific philosophy, research assumptions and approach supporting the conceptual foundations of the dissertation. Secondly, this section discusses the methodological choices for each research paper and describes the source material utilized. A starting point to serve as an initial framework for the dissertation is that patents are important property rights and are valuable assets. Furthermore, without the ability to enforce patents in a meaningful way, that is to cause serious financial or legal disruption through remedies awarded to patent owners, patents are essentially ineffective.

### 1.5.1 Research Assumptions

In academia, fundamental assumptions and approaches to research ought to be described and disclosed. Therefore, before discussing the methodologies specific to the study, propositions related to philosophical opinions regarding research comprised in the dissertation project will be briefly discussed.

**Figure 1 Research Paradigm (Burrell & Morgan, 1979)**



Using the Burrell and Morgan (1979) paradigm above for reference, my research takes on a (positivist) functionalist sociology view in the sense that I draw upon so called factual “facts” from laws and legal texts, which ought to provide for and guide in understanding and determining the “truth” when analyzing the research theme on the exploitation and enforcement of patents by NPEs. This view strongly conveys that research shall be “objective” in nature and consist of “realism” where the social world exists independently of

an individual's appreciation of it.<sup>85</sup> There are also elements of positivism. The first revolves around the basic premise that patent laws are given as rules and guidelines in which to understand and to judge social (science) behavior. Patent laws are so called "facts" which can be drawn on to determine, predict and explain the social situations that develop where patent disputes are central. Such laws should indicate with a high degree of certainty in directing and guiding individuals and entities behaviors. Secondly, laws are theoretically viewed objectively; they are supposed to be impartial and neutral. Thirdly, determinism illustrates that NPE activities are determined by some preceding events or laws; in the case of NPEs, perhaps the lack of laws or inappropriateness of certain laws. Epistemologically, I try to gain knowledge about this social phenomenon by examining how NPEs experience patent enforcement, licensing and litigation; this includes empiricism found within the theme of positivism.

However, "subjective" elements related to the interpretive sociology paradigm are also recognized. Analyzing legal texts or "hermeneutics" plays a role in the study. Interpreting what patent laws mean and applying them on a case by case basis is crucial for determining, judging and signaling in what should be understood as "facts" in the patent realm. It is also arguable that laws in themselves include subjective elements as judges, lawyers and policy makers at one point developed or created laws based on some notion of what a society at that particular time thought to be right or wrong. Laws change and evolve according to a society's belief or understanding of what is considered to be right or wrong. Thus, I view an element of social constructionism imbedded in laws; judicial actors, business people, policy makers and governments coming together and agreeing on negotiated rules as guidelines.<sup>86</sup>

In the context of NPEs, what different individuals and entities experience, and how they understand the NPE phenomenon and its implications, may also change over time. New or different technologies and laws may have come into place or legal reforms may have taken place due to people's negotiated understanding of NPE patent enforcement behaviors and activities, and the effects of these actions within the process of inventing and innovation taking place. Many changes that have come to the patent arena are from cases which have substantially changed the course of a certain rule or provision (e.g. the 2006 eBay v. MercExchange U.S. case doing away with granting automatic injunctive relief upon a finding of infringement), or from legal reforms (e.g. the 2011 AIA patent reform). Some entities may be affected more negatively by NPE activities than others, and therefore may have a different social construction or negotiated understanding of NPEs. The point being that there can be numerous possible social constructions of phenomena in the world. Different social understandings of patent disputes cause tension in patent laws because there will always be one side that is unsatisfied with a final decision in a patent dispute. This critical element is part of the social constructionist theme; we construct our own reality through social practices (i.e. language, texts, being critical), and the view that conventional knowledge is based upon objective, unbiased observations of the world that should be challenged.

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<sup>85</sup> Gibson Burrell and Gareth Morgan, *Sociological Paradigms and Organizational Analysis*, London: Heinemann, (republished by Ashgate Publishing 2006), (1979), at 26.

<sup>86</sup> See Vivien Burr, *An Introduction to Social Constructionism*, (London: Routledge) (1995), at 5. Burr provides an example of this in her introduction chapter explaining that understandings are "negotiated" and different constructions bring different kinds of actions from human beings. Burr's example involved the move away from seeing and understanding drunkenness as a crime and imprisoning people for it towards thinking of it as a sickness or addiction and offering medical treatment for those unfortunate to suffer from it. Therefore, over time the social action appropriate to understanding drunkenness has changed; people's understandings change over time as society changes.

### 1.5.2 Methodology & Source Material

Methodology pertains to defining and systematizing different scientific research methods, that is, appropriate ways of distinguishing the subject of investigation.<sup>87</sup> Legal methodology is a scientific discipline that deals with methods discerning law and legal phenomena. In law, the most traditional research approach is that of the “black letter” methodology, meaning legalistic approaches that concentrate solely on the “letter of the law”. This method aims to reduce the study of law to an essentially descriptive analysis of a large number of coordinated legal rules found in primary sources, namely case law, statutes, and to a lesser extent, academic commentary.<sup>88</sup> Legal rules are normative in character, as they tell how one ought to behave. The primary aim of this method of research is to collate, organize, and describe legal rules, and to offer commentary and ideas on the significance and emergence of authoritative legal sources in which rules are considered. This is a more “law in books” compared to a “law in action” sociological approach. Yet, in reality, it is likely that even the black letter law approach will need to make reference to some external factors, for instance, an ambiguous legal ruling may be more easily interpreted when placed into a historical or social context, and the interpreter has knowledge to which the industry or technology relates.<sup>89</sup> The sociological approach to research includes both qualitative and quantitative research methods.<sup>90</sup> From a qualitative (sociology of law, or law in action) perspective, which also includes this thesis, qualitative research aims are to explore, describe, explain, and to gain empirical knowledge and an understanding of how law and legal procedures may impact upon parties involved in a specific context.

This thesis provides a relevant and timely contribution to the academic debate on the NPE phenomenon by further investigating the exploitation and enforcement of patents by NPEs utilizing a multidisciplinary approach. The study is multidisciplinary, as are the methods used, crossing the borders of legal, economic, and historical studies. The dissertation uses traditional legal method (doctrinal analysis) to interpret and analyze the relevant sources of law, U.S., European, and Chinese patent legislation and regulations, case law and statutes, articles, and commentary. The study also incorporates a qualitative empirical approach by employing the case study method. A comparative approach is also used in Part II of the dissertation, at different levels of analysis, particularly in Research Paper II (comparing both NPEs in the U.S. to Europe, and also comparing the legal implications for NPEs at the current European patent system level to the proposed unitary patent system level). However, the comparative approach is also used to an extent in Research Paper III, where a conceptual model is put forth relating to the emergence of NPEs in China using variables of NPE success found in the U.S. The U.S. has a central role in the study, because the U.S. is the lead jurisdiction where the NPE phenomenon is mainly concentrated. That is why the main focus is on the U.S. jurisdiction and not on Europe or China to the same extent, and also why the U.S. is a useful starting point for comparison of NPEs to other such jurisdictions.

Multiple sources of material has been utilized and drawn upon in completing the study. Multiple sources of evidence have been collected and produced through multiple data

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<sup>87</sup> See David Silverman, *Doing Qualitative Research A Practical Handbook* (Sage Publications: London) (2000), at 233.

<sup>88</sup> See Horatia Muir Watt, The Epistemological Function of ‘la Doctrine’, in Mark Van Hoecke (ed.) (2011) *Methodologies of Legal Research Which Kind of Method for What Kind of Discipline?*, (Hart Publishing: Oxford and Oregon), 122.

<sup>89</sup> See Paul Chynoweth, Legal Research, in Andrew Knight and Les Ruddock (eds.) (2008) *Advanced Research Methods in the Built Environment*, (John Wiley & Sons Publishing, Chichester, UK), 30.

<sup>90</sup> Silverman, *supra* note 87.

sources. Data collection techniques have included interviews with NPEs, and interviews with Chief Technology Officers of large multinational technology companies, CEOs of publicly traded NPEs (also publicly traded IP companies (“PIPCOs”), lawyers, judges, inventors, IP practitioners, and legal, economic, and business academics. Legal texts, statutes, case law (national and international), and international agreements have been drawn upon and analyzed. Databases such as Lexis Nexis and Westlaw have been used to retrieve articles and commentary, various technology and patent websites and blogs have been utilized, company annual reports have been analyzed, working papers have been downloaded, and several discussions have taken place with practitioners and academics at numerous international seminars and conferences. Research documents were also utilized from international institutions at both the Max Planck Institute in Munich and at LegalEDHEC at EDHEC Business School in France during specific research visits. Specific methodological approaches and specific source materials used are discussed below in further detail.

#### 1.5.2.1 Case Study Research Method

A case study is an “empirical inquiry that: investigates a contemporary phenomenon (the “case”) in depth and within a real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.”<sup>91</sup> Case study research should be undertaken when a researcher wants to understand a real-world case and assumes that such an understanding is likely to include important contextual conditions key to the case.<sup>92</sup> Case study is the preferred method when “how” or “why” questions are being posed.<sup>93</sup> The case study method also aims to provide new knowledge and new understandings. The case study method employs a qualitative approach to research, rather than a quantitative, statistical approach. Furthermore, there are several “types” of case studies. For instance, there are “exploratory” case studies, “explanatory” case studies, and “intrinsic” case studies. Reliability, testing or evaluating qualitative research or the accuracy of the case study, and validity, the credibility or believability of the research, are also of key consideration in undertaking the case study method.<sup>94</sup>

Due to the under-explored empirical enquiry into NPE business models, a case study was undertaken to generate new understandings on NPE business models presented in Research Paper I. The case study presents six NPE business models that are empirically investigated through international, semi-structured interviews and secondary sources. While the primary data source includes interviews conducted with NPEs, the secondary data sources include case law decisions, U.S. and EU patent laws, industry publications and company reports, including earning calls, annual reports, company websites, company news releases, and company presentations. The results of the study are not meant to be generalizable to each and every NPE business model, but to generate new knowledge and help delineate propositions for further empirical enquiry.<sup>95</sup>

“Criterion” and “snowball” sampling selection techniques<sup>96</sup> were used in conducting the case study to select cases that would best be able to answer the central research question, *how do NPE business models function?* More specifically, entities were chosen based on particular

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<sup>91</sup> See Robert K. Yin, *Case Study Research Design and Methods*, (Sage Publications, USA) (2014), 16.

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*, at 1.

<sup>94</sup> *Id.*, at 45.

<sup>95</sup> See Michael Patton, *Qualitative Evaluation and Research Methods*, (Sage Publications, USA) (2002).

<sup>96</sup> Joseph A. Maxwell, *Qualitative Research Design: An Interactive Approach*, (2<sup>nd</sup> Ed. Sage Publications, USA) (2005).

criteria, including entities or individuals that purchase, acquire, or file for their own patent rights through licensing campaigns. Cases were researched through various means, including company websites and annual reports, discussions with economic, management, and legal professors, industry practitioners, discussions at international conferences and cold-contacting people. Cases were also selected via the snowball approach, where upon completion of one interview, the interviewee was then asked to provide, if possible, another contact for a different NPE business to interview. Of the six cases presented in Research Paper I, two cases were criterion selected and four were snowball selected. Once the description of each specific business model was written, the text was sent to each interviewee for confirmation in order to strengthen the case study results. All interviewees verified the specific case text sent to them.

#### *1.5.2.2 Comparative Law Approach*

The study also utilizes the comparative method of analysis, albeit in different ways. The comparative law approach, in the most basic appreciation, is the approach of studying relationships between legal systems or between legal rules of more than one system, their similarities and differences.<sup>97</sup> This approach has practical use at various levels, for instance, at the domestic level, it can not only be used to compare legal rules from state-to-state but also be an important aid to legislators in illustrating how foreign laws can provide models of how well different sets of legal rules work in addressing problems or a particular policy.<sup>98</sup> Obviously, the comparative approach also has practical use at the international and supranational levels when dealing with questions of whether and how unification of laws can be achieved.

More specifically, the comparison approach is used extensively in this dissertation in Research Papers II & III. In Research Paper II, the comparative approach is between the legal implications of the European patent system framework and the newly proposed unitary patent system framework, while also relating back to the U.S. legal system and patent laws. The American legal system is the starting point of comparison for the study since this is where NPEs tend to primarily concentrate, and the most relevant NPE or patent troll controversies originate from the U.S. There is also a (European) national element of comparison within the European framework, as specific patent law provisions of the British, German, French and Dutch approaches are briefly considered, and compared in regards to NPE patent enforcement in Europe.

In Research Paper III, the conceptual framework is constructed by using different variables and inputs from the U.S. legal system and patent system that allow NPEs to be successful in their enforcement campaigns. These variables are explored within the Chinese legal system and patent system, and compared and contrasted to the U.S. system to analyze whether and how Chinese patent laws may facilitate for the emergence of NPEs in China. These inputs include the overall patent enforcement landscape (i.e. industries and sectors that utilize patents, and industries NPEs can target their patent assertions; the type of patents available for assertion, relative ease of obtaining patent protection and obtaining damages); the economics of patent enforcement (i.e. is the expected return on the patent enforcement higher than the costs of enforcing; expense of applying for patents, standards for proving infringement, using the legal system, can enforcement be done economically); and patent enforcement culture (i.e. is it culturally accepted that patents are property rights to be

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<sup>97</sup> See Mathias Siems, *Comparative Law*, (Cambridge University Press, UK) (2014).

<sup>98</sup> *Id.*, at 4.

protected and valued, or has the concept of patents as valuable assets yet to be fully embraced). The variables were chosen from the U.S. system and transplanted<sup>99</sup> to the Chinese legal system to assess whether NPEs may emerge in China. In other words, the U.S. variables that allow NPEs to be successful in the U.S. were transplanted and applied in China to explore first if the same variables were in fact present and successful in terms of NPE enforcement, and second, if so, would they allow for NPEs to emerge in China. The analysis revealed, that although most of the variables used for NPE success in the U.S. were present in China, operating under the conceptual framework of the inputs presented, the variables were not given the same amount of application in practice, thereby making it difficult for NPEs to emerge at this time in the development of the Chinese patent system and the Chinese jurisdiction overall.

## **1.6 Structure of the Dissertation**

The dissertation is structured as follows: the dissertation comprises two parts: Part I and Part II. In Part I, this introductory chapter introduced the NPE phenomenon and identified the research problem, the research objectives and research questions, discussed the limitations of the study, the position of the dissertation in relation to the literature, and also discussed the research assumptions, the research methodology and source material. This introductory chapter also provided a roadmap of the structure for the remainder of the dissertation. Chapter 2 provides background to the study, including a discussion on the concept of what is an NPE, and discussion on the historical relevance to the study, including NPE practices in the nineteenth century. The evolving paradigm of the importance of patent protection and the rise of the pro-patent era is described to provide context for the discussion on modern-day NPE enforcement practices, which is followed by a discussion on recent developments related to the NPE phenomenon.

Chapter 3 provides a summary describing the overall objectives and contributions of each research paper. Chapter 4 discusses the overall conclusions and the resulting implications of the dissertation, and provides an outlook for future research to be conducted on the NPE phenomenon. Chapter 4 also contemplates some of the future challenges that NPEs may face in the patent landscape going forward. Part II consists of the three research papers forming the foundation of the dissertation.

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<sup>99</sup> See Alan Watson, *Legal Transplants: An Approach to Comparative Law* (first published 1974, University of Georgia Press) (1993).

## 2 BACKGROUND TO THE STUDY

*“Like most fresh legal questions, the debate on patent trolls is long on passion and short on proof.” – Gerard N. Magliocca U.S. Legal Academic* <sup>100</sup>

### 2.1 What is a “Non-practicing Entity”?

As a preliminary matter, it is important to provide some clarification on the terminology relating to “NPE”. This thesis uses the term “non-practicing entity” to describe and discuss the patent licensing and enforcement phenomenon as the contemporary term of art used currently in the intellectual property and patent field. NPEs are described in this thesis as “individuals or entities that initiate business models entirely around purchasing, acquiring, or filing for their own patent rights, and enforcing those patent rights to generate revenues”.<sup>101</sup> Enforcing patents is conducted through licensing campaigns, or if necessary, litigation. The definition of NPE above is used in this dissertation because it is believed to be the best approach thus far to understanding such entities operating in today’s patent markets. NPEs are “non-practicing” in the sense that they do not “practice” patents in the more traditional way of producing or manufacturing products and using patents to protect those technologies, but rather focus on the patent licensing of the technology itself. There has been difficulty in academia in coming up with an agreed definition for “NPE” or “patent troll”.<sup>102</sup> To be clear however, there is no negative connotation implied by the use of the “non-practicing entity” term and description in this dissertation.

The “NPE” term generally developed out of consideration for a more courteous way to describe such pure patent licensing and patent enforcement entities besides using the term “patent troll”. However, there are also other reasons behind several NPE definitions having advanced. For instance, depending on who one asks, certain entities may have a financial or reputational incentive to “craft the [NPE] definition in a way that omits their own business model, a process that has resulted in intense lobbying not only of government officials, but also of academics.”<sup>103</sup> The first use of the term “patent troll”, in reference to collecting patent licensing revenue, can be traced back to an educational video released to corporations in 1994 titled “The Patents Video”,<sup>104</sup> where an apparent patent troll strategically positions himself under a bridge waiting for a suspected patent infringer to cross in order to collect patent royalties.

However, academia has yet to agree on a definitive definition on what constitutes a “non-practicing entity”.<sup>105</sup> Further mystifying the matter is that several different monikers are used to describe *non-practicing entity* interchangeably, such as the fashionable patent troll, patent assertion entity, patent holding firm, and patent licensing entity. Academic definitions attempting to define a “non-practicing entity” include, for instance, “parties who own and sometimes assert patents but do not practice the technology covered by their

<sup>100</sup> Magliocca (*Blackberries and Barnyards*), *supra* note 4, at 1810.

<sup>101</sup> See *infra* Part II of the dissertation, Research Paper I: “An Inside View to Non-Practicing Entities Business Models: A Case Study”, at 295.

<sup>102</sup> See, e.g. Robin Feldman, *The Pace of Change: Non-practicing Entities and the Shifting Legal Landscape*, 18 CHAP. L. REV. 635, 636 (2015) (“A considerable amount of ink has been spilled on how one should define a non-practicing entity (“NPE”).

<sup>103</sup> *Id.*, at 636.

<sup>104</sup> The Patents Video (1994), from Intellectual Property Videos, L.L.C.

<sup>105</sup> Golden, *supra* note 74, at 2111, 2112 (“The magnitude of what contemporary fashion terms the “patent –troll problem” remains substantially unknown, in part because a widely accepted definition of a patent troll has yet to be devised.”).

patents”;<sup>106</sup> “NPEs are non-inventive entities that do not practice (i.e., use, manufacture, or market) their patented technologies”,<sup>107</sup> or they may be depicted as “patent trolls”, for instance, “patent trolls are companies that acquire patents, not for the purpose of developing new technologies and creating jobs, but for the sole purpose of demanding royalties (through litigation if necessary) from those companies that do release products on the market”,<sup>108</sup> or as “patent assertion entities” (PAEs), “a person or company who does not manufacture products or supply services related to patents it has rights to, but instead enforces the patent rights against accused infringers in an attempt to collect licensing fees”.<sup>109</sup>

Other understandings on what is considered an NPE come from important institutions that have taken an interest in such entities, and the highly polarized NPE debate. In *eBay v. MercExchange*, Supreme Court Justice, Justice Kennedy asked “[I]s the troll the scary thing under the bridge, or is it a fishing technique?”.<sup>110</sup> He described patent assertion entities as “firms [that] use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees”.<sup>111</sup> The U.S. Federal Trade Commission (FTC) describes PAEs as “businesses that acquire patents from third parties and seek to generate revenue by asserting them against alleged infringers”.<sup>112</sup> The 2013 U.S. Congressional Research Service Report for Congress grouped NPEs, PAEs, and patent trolls all together, stating that the “business model focuses not on developing or commercializing patented inventions but buying and asserting patents, often against firms that have already begun using the claimed technology after developing it independently, unaware of the PAE patent.”<sup>113</sup> Even former President Barack Obama had an opinion on patent trolls, describing them as “the folks that you are talking about are a classic example; they don’t actually produce anything themselves. They’re just trying to essentially leverage and highjack somebody else’s idea and see if they can extort some money out of them”.<sup>114</sup>

In *Highland Plastics, Inc. v. Sorensen Research*,<sup>115</sup> the defendant moved to remove one paragraph in the plaintiff’s complaint, particularly the term “patent troll”. The defendant argued that “[d]escribing the opposing party as a ‘troll’ – an ugly, mythical cave-dwelling being – is not in keeping with the dignity of the Court, and has no relationship to the causes of action raised in the Complaint.”<sup>116</sup> Surprisingly, the Central District of California denied the defendant’s request to strike the term “patent troll” from the plaintiff’s complaint

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<sup>106</sup> James Bessen, Jennifer Ford & Michael J. Meurer, *The Private and Social Costs of Patent Trolls*, REGULATION, Winter at 26 (2011-12), available at <https://object.cato.org/sites/cato.org/files/serials/files/regulation/2012/5/v34n4-1.pdf>.

<sup>107</sup> Laura Fishwick, *Mediating with Non-Practicing Entities*, 27 HARVARD J. L. & T. 331, 332 (2013).

<sup>108</sup> Samuel F. Ernst, *Trolls or Toll-Takers: Do Intellectual Property Non-practicing Entities Add Value to Society?*, 18 CHAP. L. REV. 611 (2015).

<sup>109</sup> Ryan T. Holte, *Trolls or Great Inventors: Case Studies of Patent Assertion Entities*, 59 ST. LOUIS U. L.J. 1, 4 (2014).

<sup>110</sup> Transcript of Oral Argument at 26, *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) (No. 05-130).

<sup>111</sup> *eBay Inc. v. MercExchange, L.L.C.*, No. 05-130 (U.S. May 15, 2006), at 4.

<sup>112</sup> See FTC Study, *supra* note 78, at 7.

<sup>113</sup> See Brian T. Yeh, *An Overview of the Patent Troll Debate*, Cong. Research Service Report No. R42668, 9 (2013), available at <https://fas.org/sgp/crs/misc/R42668.pdf>.

<sup>114</sup> Patent Progress (Obama Acknowledges Patent Troll Problem), *supra* note 14.

<sup>115</sup> *Highland Plastics, Inc. v. Sorensen Research & Dev. Trust*, CV 11-02246 SJO, (C.D. Cal. Aug 17, 2011).

<sup>116</sup> *Highland Plastics, Inc. v. Sorensen Research & Dev. Trust*, CV 11-02246 SJO, slip op. at 3 (C.D. Cal. Aug 17, 2011).

because, according to the Court, “patent troll is a term commonly used and understood in patent litigation and is not so pejorative as to make its use improper.”<sup>117</sup>

**Table 2 Examples of Non-practicing Entities**

NPE	Jurisdiction
Intellectual Ventures	USA
Rambus	USA
Conversant	Canada
InterDigital	USA
Unwired Planet/PanOptis	USA
IPCom GmbH & Co	Germany
WiLan	Canada
Acacia Technologies	USA
Papst Licensing GmbH	Germany
France Brevet	France
Sisvel	Italy

Others acknowledge the apparent fact that “patent trolls have many faces, since the media uses this expression in various ways”, and that [patent troll] “seems to be an ambiguous term that is discussed in several directions.”<sup>118</sup> Further complicating the ambiguity surrounding the use of these terms is the fact that they appear to evolve as do the entities that they are labeled too. Essentially, “not all patent trolls are created equal.”<sup>119</sup> For instance, some entities that used to make products or provide services several years ago, and that would not have been considered an NPE then, but have today modified their business model to derive all or a significant portion of their income through licensing their intellectual property, are now being considered patent trolls. Entities that had traditionally been product-manufacturing companies, such as IBM, Nokia, or MOSAID (now Conversant), today implement significant patent licensing business models. Once some of these formerly manufacturing entities changed their business model to focus on patent licensing,<sup>120</sup> suddenly they were branded as “patent trolls”, or “transformer trolls”.<sup>121</sup>

<sup>117</sup> *Id.* But see Edward Lee, *Patent Trolls: Moral Panics, Motions in Limine, and Patent Reform*, 19 Stan. Tech. L. Rev. 113, 122 (2015) discussing an array of courts and cases where judges have banned the use of the term “patent troll” in litigation.

<sup>118</sup> Tim Pohlmann & Marieke Opitz, *Typology of the Patent Troll Business*, 43 R&D MANAGEMENT 103 (2013).

<sup>119</sup> Osenga (*Formerly Manufacturing Entities*), *supra* note 7, at 435.

<sup>120</sup> *Id.*, at 438.

<sup>121</sup> See, e.g., Steven Titch, *Transformer Patent Trolls Present Latest Threat to Innovation*, THE HILL (May 5, 2015 6:00AM), available at <http://thehill.com/blogs/congress-blog/technology/240969-transformer-patent-trolls-present-latest-threat-to-innovation>; and Lisa L. Mueller, *Patent Trolls: A Global Perspective*, BRIC WALL BLOG (Feb 16, 2014), <https://bricwallblog.com/2014/02/16/patent-trolls-a-global-perspective/>. Further complicating a definitive definition for NPEs is the fact that such entities models could be further broken down, for instance, between (a) entities with home-grown patents and acquired patents; (b) entities that are formed to license patents, and entities that assume licensing as one of their business models; (c) transforming entities, as mentioned above, that either had a particular product business earlier (and after exiting such product business may start licensing its technology), and entities that establish new product businesses in fields where they did not contribute anything to core technologies and therefore do not have any patents (where these latter companies may have to copy what others have done, and therefore are exposed to patent claims).

While several of these definitions are complicated and lack any certainty, they are currently the best understandings we have on how to describe such non-practicing entities in the patent marketplace. While it is undeniable that there are some bad actors operating within the patent landscape, it is clear to see the problem with such broad and all-encompassing definitions of “NPEs” and “patent trolls” to include virtually any entity that may be non-practicing in the sense of licensing their patents, such as universities, hospitals, start-ups and others. Such ambiguous definitions also make it difficult to measure any alleged negative implications NPEs make create. Attempts to better delineate NPE activities ought not focus on whether the patent owner does not manufacture a product or have any business related to the patent, but rather focus on the company’s behavior and the act of enforcement and litigation. It is likely more accurate to define such “patent trolls” or other bad actors in the patent landscape by specific problem behavior and not a wide, derogatory label applied over any patent licensing business models that exist. A more precise definition of the NPE phenomenon would not only help to better understand the various business models such entities employ, it may also help to learn more on how those business models are intrinsic to how those entities operate. A more precise definition of the NPE phenomenon would also help to ensure that legislation is properly addressing those entities that are behaving badly, while not adversely affecting all types of patent licensing business models that are employed.

## **2.2 Historical Background on the Non-practicing Entity Phenomenon**

### **2.2.1 *Nothing New Under the Sun –NPEs in the Nineteenth Century***

A brief historical overview of patent licensing is important to our understanding of the NPE phenomenon because history is used to frame patent policy and debates today.<sup>122</sup> The role of NPEs in the patent system has been an essential evolutionary step in the progression towards patents becoming an asset class and an article of trade.<sup>123</sup> As the structure of modern societies and industries became more sophisticated, complex, and inter-dependent, the benefits of the division of labour became evident. It was inevitable that there would be firms specialized to focus solely on patent licensing, providing such expertise in the patent licensing industry, and offering these services to others.

While some may believe that the NPE phenomenon and the patent licensing business models that they employ is a relatively new phenomenon, there is evidence of NPE activity from at least the nineteenth century.<sup>124</sup> The enforcement of patents by individuals or entities that neither produce nor manufacture goods has been occurring since at least around the mid-1800s.<sup>125</sup> For instance, in the 1870s, individuals known as “patent sharks” bought dormant agricultural patents covering products such as ground shovels and then sued farmers who were unknowingly using the patented technologies.<sup>126</sup> This type of patent

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<sup>122</sup> Mossoff (*Patent Licensing and Secondary Markets*), *supra* note 8.

<sup>123</sup> See Ian D. McClure, *From a Patent Market for Lemons to a Marketplace for Patents: Benchmarking IP in Its Evolution to Asset Class Status*, 18 CHAPMAN L. R. 759, 762 (2015).

<sup>124</sup> *Id.*; see B. Zorina Khan, *Trolls and Other Patent Inventions: Economic History and the Patent Controversy in the Twenty-First Century*, Hoover IP Working Paper Series No. 13001, at 5 (2013); and see B. Zorina Khan, *The Democratization of Invention: Patents and Copyrights in American Economic Development, 1790-1920*, 9-10 (2005).

<sup>125</sup> Merges, *supra* note 44 (describing the long tradition of rent-seeking dating back to the 1790s when patents were registered by the patent office instead of being examined).

<sup>126</sup> Magliocca (*Blackberries & Barnyards*), *supra* note 4, at 1811.

exploitation and enforcement angered rural activists and led to calls for extensive patent reform. Addressing Congress in 1878, U.S. Senator Isaac P. Christiancy stated:

“[A]mong a host of dormant patents, some will be found which contain some new principle . . . which the inventor, however, had failed to render of any use in his own invention. And some other inventor, ignorant that such a principle had been discovered...had the genius to render it of great practical value . . . when, lo! the patent-sharks among the legal profession, always on the watch for such cases, go to the first patentee and, for a song, procure an assignment of his useless patent, and at once proceed to levy black-mail upon the inventor of the valuable patent.”<sup>127</sup>

A year later, Senator Christiancy put forth another statement on the apparent patent shark problem:

“patent-sharks [who] . . . procure an assignment of . . . [a] useless patent, and at once proceed to levy blackmail . . . upon any man who has ever manufactured or sold, or even used, the later and valuable invention; and hundreds, at least, among the innocent users, choose to compromise rather than run the risk of ruin from lawsuits; . . . millions are thus filched and extorted from the people every year.”<sup>128</sup>

Interestingly, similar rhetoric can be found from today’s calls for congressional reforms to address NPE concerns.<sup>129</sup> For example, in 2013, Congressman Bob Goodlatte on supporting the Innovation Act (H.R. 3309) stated:

“In recent years, we have seen an exponential increase in the use of weak or poorly-granted patents by so-called patent trolls to file numerous patent infringement lawsuits against American businesses with the hopes of securing a quick payday. Everyone from independent inventors, to start-ups, to mid and large sized businesses face this constant threat...The enactment of the Innovation Act... takes meaningful steps to address the abusive practices that have damaged our patent system and resulted in significant economic harm to our nation.”<sup>130</sup>

The agricultural revolution was not the only sector during the nineteenth century where patent sharks made a presence. These early day NPEs also appeared during the railroad revolution in the late 1800s enforcing patents on different kinds of double-acting brakes and other improved railroad safety mechanisms.<sup>131</sup> They also appeared in other historical episodes of patent rent seeking,<sup>132</sup> including the well documented sewing machine “patent wars” of the 1850s.<sup>133</sup> These historical accounts of patent reform also remind us that some of the alleged litigation problems challenging the patent system today have been considered

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<sup>127</sup> 8 CONG. REC. 307 (1878) (statement of Senator Christiancy).

<sup>128</sup> 8 Cong. Rec. 307-08 (1879) (statement of Senator Christiancy).

<sup>129</sup> Osenga (*Formerly Manufacturing Entities*), *supra* note 7.

<sup>130</sup> See Press Release on the Proposed Innovation Act Patent Reform, *House Passes Innovation Act To Make Reforms To Our Patent System*, quoting Congressman Bob Goodlatte, available at [http://goodlatte.house.gov/press\\_releases/476](http://goodlatte.house.gov/press_releases/476).

<sup>131</sup> See Steven W. Usselman & Richard R. John, *Patent Politics: Intellectual Property, the Railroad Industry, and the Problem of Monopoly*, 18 J. POLY HIST. 96, 106 (2006); see Chien (*Reforming Software Patents*), *supra* note 19.

<sup>132</sup> Merges, *supra* note 44, at 1592.

<sup>133</sup> Adam Mossoff, *The Rise and Fall of the First American Patent Thicket: The Sewing Machine War of the 1850s*, 53 ARIZ. L. REV. 165, 183-84, 194-95 (2011).

before,<sup>134</sup> albeit under different conditions.<sup>135</sup> Both the agrarian and railroad litigation crises appeared to be motivated by an increase in patenting driven in large part by significant growth and advances in economic development of that time.<sup>136</sup> The agrarian crisis in the nineteenth century apparently developed as a result of the patent office's decision in 1869 to issue incremental improvements to functional designs, and from Congress's decision to expand the scope of protection on design patents from "new and original" to "new, useful and original",<sup>137</sup> essentially allowing any farming tool to receive protection. The railroad litigation crisis resulted from significant leaps forward in the industrial development of railroad inventions after the Civil war of 1861.<sup>138</sup> Compounding these litigation issues was the patent office's seemingly lack of personnel and financial ability to keep pace with the surge in new patent applications, which put constraints on the pre-approval review process of patent applications leading many patents to be issued without rigorous review.<sup>139</sup>

Yet, none of the nineteenth century reform proposals made to fix the apparent patent litigation crises were passed in Congress.<sup>140</sup> The reforms debated in Congress to tackle the alleged patent shark litigation problem failed because "in solving the problem of farmers and railroads, they would, it was perceived, create problems for other industries."<sup>141</sup> The main argument was that proposals to change the manner in which patent infringement claims would be handled in court, such as asserting attorney fee-shifting, would unfairly punish patent owners with legitimate infringement claims, and subsequently, opposition grew against such patent reform proposals.<sup>142</sup>

Instead, the litigation crises of the nineteenth century were apparently solved by other means. An innocent user defense was introduced to protect farmers who unknowingly used the patented farming tools.<sup>143</sup> In 1902, Congress changed the law by deleting the problematic word "useful", while the patent office began following a more strict interpretation of the design patent statute.<sup>144</sup> The railroad litigation crisis eventually diminished after railroad companies organized themselves into two collective defense associations (the Eastern Railroad Association and the Western Railroad Association) and hired patent attorneys to coordinate and fend off patent assertions brought against them.<sup>145</sup>

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<sup>134</sup> Chien (*Reforming Software Patents*), *supra* note 19, at 331, 346 ("Less well-known, however, is that many of the very reforms that are now being proposed have been called for and in many cases tried before, in response to both similar and different conditions.") (Chien explains that the agrarian crisis saw the introduction of shifting fees to plaintiffs); *see generally* Magliocca (*Blackberries and Barnyards*), *supra* note 4, at 1819 ("...the debates of the nineteenth century contain a treasure trove of information on patent trolls.").

<sup>135</sup> Christopher Beauchamp, *The First Patent Litigation Explosion*, 125 *YALE L. J.* 848, 853 (2016) ("It would be misleading to assume that a patent case in the nineteenth century was the same thing as a patent case in the twenty first. Patent litigation in the nineteenth century was much cheaper; it operated under different procedural rules; the scale and organization of business, the legal profession, and the federal courts were all different in profound respects.").

<sup>136</sup> Usselman & John, *supra* note 131, at 99; *see* Magliocca, (*Blackberries and Barnyards*), *supra* note 4, at 1820.

<sup>137</sup> Gerard N. Magliocca, *Ornamental Design and Incremental Innovation*, 86 *MARQ. L. REV.* 845, 874-76 (2003).

<sup>138</sup> Usselman & John, *supra* note 131, at 99, 102-03.

<sup>139</sup> *Id.*, at 102.

<sup>140</sup> Magliocca (*Blackberries and Barnyards*), *supra* note 4, at 1813.

<sup>141</sup> Chien (*Reforming Software Patents*), *supra* note 19, at 347.

<sup>142</sup> *Id.*

<sup>143</sup> *Id.*, at 346.

<sup>144</sup> Magliocca (*Ornamental Designs*), *supra* note 137, at 879.

<sup>145</sup> Usselman & John, *supra* note 131, at 100; *see* Chien, (*Reforming Software Patents*), *supra* note 19, at 345, 346.

Thus, the nineteenth century historical accounts of patent litigation reforms help provide a useful illustration of not only how “non-manufacturing” patent owners began to recognize that patents could be procured and enforced to generate revenues,<sup>146</sup> but also how Congress dealt with concerns centered on alleged patent litigation abuses supposedly caused by NPEs of that time. As patents continued to play an increasingly important role in fostering U.S. economic development and innovation throughout the nineteenth century to today, the importance of patent protection varied throughout the past century.

### **2.2.2 The Importance of Patent Protection: An Evolving Paradigm**

Today, it is widely acknowledged that patents are considered invaluable commercial assets for many technology companies around the world. The paramount importance placed on patents in today’s technology dependent society has made it difficult to imagine a time when the attitude towards patents was one of indifference, or even of disfavor. Yet, going back only a few decades, an evolving paradigm regarding the attitude towards patent protection, and patents generally, can be drawn. This brief departure back in history, and general overview, is provided to better understand the evolving paradigm of the importance placed on patent protection, and to better understand where such paradigm is positioned today.

Over the past century, there has been a noticeable traded ascendancy in the U.S. between patents and competition.<sup>147</sup> It became apparent that as the antitrust movement gained prominence, a more anti-patent posture arose, and vice versa.<sup>148</sup> In the U.S. during 1917, an antitrust backlash began when the Supreme Court in *Motion Picture Patents Co. v. Universal Film Mfg. Co.*,<sup>149</sup> rejected certain licensing restrictions that movie exhibitors had placed on prospective licensees based on antitrust and patent misuse grounds.<sup>150</sup> In contrast, by the 1930s it was antitrust that was being favored, as a correspondingly weaker role for patents emerged. Around the same time as *Motion Picture Patents Co.*, courts also weakened patent rights by imposing a higher standard of “invention” as a requirement of patentability.<sup>151</sup> For instance, in *Cuno Engineering Corp. v. Automatic Devices Corp.*,<sup>152</sup> the Supreme Court reversed a lower court’s judgment that the defendant’s patent was valid and infringed reasoning that a new device must come from “the flash of creative genius, not merely the skill of the calling.”<sup>153</sup> This case resulted in the “Flash of Genius” doctrine, or the test for patentability, used by the Federal courts for over a decade, which held that an inventive act had to come into the mind of the inventor by a flash of genius and not by way of only “fiddling” with things:

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<sup>146</sup> See Julie S. Turner, *The Nonmanufacturing Patent Owner: Toward a Theory of Efficient Infringement*, 86 CAL. L. REV. 179 (1998).

<sup>147</sup> There have been other anti-patent periods as well, for example during the time period 1850-1873. See, e.g. Fritz Machlup, *An Economic Review of the Patent System*, Subcomm. on Patents, Trademarks, & Copyrights of the Senate Comm. On the Judiciary, 85<sup>th</sup> Cong., 2D SESS. 4.

<sup>148</sup> See Ilkka Rahnasto, *Intellectual Property Rights, External Effects, and Anti-Trust Law: Leveraging IPRs in the Communications Industry*, 19 (2003) (describing the tension between intellectual property protection and anti-trust law).

<sup>149</sup> *Motion Picture Patents Co., v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917).

<sup>150</sup> *Id.* At this time, movie exhibitors wanted that their patented film projection equipment be resold at a specified price and only used with the licensor’s patented film, which the Supreme Court found to be patent misuse – restraining economic competition and violating U.S. antitrust law.

<sup>151</sup> Roger E. Schechter & John R. Thomas, *Intellectual Property: The Law of Copyrights, Patents and Trademarks* § 17.3.1, at 376 (2003). See Robert P. Merges & John F. Duffy, *Patent Law & Policy: Cases and Materials* (3 ed. 2002).

<sup>152</sup> *Cuno Engineering Corp., v. Automatic Devices Corp.*, 314 U.S. 84, 91 (1941).

<sup>153</sup> *Id.*, at 91.

“The new device, however, useful it may be, must reveal the flash of creative genius, not merely the skill of the calling. If it fails, it has not established its right to a private grant on the public domain.”<sup>154</sup>

By 1949, the increasing anti-patent sentiment reflected by the Supreme Court at that time led one dissenting Justice of the U.S. Supreme Court to say “the only patent that is valid is one which this court has not been able to get its hands on.”<sup>155</sup> Congress responded by passing the Patent Act of 1952,<sup>156</sup> which further strengthened the patent system but also led to increased scrutiny of the system. In 1957, Congress issued a lengthy study titled “The Patent System and the Modern Economy”,<sup>157</sup> with its most notable reference to the report of economist Fritz Machlup, of which his conclusion was insufficient economic empirical evidence existed to justify either abolishing the patent system, or creating one in its absence.<sup>158</sup>

Yet, for almost the next two decades, antitrust would dominate as patents continued to be disfavored through the 1960s and 1970s. Courts of appeal “diverged widely both as to doctrine and basic attitudes towards patents,”<sup>159</sup> and it is believed for these reasons, many in industry downplayed the usefulness of patents.<sup>160</sup> The strong antitrust movement climaxed in the early 1970s when the Deputy Assistant of the Attorney General in the Department of Justice’s (DoJ) Antitrust Division listed nine licensing practices which the DoJ considered, *per se*, unlawful under the Sherman Act, known as the “Nine No-No’s”.<sup>161</sup> The Nine No-No’s included: (1) tying arrangements of unpatented supplies, (2) mandatory grant-back provisions, (3) restrictions on the resale of patented products, (4) restricting a licensee’s ability to deal in products outside the scope of the patent, (5) provisions precluding a licensee from entering into future licenses with other patentees, (6) requiring mandatory package licensing, (7) requiring as a condition of a license royalties not reasonably related to the licensee’s sales of products covered by the patent, (8) restrictions on a licensee’s use of a product made pursuant to a patented process, and (9) setting minimum resale price provisions for licensed products.<sup>162</sup>

The antitrust enforcement agencies thus took a strong position towards restrictions in licensing agreements, viewing them as largely anti-competitive.<sup>163</sup> Yet, by 1977, the Supreme Court retreated from its heavy reliance on the antitrust’s *per se* rule by removing vertical

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<sup>154</sup> *Id.*, at 91.

<sup>155</sup> *Jungerson v. Ostby & Barton Co.*, 335 U.S. 560, 572 (1949) (Jackson, J., dissenting).

<sup>156</sup> 35 U.S.C. §§ 1 *et seq.*

<sup>157</sup> See Study of the Subcomm. On Patents, Trademarks, and Copyrights of the Senate Comm. On the Judiciary, 84<sup>th</sup> Cong., 2D Sess. (1957).

<sup>158</sup> Machlup, *supra* note 147, at 80 (“If we did not have a patent system, it would be irresponsible, on the basis of our present knowledge of its economic consequences, to recommend instituting one. But since we have had a patent system for a long time, it would be irresponsible, on the basis of our present knowledge, to recommend abolishing it.”).

<sup>159</sup> Merges & Duffy, *supra* note 151, at 10-11.

<sup>160</sup> *Id.*, at 11.

<sup>161</sup> See Bruce B. Wilson, Deputy Assistant Attorney General, Antitrust Division, Remarks before the Michigan State Bar Antitrust Law Section, Detroit (Sept. 21, 1972), reprinted in 5 CCH Trade Reg. Rep. 50, 146 (1972).

<sup>162</sup> See Bruce B. Wilson, Deputy Ass’t Atty. Gen., Antitrust Div., Dep’t of Justice, *Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions, Remarks Before the Fourth New England Antitrust Conference* 9 (Nov. 6, 1970), available at <http://www.rtlaw.com/licensing/pdf/13.pdf>.

<sup>163</sup> Mark R. Joelson, *An International Antitrust Primer: A Guide to the Operation of United States, European Union and Other Key Competition Laws in the Global Economy* 183 (3<sup>rd</sup> ed. 2006).

non-price restraints in *Continental T.V., Inc. v. GTE Sylvania Inc.*,<sup>164</sup> while other factors were developing to reverse the antitrust dominance and the weakness of patents. Growing concerns over the lack of R&D investment and other economic concerns led President Carter to appoint an Advisory Committee to review domestic industrial innovation.<sup>165</sup> The Committee review found that investment in applied science research had all but almost disappeared and that U.S. technologies had become either stagnant or dormant largely due to “a diminished patent incentive”.<sup>166</sup> Rethinking the best way to achieve economic and technological growth, and with the election of Ronald Reagan to the Presidency, came not only the demise of the Nine No-No’s,<sup>167</sup> but also the reinforced prominence of intellectual property as the chosen means to enhance the American economy, and particularly raising the importance and economic benefits of intellectual property licensing.<sup>168</sup>

### **2.2.3 The Rise of the Pro-Patent Era**

While it was the political and economic forces that largely defeated the anti-patent movement of the 1930s to 1970s, rather than the patent system itself, the pro-patent movement began gaining ground as industry, economists and policy makers were discussing patent issues more widely driven by concerns about increased international competition in several key industries.<sup>169</sup> By the early 1980s, the U.S. was experiencing a serious economic recession brought on by stagflation. The appearance of the “twin deficits”, a fiscal deficit and a trade deficit, plagued the U.S. economy. Recognizing how critical the problems of declining industrial competitiveness and the weakening of the economy were becoming, the Reagan Administration established the President’s Commission on Industrial Competitiveness chaired by then President of Hewlett Packard, John A. Young. The Commission submitted a report on the U.S. Competitiveness titled “Global Competition: The New Reality”,<sup>170</sup> known as the “Young Report”, with one of its main recommendations to foster U.S. high technologies by increasing stronger patent laws and patent protection.<sup>171</sup> While the Report was criticized for not creating anything “new”,<sup>172</sup> its value was in bringing to the surface a better understanding of the existing situation the U.S. found itself in; a recognition that something had to be done to help improve the competitive and economic situation and that

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<sup>164</sup> *Continental T.V., Inc., v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

<sup>165</sup> Report of the Industrial Subcomm. For Patent and Information Policy of the Advisory Comm. On Industrial Innovation, Report on Patent Policy 155 (1979) (hereinafter Report on Patent Policy).

<sup>166</sup> *Id.*, at 39-42.

<sup>167</sup> Willard K. Tom & Joshua A. Newberg, *Antitrust and Intellectual Property: From Separate Spheres to Unified Field*, 66 ANTITRUST L.J. 167, n.67 (1997).

<sup>168</sup> Joelson, *supra* note 163 at 183 (Charles F. Rule, the last Reagan appointee as Assistant Attorney General for the Antitrust Division 1986 speech stating: “the nine no-no’s no longer represent our policy. We are much more sympathetic to intellectual property licensing, including restrictions in such licenses, because we recognize its economic benefits. We also recognize that licensing, rather than being in conflict with the purposes of the antitrust laws, is consistent.”).

<sup>169</sup> One of these key industries was semiconductor chips. See Ove Grandstrand, *Intellectual Property Rights for Governance In and Of Innovation Systems*, in Birgitte Andersen (ed.) (2006) *Intellectual Property Rights Innovation, Governance and the Institutional Environment*, (Edward Elgar Cheltenham, UK), 311.

<sup>170</sup> President’s Commission on Industrial Competitiveness, *Global Competition: The New Reality*, John A. Young, Chairman (Washington, D.C.: US Government Printing Office, 1985).

<sup>171</sup> *Id.*, at 4-6 (“[Technology] is our strongest advantage in world competition. Yet we do not capitalize on our preeminent position, and other countries are rapidly closing the gap. Our first cause for concern should be about the kinds of technologies we investigate...we need to review and reform our patent laws, better protect the scientific information that American business provides...and insist that our trading partners...provide better protection too.”).

<sup>172</sup> *Id.*, at 11.

government and industry should work together to foster such an environment to take place to create, apply, and protect U.S. technology.

The Supreme Court then began establishing pro-patent developments. In *Diamond v. Chakrabarty*,<sup>173</sup> the Supreme Court interpreted patentable subject matter broadly, holding that a live, human made micro-organism was patentable under section 101,<sup>174</sup> citing a Committee Report with the 1952 Patent Act that informed “Congress intended statutory matter to “include anything under the sun that is made by man”.”<sup>175</sup> The “anything under the sun made by man” description of patentable subject matter expressed a broad understanding of the scope of patent protection to say the least, and provided significant encouragement for industry to apply for patent protection.<sup>176</sup> A year later in *Diamond v. Diehr*,<sup>177</sup> the Supreme Court held that controlling the execution of a physical process, by running a computer program, was patentable subject matter and again reiterated that patentable subject matter can include “anything under the sun that is made by man”,<sup>178</sup> again conveying a broad perception of patent scope.

However, the Supreme Court was not the only Court to shift towards pro-patent developments. One of the proposals from the 1979 Committee review on U.S. patent policy was to establish a specialized appellate court for patent cases to help solve the problem of significant inconsistencies in patent decisions.<sup>179</sup> Thus, Congress established the Court of Appeals for the Federal Circuit (CAFC) in 1982 with nation-wide jurisdiction over several matters, including patent appeals.<sup>180</sup> The CAFC soon became known for its pro-patent stance, holding patents to be valid more often than in the anti-patent era of the previous five decades.<sup>181</sup>

Perhaps the first noticeable change in such pro-patent stance came in the 1986 case *Polaroid Corp. v. Eastman Kodak Co.*,<sup>182</sup> when the CAFC upheld an injunction issued by the lower court, which was an unusual move for courts at that time. The lengthy litigation battle between Polaroid and Kodak, and the subsequent success for Polaroid in being awarded close to a billion dollars in damages, marked a significant milestone in the development of patent law. Polaroid’s success in relying on its patents to protect its instant photography technology was an important signal to other technology companies that patents and

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<sup>173</sup> *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

<sup>174</sup> 35 U.S.C. § 101.

<sup>175</sup> 447 U.S. at 309, citing S. REP. NO. 82-1979, at 5 (1952); H.R. REP. NO. 82-1923, at 6 (1952).

<sup>176</sup> Some believe that this broad interpretation of patent scope allowed the biotechnology industry to be born. See American Bar Association Section of Intellectual Property Law, Statement of Robert P. Taylor on Behalf of Section of Intellectual Property Law American Bar Association on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy (Jul. 2002), available at <http://www.ftc.gov/opp/intellect/020711robertptaylor.pdf>.

<sup>177</sup> *Diamond v. Diehr*, 450 U.S. 175 (1981).

<sup>178</sup> 450 U.S. 182, 219 (1981).

<sup>179</sup> Report on Patent Policy (*Proposal III*), *supra* note 165.

<sup>180</sup> 28 U.S.C. § 1295. Two specialized courts, the appellate division of the U.S. Court of Claims and the U.S. Court of Customs and Patent Appeals, were merged together to create the CAFC.

<sup>181</sup> Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CAL. L. REV. 803, 820-21 (1988) (noting how the CAFC began considering “secondary factors” such as the financial success of a commercialized invention, and the extent to which a patent had been licensed, in determining whether the invention was worthy of receiving patent protection). A series of media articles were also published in the press during the mid-1980s proclaiming the “new” power of patents. See Nancy J. Perry & David Kirkpatrick, *The Surprising New Power of Patents*, FORTUNE Magazine (archived, Jun. 1986), available at [http://archive.fortune.com/magazines/fortune/fortune\\_archive/1986/06/23/67747/index.htm](http://archive.fortune.com/magazines/fortune/fortune_archive/1986/06/23/67747/index.htm).

<sup>182</sup> *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556 (1986).

intellectual property protection had begun to regain its importance and was something that technology companies should not take for granted. Companies that once overlooked their patents during the 1960s and 1970s as valuable assets that could help generate profits, likely because of the strong antitrust position during that time,<sup>183</sup> soon began acknowledging that patents could be implemented into their business model to generate revenues in other ways than only by protecting manufactured products. For example, in the 1980s the firm *Texas Instruments* saved itself from bankruptcy only by reassessing the way in which it used its patents.<sup>184</sup> By actively asserting its patents relating to its basic design of integrated circuits, the company was able to turn its fortune around from near bankruptcy to over one billion in patent licensing revenues generated by 1993. The semi-conductor company Qualcomm had similar success after transitioning from a company that produced handsets to a company that solely licensed out its research and development (R&D).<sup>185</sup>

While the 1980s experienced a series of judicial, administrative, and legislative actions taken to strengthen the economic value of patents in the U.S., by the 1990s, changing economic, competitive and legal conditions that would come as a result of the transition from an industrial to a knowledge economy forced many entities to re-evaluate how patents supported their existing business functions.<sup>186</sup> Companies began to increasingly apply for, acquire, and stockpile patents.<sup>187</sup> Many U.S. companies were creating inventions, procuring patent protection and licensing the technology to marketing and distribution channels. As a result there started to be many companies that were pure research and development based. Subsequently, this occurrence began to produce a culture where it was increasingly acceptable to enforce patents against those that used inventions without paying for such use. As companies began to recognize the significant potential monetary value in patents, and began increasing their patent protection, patents became the medium that facilitated a way for companies to identify and conduct “IP balance of payment” transactions to pay each other for the use of their patented inventions.<sup>188</sup>

Subsequently, the move towards an increasing reliance on patents by firms for competitive and monetary reasons, and the increasing trend towards stronger IP protection and enforcement, not only caused the adaptation of many firms’ business models to obtain more patents, and increasingly place value on them, it also caused the transformation of IP strategies for firms. It was no longer necessary for firms to use only their own IP for

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<sup>183</sup> See, e.g., Marisol Sandoval, *From Corporate to Social Media: Critical Perspectives on Corporate Social Responsibility in Media and Communication Industries* (OX, Routledge) (2014) 157. According to Sandoval, Microsoft only acquired its first patent in 1986, while today the company holds tens of thousands of patents globally. See Kevin Rivette and David Kline, *Rembrandts in the Attic: Unlocking the Hidden Value of Patents* (USA, Harvard Business Press) (2000).

<sup>184</sup> See Cynthia Cannady, *Technology Licensing and Development Agreements* (Oxford University Press) (2013), 50-51.

<sup>185</sup> See Qualcomm History homepage, available at <https://www.qualcomm.com/company/about/history>.

<sup>186</sup> For example, once the knowledge economy became more apparent several companies took greater notice of their intellectual property. For more on the knowledge economy see Peter Drucker *The Age of Discontinuity: Guidelines to Our Changing Society*, (NY, Harper and Row) (1969). Drucker explains the knowledge economy as one that produces and distributes ideas and information rather than goods and services (as in the industrial economy). See also Ulf Petrusson, *Intellectual Property & Entrepreneurship Creating Wealth in an Intellectual Value Chain* (2004) Center for the Protection of Intellectual Property Studies, Goteborg, Sweden.

<sup>187</sup> Chien (*From Arms Race*), *supra* note 68.

<sup>188</sup> “IP balance of payments” is used to describe a transaction in which two companies use each other’s’ R&D or invention and they cross-license patents, yet one company may use more of the other company’s invention and thus pays an additional payment on top of the cross license to ensure a balance of payment.

competitive advantages; they could also buy and acquire third party IP to exploit for further competitive and pecuniary advantages.<sup>189</sup>

The evolving patent marketplace thus allowed for new innovative business models and practices that redefined patent rights and the ways in which they were used. Consequently, with an increased focus placed on the strategic use and extracting monetary value from patents, the exploitation and enforcement of patents came to be a necessary part of many firms operations, and eventually, a viable business opportunity in itself. Business models slowly developed solely around the assertion of patents. Consequently, around the late 1990s to early 2000s, modern day NPEs emerged on the U.S. patent landscape.

### **2.3 Theoretical Underpinnings and the Non-practicing Entity Phenomenon**

#### **Today**

This section will briefly explore various theoretical underpinnings associated with the NPE phenomenon to help further clarify complexities related to NPE patent enforcement,<sup>190</sup> and will also provide an overview of the NPE phenomenon today.

What makes the NPE phenomenon such a topical and interesting research theme is the fact that NPEs fundamentally change the economics of patent enforcement and litigation. More specifically, NPEs are interesting because of the asymmetrical advantages they hold, which is arguably also one of the reasons why they may be so feared by infringers.<sup>191</sup> NPEs hold various asymmetrical advantages compared to non-NPE entities in patent litigation, such as typically being immune to counter-attacks of infringement, having the presumption of validity for their patents, among others, but they also take advantage of low transaction costs when engaging in patent enforcement.<sup>192</sup> NPEs engage in efficient patent enforcements by utilizing economies of scale; often they can enforce the same patent (or patent portfolios of numerous patents), against multiple infringers, in the same patent-plaintiff friendly court. They can use contingency fee representation to help keep their legal enforcement costs low, where payment is only made upon a successful litigation outcome. NPEs are typically not interested in cross-licensing negotiations, as they do not need to use others' proprietary technology to build products or services. Consequently, NPEs cannot typically be sued for

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<sup>189</sup> See Tom Ewing, *Indirect Exploitation of Intellectual Property Rights by Corporations and Investors: IP Privateering and Modern Letters of Marque and Reprisal*, 4 HASTINGS SCI. & TECH. L.J. 1 (2012).

<sup>190</sup> See *supra* Part 1.1. for further theoretical discussions on NPE patent enforcement.

<sup>191</sup> One of the most feared NPEs, and one of the first major modern-day NPEs to be established in the U.S. in the year 2000 is a company called Intellectual Ventures. Intellectual Ventures was founded by four former legal and technology executives to license patent portfolios on a large-scale, consisting of various technology areas through a series of different funds. Today, the company holds approximately 70,000 patents.

<sup>192</sup> In law and economics theory, this is often associated to Coase theorem. See Ronald H. Coase, *The Problem of Social Costs*, 3 J. L. ECON. 1 (1960). Coase theorem asserts that when there are complete competitive markets with low transaction costs, bargaining will lead to a Pareto efficient outcome, where resources are allocated in the most efficient manner, and parties will move towards the most efficient and mutually beneficial outcome. More specifically, Coase theorem states that parties will bargain or negotiate terms that are more beneficial to both parties, however, when such bargaining is not costless (e.g. there are transaction costs; in the NPE context, there are enforcement costs for both NPEs and defenders, albeit likely higher costs for defenders), this will affect the outcome for the parties. In other respects, NPEs themselves help to provide liquidity to the patent system, which lowers transaction costs for those buying and selling patents (greater liquidity in the patent market lowers transaction costs in which patents can be allocated to their highest use). By owning several hundred or thousands patent portfolios, NPEs act as intermediaries and provide a collected pool of numerous patent rights in one place that patent buyers and sellers can utilize, essentially lowering transaction costs in the search for other patent players in the patent market.

infringement as they do not manufacture or produce products.<sup>193</sup> This gives NPEs a significant advantage in enforcing patents, as one defense to an infringement claim is often to counter-attack with a (counter) claim of infringement. Also, because NPEs typically do not produce or manufacture products, they are likely to have far fewer documents to disclose in the discovery phase of litigation. Thus, this part of litigation is likely to be less costly for NPE plaintiffs than for defendants. Parties defending against an NPE enforcement may not have the benefit of similar low transaction costs. Parties may need to hire experts to help determine validity or infringement issues, spend time and resources conducting relevant patent searches or prior art searches, or other investigations, in addition to hiring legal representation. Thus, they may find it more economical to settle with an NPE given the extremely expensive nature of patent litigation.

To a large extent, the law of supply and demand in the patent market also plays an integral role for NPE patent enforcement.<sup>194</sup> The relationship between supply and demand underlie the forces behind the allocation of resources. At the same time, the allocation of resources affects valuation. In other words, in general, a patent that is potentially very valuable, and thus in high demand, will generally have a corresponding high price, and vice versa for patents that are not perceived as valuable, and correspond to a lower price. However, patents are much more difficult to value than most other goods, not simply because they are intangible. Other intangibles, for instance, brand equity, are routinely valued.<sup>195</sup> Patents are difficult to value because they typically lack comparables, which are used to estimate a given asset's value.<sup>196</sup> However, NPEs may help to increase the overall value of patents by providing monetization and commercialization financing for patent owners. For instance, if there are a high number of individuals or entities in a certain industry who have patented inventions, and they are seeking financing to commercialize those inventions, or they are seeking money in regards to selling/monetizing that patented invention, this may lead to a situation where there becomes a high supply of inventors in the market surpassing the demand of such investors or buyers for those patented inventions, and who are willing to provide such financing. As a result, some patent owners may end up either: receiving less investment or less money in regards to selling their patented invention; having such transactions conducted on worse terms and conditions; or worst of all, having no buyer or investment opportunity available at all. The result of this example may be realized theoretically if the demand from financiers, investors, and patent buyers is not in equilibrium to the supply of inventions. NPEs play a valuable role here in the patent market. They increase the demand in the patent market for valuable patented inventions by providing liquidity to those wanting to sell or otherwise monetize their patented invention, thus playing a role in the price compound of inventions. Inventors who sell their patented inventions can then potentially use the financing that they receive for investment in further

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<sup>193</sup> See *infra* Part II of the dissertation, Research Paper I “An Inside View to Non-practicing Entities’ Business Models: A Case Study”.

<sup>194</sup> The law of supply and demand was noticed in the marketplace long before it was mentioned in any publication. Philosopher John Locke is credited with one of the earliest descriptions of the economic principle in his work “Some Considerations of the Consequences of the Lowering of Interest and the Raising of the Value of Money” (1691). Adam Smith also dealt with the economic principle in his work the *Wealth of Nations* (see *supra* note 28), and Alfred Marshall also significantly advanced the concept in his work the “Principles of Economics: An Introductory Volume (1890).

<sup>195</sup> For instance, see Brand Finance, Global 500 2017 The Annual Report on the World’s most Valuable Brands (February 2017), available at [http://brandfinance.com/images/upload/global\\_500\\_2017\\_locked\\_website.pdf](http://brandfinance.com/images/upload/global_500_2017_locked_website.pdf).

<sup>196</sup> Andrei Hagiu and David B. Yoffie, *The New Patent Intermediaries: Platforms, Defensive Aggregators, and Super-Aggregators*, 27 J. ECON. PERSP. 45, 46 (2013).

invention. The same logic holds true for a different example. Take, for instance, a patent licensing dispute between two parties. Just the fact that NPEs are present and operating in the patent marketplace may help to promote the settlement of patent licensing disputes. Just by NPEs operating and being present in the patent marketplace may cause enough of a “threat” for some entities to work more effectively towards settling their licensing dispute, rather than have the patent go to an NPE to be subsequently enforced against them. If patent legislation, or other conditions, would evolve in such a way towards preventing, or making it increasingly difficult for NPEs to be present and operate in the patent marketplace, as is currently happening in the U.S., then this may ultimately negatively affect to the valuation of patents by decreasing the demand for patents in the marketplace. When a patent owner would want to sell his patent there may be less demand, or none at all, from the buyers side. Consequently, if there are fewer possibilities for inventors and other patent owners to receive financing for their patented inventions or to monetize their inventions, there will be less incentive to create such inventions in the first place.

Furthermore, although any individual or business that owns patents, in any sector, may be susceptible to NPE assertions, NPEs appear to operate mainly in the high-technology/ICT areas, for instance, software, telecommunications, biotechnology/semiconductor, and consumer products.<sup>197</sup> These technology sectors often consist of products encompassing numerous proprietary technological components that are typically included in a single product (e.g. it is said that there are 250,000 active patents relevant to the smartphone market<sup>198</sup>). This can make it difficult to clearly delineate and distinguish the boundaries of a protected technology. The opaque nature of patents and the sheer number of patents that are granted every year contribute to the difficulty in confirming whether a patent’s claims read on another patent.<sup>199</sup> This “notice failure”, where property rights are not clearly defined and easily determined is believed to also contribute to the rise of patent litigation generally.<sup>200</sup>

NPEs use the negative, exclusionary right that is provided by the patent to prohibit others from using, making, selling, and importing the patented technology without paying for a license. To be clear, NPEs are not obliged to actually manufacture products in order to exploit patents. U.S. patent law does not include a “working requirement” provision requiring the patent owner to use or “work” the patented invention (typically meaning manufacture or import the invention within the country that granted the patent) within a specified time. Such working requirement provisions are found in some other countries’ patent systems (although arguably patent licensing is in fact “working” the patent).<sup>201</sup> Also, patent rights are fully transferrable and alienable; exclusive and non-exclusive licenses can be sub-divided to several degrees of scope, duration, and control rights. The U.S. jurisdiction may also be attractive for NPE patent assertions as U.S. patent law provides for an increase of up to three times the amount of patent infringement damages found or assessed on a

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<sup>197</sup> See PricewaterhouseCooper 2016 Patent Litigation Study, Are we at an Inflection Point?, at 11, available at <https://www.pwc.com/us/en/forensic-services/publications/assets/2016-pwc-patent-litigation-study.pdf>.

<sup>198</sup> See Steve Bachmann, *Smartphone Innovation has Soared because of Patents*, IPWatchdog Blog (Mar. 17, 2015), available at <http://www.ipwatchdog.com/2015/03/17/smartphone-innovation-has-soared-because-of-patents/id=55667/>.

<sup>199</sup> For instance, in the U.S., for the year 2015 there were 325,979 patents granted (total combining utility, design, plant and re-issue patents). See USPTO Patent Statistics.

<sup>200</sup> Yeh, *supra* note 113, at 9.

<sup>201</sup> See, e.g., Maayan Perel, *From Non-practicing Entities (NPEs) to Non-practiced Patents (NPPS): A Proposal for a Working Requirement*, available at [https://papers.ssrn.com/sol3/papers2.cfm?abstract\\_id=2496281](https://papers.ssrn.com/sol3/papers2.cfm?abstract_id=2496281).

finding of “willful” infringement,<sup>202</sup> that is, infringement done deliberately and intentionally and with knowledge of the patent. Patent damages are compensatory in nature and take the form of either lost profits or reasonable royalties.<sup>203</sup> A patent owner can recover for lost profit damages if s/he can show *but for* the alleged infringement, it would have earned those profits.<sup>204</sup> However, because NPEs do not typically manufacture products, they cannot claim lost profits; instead they most often claim for reasonable royalties.

Although patent litigation has continued to decline from its high in 2013, and patents granted by the USPTO declined in 2015 for the first time in seven years, the median damage amounts awarded have increased.<sup>205</sup> According to one study, damage awards for NPEs are almost three times greater than for practicing entities over the last five years, at \$13.3 million USD compared to \$4.9 million USD respectively.<sup>206</sup> The same study found that, for the past ten years, the overall success rate for NPEs at trial has not been as high as for practicing entities, 25% compared to 35% respectively.<sup>207</sup> Also, for the past ten years, practicing entities litigating have found greater success in bench decisions than NPEs litigating (54% vs. 38% respectively); however, both have been significantly more successful when juries have decided their cases (77% vs. 71% respectively).<sup>208</sup> This means that when NPEs do litigate, they are not as successful as often as practicing entities, but when they are successful, the damage amount awarded has been more significant compared to practicing entities. Moreover, NPE patent litigation cases in the U.S. have been predominately concentrated to five specific district courts: Texas Eastern; Illinois Northern; California Northern; Delaware; and New York Southern.<sup>209</sup> However, each of these districts accounted for a mixed trial success rate for NPEs, with Texas Eastern being the highest at 48%, and Illinois Northern and California Northern being the lowest with both at 13%.<sup>210</sup>

A question that is often asked is how can one protect themselves from an NPE assertion? While there is no absolute way to protect against an NPE infringement claim, there are some strategies patent owners and technology implementers can carry out to help defend against an NPE assertion. Entities should regularly examine their IP strategy, inventory and patent portfolios and search for how to better fill any gaps in protection. Conducting proper “freedom to operate” searches are important to ensure that third party rights are not being infringed before investment into a product. Filing for declaratory judgements, the legal determination of a court that resolves legal uncertainty for litigants may be of help to try to pre-empt infringement claims. In addition, the validity of the patent may be challenged. There are also defense groups such as RPX that offers members access to defensive acquisition portfolios to reduce patent risks. There is also patent litigation insurance that can be purchased. In addition, examining the economics of settling versus litigating should be undertaken. One can always try negotiating with the NPE for a settlement. And finally, patent owners should be aware of what is happening in the marketplace not only in regards to competitors, patent deals and transactions that are on-going, but also monitor patent

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<sup>202</sup> 35 U.S.C. § 284.

<sup>203</sup> *Id.*

<sup>204</sup> *See, e.g.*, King Instruments Corp. v. Perego, 65 F.3d 941, 952 (Fed. Cir. 1995).

<sup>205</sup> PricewaterhouseCoopers 2016 Patent Litigation Study, *supra* note 197, at 4. Median damage awards are at the highest amount in the past ten years; for instance, from 2011-2015, the median damages awarded were \$9.2 million U.S. dollars.

<sup>206</sup> *Id.*, at 10.

<sup>207</sup> *Id.*, at 11.

<sup>208</sup> *Id.*, at 9.

<sup>209</sup> *Id.*, at 16.

<sup>210</sup> *Id.*

office filings and grants, and be aware of developments in key legal and regulatory environments.

A further question that is also often asked is how to address the potential negative impacts NPEs may cause in the patent system? While this question is beyond the research agenda, scope and aims of this dissertation, and while it is pertinent to remain critical of data related to alleged negative aspects of NPEs, some starting suggestions are briefly discussed here. As a starting point for legislators, policymakers, and academics to further inquire into potential negative effects of NPEs and/or NPE patent enforcement is to focus evaluation on the character of the actor, and not the identity of the actor. Again, enforcing patents is completely legal and to group all patent owners who enforce patents as some type of unwanted, bad actor in the patent system is counterintuitive to the patent system. Also, before legislation is enacted or changed to deal with alleged abuses of NPE patent enforcements, there needs to be a further defined and more comprehensive definition put forth on such actors to prevent such changes inhibiting patent enforcement by all actors. Moreover, the assertion of “low quality” patents has very little to do with NPEs and more to do with the patent office issuing such patents; NPEs do not issue their own, or others’ patents. As such, a focus ought to be placed on patent offices and their procedures and processes regarding the issue and grant of patents. Furthermore, specific court procedures, such as heightened pleadings,<sup>211</sup> where plaintiffs are required to identify and provide information on which claims are being infringed, help to filter out any alleged meritless infringement claims coming before the court. Finally, judges also have numerous tools at their disposal to counter any vexatious litigants that may come before them, including awarding attorney fees,<sup>212</sup> and prohibiting a vexatious litigant from filing any new litigation.<sup>213</sup>

## **2.4 Recent Developments on the NPE Phenomenon**

### **2.4.1 Congressional Lobbying and the America Invents Act**

Since modern day NPEs emerged on the patent landscape in the early 2000s, critics and well-funded lobbying groups have been quick to organize to pressure Congress for changes to patent legislation in efforts to try to limit such alleged abusive NPE patent enforcement and litigation activities.<sup>214</sup> To a large extent, much of the pro-reform lobbying efforts

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<sup>211</sup> On December 1, 2015, the revised Federal Rules of Civil Procedure went into effect and changed pleading requirements for patent plaintiffs. The current pleading standard is believed to be that at Common law, U.S. Supreme Court cases *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544 (2007), and *Ashcroft v. Iqbal*, 556 U.S. 662, 679 (2009). The *Twombly/Iqbal* standard requires complaints to contain “sufficient factual matter” and “state a plausible claim for relief”, thus slightly raising the amount of detail required in a complaint for direct patent infringement compared to the previous Form 18.

<sup>212</sup> 35 U.S.C. § 285 (2012).

<sup>213</sup> For instance, in California courts, the Judicial Council’s duty under the Code of Civil Procedure section 391.7 is to maintain the Vexatious Litigant List that includes the names and information of persons against whom pre-filing orders have been entered that prohibit a vexatious litigant from filing any new litigation in California without first obtaining permission from the presiding justice or presiding judge of the court where the filing is proposed. A vexatious litigant who disobeys such a pre-filing order may be punished for contempt of court (Code Civ. Proc., § 391.7(a)).

<sup>214</sup> See, e.g., dueling letters sent to Congress by U.S. Professors; one group of academics wrote a letter that supports further patent reform to deal with NPEs, available at [https://www.eff.org/files/2013/11/25/prof\\_ltr\\_nov\\_25.pdf](https://www.eff.org/files/2013/11/25/prof_ltr_nov_25.pdf); while the other letter written by a different group of professors cautions Congress on many of the flawed studies on the patent system that suggest the system is in

culminated in the passage of the America Invents Act (AIA) in 2011.<sup>215</sup> While the AIA's most significant change resulted in the U.S. patent system aligning with the rest of the world in moving from a first-to-invent to a first-to-file system, it also included provisions specifically targeting NPE patent enforcements. These provisions included the modification of joinder rules making it more difficult for patent owners to join several defendants in a single lawsuit,<sup>216</sup> a strategy seemingly used among some NPEs,<sup>217</sup> and the creation of new post-grant review procedures to allow third parties to more easily challenge the validity of patents through the USPTO.<sup>218</sup> Yet, even before all of the provisions of the AIA were fully implemented, further patent reform was being sought. In the European jurisdiction, there is now greater uncertainty surrounding the proposed unitary patent system, as the U.K. unexpectedly voted to leave the European Union in the summer of 2016 (known as BREXIT). These developments will likely have implications for NPEs and their patent enforcement strategies. As such, the following sections briefly discuss these developments in regards to the NPE phenomenon.

#### **2.4.2 New U.S. Post-Grant Patent Opposition & Review Procedures Under the America Invents Act**

This section briefly reviews two key provisions of the AIA patent reform that in effect make patent enforcement more difficult for patent owners, including NPEs: the joinder limitation provision, and the post-grant review and *inter partes* review procedures. The AIA was signed into law in September 2011 after several years of discussion and negotiations.<sup>219</sup> The reform implemented a significant change to the U.S. patent system, most notably the change of aligning the U.S. patent system with patent systems of the rest of the world in moving from a first-to-invent to a first-to-file system of determining a patent's priority date.<sup>220</sup> With the passage of the reform's nuanced legislation, Congress implicitly focused on deterring NPE patent litigation in two respects: firstly, by creating a provision which limits a patent owner's ability to proceed in district courts against multiple infringers in a single lawsuit (joinder limitation),<sup>221</sup> and secondly, by creating two administrative procedures for defendants and third parties to challenge the validity of patents: the *inter partes* review procedure and the post-grant review procedure.<sup>222</sup>

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crisis and calls for further empirical data to be conducted before any legislative action is taken; available at <http://cpip.gmu.edu/wp-content/uploads/2015/03/Economists-Law-Prof-Letter-re-Patent-Reform.pdf>.

<sup>215</sup> See Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part II of II*, 21 FED. CIR. B.J. 539, 629 (2012).

<sup>216</sup> 35 U.S.C. § 299 (2012). Section 299 of the AIA created a new joinder statute restricting the ability of a patent proprietor to see multiple unrelated defendants in one suit.

<sup>217</sup> See Tracie L. Bryant, *The America Invents Act: Slaying Trolls, Limiting Joinder*, 25 HARV. J. L. & TECH. 673, 674 (2012) ("...patent trolls commonly employ a litigation strategy of initiating infringement suits against large numbers of unrelated, geographically diverse, defendants, in venues friendly to patent plaintiffs, such as the Eastern District of Texas.").

<sup>218</sup> 35 U.S.C. § 311, 321 (2012). Sections 311 and 321 of the AIA created two key administrative procedures for defendants and third parties to try to invalidate patents: the Post Grant Review Process and the *Inter Partes* Review procedure.

<sup>219</sup> Matal, *supra* note 215, Parts I & II, for an extensive review of the history of reform efforts of the AIA.

<sup>220</sup> 35 U.S.C. § 100.

<sup>221</sup> 35 U.S.C. § 299.

<sup>222</sup> 35 U.S.C. § § 311, 321.

#### 2.4.2.1 Limiting Joinder Provision

In the legislative history of the AIA, Congress mentioned that the purpose of the joinder provision was to address scenarios where defendants with “tenuous connections to the underlying disputes” are joined by the dozen,<sup>223</sup> an apparently common enforcement strategy used by NPEs.<sup>224</sup> Section 19(d) of the AIA adds a new section (§ 299) to title 35 U.S.C. seeking to end the practice of joining unrelated defendants in the same suit. Section 299 provides that parties accused of infringement may be joined in one action as defendants or counterclaim defendants, only if:

(1) any right to relief is asserted against the parties jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, or selling of the same accused product or process; and

(2) questions of fact common to all defendants or counterclaim defendants will arise in the action.

(b) Allegations Insufficient for Joinder—For purposes of this subsection, accused infringers may not be joined in one action as defendants or counterclaim defendants, or have their actions consolidated for trial, based solely on allegations that they each have infringed the patent or patents in suit.<sup>225</sup>

In other words, since the enactment of the AIA, patent owners may not join multiple accused infringers in one action solely based on allegations that the defendants have infringed the *same* patent.<sup>226</sup> Thus, patent owners will need to show that there is some connection between the defendants (i.e. that they infringed the patent in the same transaction or series of transactions).

Prior to the AIA, joining multiple defendants in a lawsuit provided many benefits for patent owners, particularly NPEs.<sup>227</sup> Joining multiple defendants in one action not only helped to reduce litigation costs but it also lowered the risk of finding a patent to be invalid.<sup>228</sup> A common defense to a patent infringement claim many defendants will try to establish is that the patent is invalid. By consolidating its cases together, NPEs could reduce the number of times a court would review the patent’s validity and scope, thereby reducing the likelihood that the patent may be declared invalid.<sup>229</sup> Also, by joining defendants in a patent-friendly jurisdiction, NPEs could reduce the likelihood of defendants transferring the case to another

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<sup>223</sup> H.R. Rep. No. 112-98, pt.1 at 54, (2011).

<sup>224</sup> Bryant, *supra* note 217, at 674. See *infra* Part II of the dissertation, Research Paper I “An Inside View to Non-practicing Entities’ Business Models: A Case Study”, at 300 (describing one NPE’s useful patent assertion strategy of filing complaints against multiple defendants in one action prior to the enactment of the AIA patent reform).

<sup>225</sup> 35 U.S.C. § 299. Leahy-Smith America Invents Act, sec. 19(d), 125 Stat. at 332–33 (2011).

<sup>226</sup> *Id.* sec. 19(d), § 299(b). The statute does allow defendants to waive these requirements if they want their actions to be joined or consolidated (sec. 19(d), § 299(c)).

<sup>227</sup> See Xun (Michael) Liu, *Joinder Under the AIA: Shifting Non-practicing Entity Patent Assertions Away From Small Businesses*, 19 MICH. TELECOMM. & TECH. L. REV. 489 (2013).

<sup>228</sup> Bryant, *supra* note 217, at 704.

<sup>229</sup> Liu, *supra* note 227, at 502.

jurisdiction, as it would be unlikely that there would be a district convenient for *every* defendant involved in the case.<sup>230</sup>

As a result of the joinder limitation provision, NPEs may now have a more difficult time consolidating their cases together in the future.<sup>231</sup> The increased difficulty of joining infringement cases together resulting from the same patent will likely have the effect of raising patent enforcement costs for NPEs by requiring them to initiate separate lawsuits against alleged infringers.<sup>232</sup> By having to initiate several separate lawsuits, NPEs also increase the number of times a court will review their patent's validity, thereby potentially increasing the likelihood that their patent may be found invalid.<sup>233</sup>

While at first glance the new joinder limitation provision may appear to negatively affect NPE patent assertions, the full extent of the provision remains to be seen. Some argue that since the enactment of the joinder provision, little has changed regarding the way patent infringement cases are litigated.<sup>234</sup> It may also be that the joinder provision will have minimal effect on NPE litigations as patent owners can circumvent the provision by bringing a section 337 proceeding at the International Trade Commission (ITC) instead.<sup>235</sup> Since *eBay v. MercExchange*,<sup>236</sup> which did away with the automatic grant of injunctions absent exceptional circumstances, and instead outlined a four-factor test for patent owners to satisfy in order to be granted an injunction, the ITC, not subject to the *eBay* decision,<sup>237</sup> has become an increasingly popular venue for patent owners to turn to for patent litigation.<sup>238</sup> However, the ITC may not be such an attractive venue for NPEs seeking damages, as the only remedy available upon a finding of patent infringement at the ITC is injunctive relief.<sup>239</sup> On the other hand, NPEs may be interested in seeking injunctive relief to be used as leverage in licensing negotiations with licensees, and for trying to force favorable settlements.<sup>240</sup>

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<sup>230</sup> Bryant, *supra* note 217, at 675-78.

<sup>231</sup> See *infra* Part II of the dissertation, Research Paper I – “An Inside View to Non-practicing Entities’ Business Models: A Case Study”, at 300 (describing one NPE’s claim that joining multiple defendants in one action prior to the AIA was a successful patent assertion strategy).

<sup>232</sup> Liu, *supra* note 227, at 491.

<sup>233</sup> Bryant, *supra* note 217, at 690.

<sup>234</sup> See Jean-Paul Ciardullo, *Pre-Trial Consolidation May Run Afoul of the America Invents Act*, in IP Litigation Current Act, Foley and Lardner LLP (Jan. 12, 2015), available at <http://www.iplitigationcurrent.com/2015/01/12/pre-trial-consolidation-in-patent-cases-may-run-afoul-of-the-america-invents-act/>.

<sup>235</sup> See Quinn Emmanuel Urquhart and Sullivan LLP, *Multi-Defendant Joinder Under the America Invents Act: Much Ado About Nothing?*, JD SUPRA (Dec. 20, 2012), available at <http://www.jdsupra.com/legalnews/multi-defendant-joinder-under-the-america-97136/>.

<sup>236</sup> *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (“According to well-established principles of equity, a plaintiff seeking a permanent injunction must satisfy a four-factor test before a court may grant such relief. A plaintiff must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.”).

<sup>237</sup> 19 U.S.C. § 1337(d), (f) (2006). The ITC is an administrative body, not a federal court. The ITC does not award patent damages and the *eBay* test for determining whether to grant injunctive relief does not apply.

<sup>238</sup> Chien & Lemley, *supra* note 76, at 3, 14 (2012) (“Because the ITC is an administrative agency, not a federal court, eBay’s discretionary test for injunctive relief does not apply.”).

<sup>239</sup> 19 U.S.C. § 1337.

<sup>240</sup> Lemley & Shapiro, *supra* note 46.

#### 2.4.2.2 Post-Grant Review and Inter Partes Review Procedures

The post-grant review procedure is a trial proceeding at the Patent Trial and Appeal Board (PTAB) to review the patentability of claims on any grounds that can be raised under 35 U.S.C. § 282(b)2 or 3 (relating to the invalidity of the patent or any claim).<sup>241</sup> The post-grant review procedure is available for third parties to challenge the validity of a patent within nine months of the patent been granted. After the nine month time-period, third parties may challenge the validity of a patent through the *inter partes* review procedure.

*Inter partes* review is an administrative trial proceeding which reviews the patentability of claims only on grounds that could be raised under sections 102 and 103 (novelty, and non-obvious subject matter) on the basis of prior art consisting of patents and printed publications.<sup>242</sup> As with other review procedures, *inter partes* review is intended to be something of a hybrid between civil patent litigation and patent prosecution; it has a more limited discovery process than civil litigation and is decided by technically trained judges, not juries.

Both the post-grant review and *inter partes* review procedures effectively allow for an additional, expedited option for third parties to challenge the validity of patents in addition to litigating patent validity in federal district courts. While the impetus of the AIA post-grant review procedures was to provide an expeditious and less costly alternative to litigating patents in courts by “encouraging the filing of meritorious patentability challenges by any person who is not the patent owner in an effort to improve patent quality”,<sup>243</sup> in practice, the *inter partes* review procedure is carried out under differing standards and procedures compared to district court litigation.

Particularly, the *inter partes* review procedure consists of a lower burden of proof for invalidity, “preponderance of the evidence”,<sup>244</sup> compared to the district court litigation standard of “clear and convincing evidence”.<sup>245</sup> There is also a more lenient claim construction standard for the *inter partes* review procedure of “broadest reasonable construction”,<sup>246</sup> compared to the district court litigation standard of “ordinary and customary meaning”.<sup>247</sup> The creation of the *inter partes* review procedure likely means that NPEs will have to defend their patents more often from third party validity challenges. However, it should also be noted that the PTAB will not institute an *inter partes* review unless the petition filed shows that there is a “reasonable likelihood that the petitioner would prevail with respect to at least one of the claims challenged in the petition”.<sup>248</sup>

While it may be too early to make definitive conclusions on the impact of the *inter partes* review procedures in terms of reducing the amount of district court litigation, early analysis of *inter partes* reviews that reach a final decision on the merits suggests that instituted claims are invalidated 77% of the time, while *inter partes* reviews that challenge NPE-owned

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<sup>241</sup> 35 U.S.C. § 321.

<sup>242</sup> 35 U.S.C. § 311(b).

<sup>243</sup> H.R. Rep. No. 112-98, pt. 1, at 85 (2011).

<sup>244</sup> 35 U.S.C § 316(e).

<sup>245</sup> Microsoft Corp. v. i4i Ltd. P’ship, 131 S. Ct. 2238 (2011) (addressing the standard of proof by which an alleged infringer of a patent must prove the defense of patent invalidity).

<sup>246</sup> 37 C.F.R. § 42.100(b). This interpretation standard was promulgated by the USPTO by rule, not statute.

<sup>247</sup> See Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). District courts will apply what they view as the correct meaning of a claim term in light of the claim language, the specification, the file history, and to a lesser extent, extrinsic evidence.

<sup>248</sup> 35 U.S.C. § 314(a).

patents are more likely to be instituted, and instituted for a larger share of challenged claims on average.<sup>249</sup> Court litigation proceedings that are held in parallel with an instituted *inter partes* review are stayed approximately 82% of the time.<sup>250</sup> Such high possibilities of having a patent invalidated through the *inter partes* review procedure has led to the procedure being referred to by some as the “death squad” for patents.<sup>251</sup>

While it may be too early to draw any generalizable conclusions from these statistics, the *inter partes* review procedure is likely to have a significant impact upon NPE litigation. For NPEs, the *inter partes* review procedure creates significant challenges to their patent enforcement business since it allows third parties to more easily, and more cheaply, challenge the validity of their patents. More concerning for NPEs, is the fact that patents being re-considered through the *inter partes* review process are not presumed valid, as they are in district court.<sup>252</sup> Thus, there is no presumption of validity for patents at the PTAB. Consequently, it is much easier to attack NPE patent claims at the PTAB rather than in court. Furthermore, if an NPE is litigating in district court, and the defendant believes that he may be unsuccessful, he could apply for an *inter partes* review to be instituted, and the litigation proceeding may be stayed whereupon the defendant may be able to successfully invalidate the patent in the *inter partes* review procedure.

Despite the post-grant review and *inter partes* review procedures providing an additional way for third parties to challenge the validity of patents, some NPEs may have found a way to utilize such review procedures to potentially benefit from financially.<sup>253</sup> In 2015, patent troll Erich Spangenberg,<sup>254</sup> and hedge fund manager Kyle Bass together created the Coalition for Affordable Drugs (CFAD). Both claim that the CFAD is an entity created with the aim of bringing down drug prices that they believe are held artificially high by being patent protected, and which such patents should have never been granted.<sup>255</sup> The CFAD identifies pharmaceutical patents they consider to be weak, or allegedly abusive and then files a petition to the PTAB for *inter partes* review of the patents.<sup>256</sup> At the same time of filing for *inter partes* review, Mr. Spangenberg and Mr. Bass short sell shares (anticipating a decrease in share price) in companies whose patents they consider weak, while buying shares in companies which they believe hold strong patents and which they believe the price of the shares will rise in the future.<sup>257</sup>

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<sup>249</sup> See Brian J. Love & Shawn Ambwani, *Inter Partes Review: An Early Look at the Numbers*, 81 U. CHI. L. REV. DIALOGUE 93, 94 (2014).

<sup>250</sup> *Id.* at 94.

<sup>251</sup> See Rob Sterne & Gene Quinn, *PTAB Death Squads: Are All Commercially Viable Patents Invalid?*, IPWATCHDOG Blog (Mar. 24, 2014), available at <http://www.ipwatchdog.com/2014/03/24/ptab-death-squads-are-all-commercially-viable-patents-invalid/id=48642/>.

<sup>252</sup> 35 U.S.C. § 282.

<sup>253</sup> J. Gregory Sidak & Jeremy O. Skog, *Attack of the Shorting Bass: Does the Inter Partes Review Process Enable Petitioners to Earn Abnormal Returns?*, 63 UCLA L. REV. Disc. 120, 122 (2015) (“Speculators could also affect stock prices by challenging the validity of patents that a publicly traded company owns, a strategy that recent changes to the patent review process has potentially made more profitable.”).

<sup>254</sup> Mr. Spangenberg refers to himself as a “patent troll”. See International Intellectual Property Law Association, Speaker Erich Spangenberg, available at <http://www.iipla.org/speaker/erich-spangenberg>.

<sup>255</sup> See Gretchen Morgenson, *Working to Lower Drug Costs by Challenging Questionable Patents*, THE NEW YORK TIMES (Nov. 27, 2015), available at [http://www.nytimes.com/2015/11/29/business/working-to-lower-drug-costs-by-challenging-questionable-patents.html?\\_r=0](http://www.nytimes.com/2015/11/29/business/working-to-lower-drug-costs-by-challenging-questionable-patents.html?_r=0).

<sup>256</sup> *Id.*

<sup>257</sup> *Id.*

In 2015, the CFAD filed over 30 petitions for *inter partes* review mostly against pharmaceutical companies, with only seven petitions being successfully granted.<sup>258</sup> Some pharmaceutical and biotechnology companies have criticized the CFAD for trying to profit from successful *inter partes* review challenges. Biotechnology company, Celgene Corporation, filed a motion for sanctions against CFAD alleging that their filing of *inter partes* review against Celgene Corporation constituted an abuse of practice.<sup>259</sup> In response, CFAD filed an opposition to Celgene's motion for sanctions. Siding with the CFAD, on September 25, 2015 PTAB Administrative Patent Judge Michael Tierney stated:

“Profit is at the heart of nearly every patent and nearly every *inter partes* review. As such, an economic motive for challenging a patent claim does not itself raise abuse of process issues. We take no position on the merits of short selling as an investment strategy other than it is legal, and regulated.”<sup>260</sup>

In part response to the CFAD's *inter partes* review challenges, the biotechnology and pharmaceutical industries are pressing Congress for further patent reform for a special interest carve out to exempt certain patents from the *inter partes* review process established by the AIA.<sup>261</sup> In a letter addressed to Congress, the Biotechnology Industry Organization and the Pharmaceutical Research and Manufacturers of America argued that having some of their patents being subject to the *inter partes* review procedure would threaten to disrupt the already successful existing framework to challenge such patents through the Hatch-Waxman Act, and the Biologics Price Competition and Innovation Act (BPCIA) to resolve patent disputes in advance of the launch of generic and biosimilar drugs.<sup>262</sup> Furthermore, both organizations argued that by allowing some of their patents to be subject to the *inter partes* review procedure, would force them to defend patent challenges in multiple venues with differing standards, taking financial resources away from the research and development of new medicines, ultimately harming the discovery and development of new cures and treatments.<sup>263</sup>

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<sup>258</sup> See Katherine L. Neville, Coalition for Affordable Drugs PTAB Scorecard, PTABWatch Blog Provide by Marshall, Gerstein & Borun LLP, (Oct. 30, 2015), available at <http://www.ptabwatch.com/2015/10/coalition-for-affordable-drugs-ptab-scorecard/>.

<sup>259</sup> Coalition for Affordable Drugs VI, LLC., v. Celgene Corporation (Case IPR2015-01092, -01096, -01102, -01103, and -01169; U.S. Patent No. 6,045,501, No. 6,315,720, No. 6,315,720, No. 6,315,720, No. 5,635,517) (Paper No. 20, September 25, 2015).

<sup>260</sup> *Id.*, at 3.

<sup>261</sup> See the Biotechnology Industry Organization and the Pharmaceutical Research and Manufacturers of America letter to Congress (July 15, 2015), available at [http://www.ptabwatch.com/wp-content/uploads/sites/630/2015/09/Final\\_Joint\\_Pharma\\_Bio\\_Letter\\_on\\_IPR\\_071515.pdf](http://www.ptabwatch.com/wp-content/uploads/sites/630/2015/09/Final_Joint_Pharma_Bio_Letter_on_IPR_071515.pdf) (“We appreciate that provisions were included in H.R. 9 that were intended to address abusive IPR filings by unscrupulous hedge funds and other questionable entities...it is important to point out that PhRMA and BIO's members are not seeking to be shielded from all challenges at the PTO. The language we have proposed would apply only to IPRs filed against certain patents on FDA-approved products – those covering the product, its use or manufacture, and only after the date of FDA approval.”). See Chris Versace, *Health Care Lobbyists Seek Special Patent Provision*, NEWSMAX (Aug. 30, 2015), available at <http://www.newsmax.com/Finance/ChrisVersace/Health-Care-Lobbyists-Patent-Provision/2015/08/30/id/672679/#ixzz3kOvUv3cE>. See Matthew Bultman, *Pharma Lobby Wants Some Patents Exempt From AIA Review*, LAW360, (Jul. 16, 2015), available at <http://www.law360.com/articles/680005/pharma-lobby-wants-some-patents-exempt-from-aia-review>.

<sup>262</sup> *Id.*, (Biotechnology Industry Organization and Pharmaceutical Research and Manufacturers of America letter to Congress).

<sup>263</sup> *Id.*, at 2, 3 (“...the use of IPR outside of the Hatch-Waxman and BPCIA schemes that threatens to fundamentally undermine the delicate balance struck by Congress when enacting these biopharmaceutical

Allowing an exemption for the pharmaceutical and biotechnology industries would essentially confirm that Congress would enact patent laws that impose different rules for patents that cover different types of technology. The pharmaceutical and biotechnology industry request to exempt their patents from the *inter partes* review process likely goes too far. If those industries would be successful in receiving such exemption, there is a likelihood that other industries will also seek exemptions. Such action would negate the policy behind the *inter partes* review procedure to ensure that low quality patents issued by the USPTO may be challenged and invalidated in a relatively fast and less costly procedure compared to district court litigation in efforts to improve patent quality.<sup>264</sup>

### **2.4.3 Continued Patent Reform**

Yet, many were left unsatisfied with the outcome of the AIA patent reform provisions. Even former President Obama argued that the provisions targeting NPE patent enforcement and the efforts at patent reform “only went half way”.<sup>265</sup> Subsequently, many continued lobbying to Congress for further patent reform.<sup>266</sup> As a result, by the end of 2013, at least fifteen different patent reforms with provisions aimed at fixing or relating to a perceived patent litigation problem allegedly caused by NPEs were introduced in the Senate or in the House of Representatives (see Table 3 below).<sup>267</sup>

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patent dispute resolution systems.”) (“Hatch-Waxman and the BPCIA already allow for generic and biosimilar companies to effectively challenge patents that are perceived as overly broad or invalid.”).

<sup>264</sup> See H.R. Rep. No. 112-98, *supra* note 215.

<sup>265</sup> See Patent Progress (*Obama Acknowledges Patent Troll Problem*), *supra* note 14.

<sup>266</sup> See, e.g., Microsoft Corporate Blog, *The Innovation Act: An Important Step Forward*, (Feb. 5, 2015), available at <http://blogs.microsoft.com/on-the-issues/2015/02/05/innovation-act-important-step-forward/> (Microsoft’s statement in support of the Innovation Act patent reform).

<sup>267</sup> For a review of the proposed bills, see *Patent Progress’s Guide to Federal Patent Reform Legislation*, PATENT PROGRESS, available at <http://www.patentprogress.org/patent-progress-legislation-guides/patent-progress-guide-patent-reform-legislation/>. Most of these bills died upon the conclusion of the 113<sup>th</sup> Congressional Session December 16, 2014.

**Table 3 Federal Patent Litigation Reforms (2011-2015)**

114th Congressional Session (2015-2016)				
Bill No.	Name	Sponsor	Introduced	Status
S.1137	Protecting American Talent & Entrepreneurship Act of 2015 (PATENT)	Sen. Charles Grassley (R-IA)	29 April 2015	Bill introduced
H.R.2045	Targeting Rogue and Opaque Letters Act (TROL) Act	Rep. Michael Burgess (R-TX)	28 April 2015	Bill introduced
H.R. 1896	Demand Letter Transparency Act of 2015	Rep. Jared Polis (D-CO)	20 April 2015	Bill introduced
S.632	Strong Patents Act 2015	Sen. Chris Coons (D-DE)	3 March 2015	Bill introduced
H.R.758	Lawsuit Abuse Reduction ACT (LARA)	Rep. Lamar Smith (R-TX-21)	5 February 2015	Passed by the House of Rep. (21 Sept. 2015)
H.R.9	Innovation Act	Rep. Bob Goodlatte (R-VA)	5 February 2015	Bill introduced
113th Congressional Session (2013-2014)				
Bill No.	Name	Sponsor	Introduced	Status
H.R.3540	Demand Letter Transparency Act of 2013	Rep. Jared Polis (D-CO-2)	19 November 2013	Died in committee
S.1720	Patent Transparency and Improvements Act 2013	Sen. Patrick J. Leahy (D-VT)	18 November 2013	Died in committee
S.1612	Patent Litigation Integrity Act of 2013	Sen. Orrin G. Hatch (R-UT)	30 Oct 2013	Died in committee
H.R.3309	Innovation Act	Rep. Bob Goodlatte (R-VA-6)	23 Oct 2013	Passed House of Rep. (5 Dec 2013)
H.R.2766	Stopping the Offensive Use of Patents (STOP) Act	Rep. Darrell E. Issa (R-CA-49)	22 July 2013	Died in committee
H.R.2639	Patent Litigation and Innovation Act 2013	Rep. Hakeem S. Jeffries (D-NY-8)	10 July 2013	Died in committee
S.1013	Patent Abuse Reduction Act 2013	Sen. John Cornyn (R-TX)	22 May 2013	Died in committee
H.R.2024	End Anonymous Patents Act	Rep. Theodore E. Deutch (D-FL-21)	16 May 2013	Died in committee
S.866	Patent Quality Improvement Act 2013	Sen. Charles E. Schumer (D-NY)	6 May 2013	Died in committee
H.R.845	Saving High-tech Innovators From Egregious Legal Disputes (SHIELD) Act	Rep. Peter A. DeFazio (D-OR-4)	27 February 2013	Died in committee
112th Congressional Session (2011-2012)				
Bill No.	Name	Sponsor	Introduced	Status
H.R. 1249	Leahy-Smith America Invents Act (AIA)	Rep. Lamar Smith (R-TX-21)	30 March 2011	Signed into law

Information source: Congress.gov website

Not only did the AIA patent reform further weaken the patent enforcement environment for patent owners, just following the implementation of the AIA, several U.S. Supreme Court decisions continued to weaken the patent enforcement landscape for patent owners.<sup>268</sup> While it is undoubtedly important for legislation to keep pace with changes in society and technological advances accordingly, what does appear peculiar is the seemingly hysteric

<sup>268</sup> See, e.g. *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014) (the Court failed to provide greater clarity on how to distinguish patent eligible process claims from ineligible abstract ideas); *Octane Fitness, LLC v. Icon Health & Fitness Inc.*, 134 S. Ct. 1749, 1756 (2014) (the Court overturned the Federal Circuit's standard for determining when a case is "exceptional" (litigation was both brought in "subjective bad faith" and "objectively baseless") in awarding attorney fees, deciding an "exceptional" case is simply one that stands out from others with regards to substantive strength of a party's litigating position and that this case-by-case basis analysis requires district courts to consider the totality of the circumstances) (also allowed courts to shift fees based on a totality of the circumstances, rather than based on a rigid test); and *Highmark Inc., v. Allcare Health Management System Inc.*, 134 S. Ct. 1744 (2014) (the Court ruled that the standard for overturning section 285 attorney fee determinations should be an abuse-of-discretion standard). Earlier Court decisions making patent enforcement more difficult for patent owners include *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (the Supreme Court did away with awarding automatic injunctions upon a finding of infringement and implemented a four-factor test which must first be satisfied to be granted injunctive relief); *MedImmune, Inc. v. Genentech, Inc.* 549 U.S. 118 (2007) (which made it easier for alleged infringers to challenge the validity of patents while still maintaining their license rights); and *KSR Int'l Co. v. Teleflex, Inc.* 550 U.S. 398 (2007) (which raised the bar for patent holders to prove their inventions are nonobvious).

state of patent litigation reform proposals, and the heightened political interest, towards a perceived NPE patent litigation problem all within a relatively short time period.

Crucially, what many fail to realize is that any legislative changes made to patent laws to weaken the overall patent enforcement environment in attempts to thwart NPE patent enforcements will inevitably affect every type of patent owner operating in every sector, and in every industry. Before proceeding to enact further patent legislative changes, two key issues ought to be taken into consideration. First, there has been little time to observe the implications that will result from the most significant patent reform in U.S. history, the AIA. Second, there has been little time to understand the effect of recent significant Court decisions. Accordingly, Congress should proceed with caution when examining further patent reform legislation. Still, there is one substantial, and arguably concerning, patent reform proposal that continues to appear before Congress - the (re-introduced) Innovation Act.<sup>269</sup>

#### **2.4.4 The (Re-Introduced) Innovation Act**

Despite most of the recently proposed patent reforms aimed at curbing NPE patent enforcements failing to pass both Houses of Congress in their respective Congressional sessions, the Innovation Act (H.R.9) appeared twice before Congress. The Innovation Act was originally introduced in 2013 (as Innovation Act HR.3309),<sup>270</sup> and while the bill passed the House of Representatives it failed to make it through the Senate. The bill was strongly opposed by trial lawyers, universities, and the biotechnology and pharmaceutical industries for its overly broad language and defendant friendly appeal.<sup>271</sup>

However, many technology companies and organizations disappointed with the AIA reform attempts to address NPE patent enforcement continued lobbying to Congress for further reform.<sup>272</sup> Consequently, an expanded version of the Innovation Act (H.R. 3309) surfaced before the House of Representatives in early 2015 introduced as the Innovation Act (H.R.9).<sup>273</sup> The Innovation Act's significance lies in its intention to overhaul how patent litigation is conducted by including a number of provisions aimed at changing the manner in which claims of patent infringement are handled through the courts. In efforts to address concerns over NPE patent litigation, the Innovation Act specifically called for heightened pleading requirements,<sup>274</sup> limiting discovery,<sup>275</sup> and attorney fee-shifting.<sup>276</sup>

Heightened pleading requirements under the Innovation Act require defendants to identify each patent allegedly being infringed, all claims necessary to identify each process, machine, manufacture, or composition of matter that is alleged to infringe, each accused

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<sup>269</sup> Innovation Act, H.R.9, 114th Cong. (2015) (hereinafter Innovation Act H.R.9).

<sup>270</sup> Innovation Act, H.R. 3309, 113th Cong. (2013) (hereinafter Innovation Act H.R. 3309).

<sup>271</sup> See Paul R. Gugliuzza, *Patent Litigation Reform: The Courts, Congress, And the Federal Rules of Civil Procedure*, 95 B.U.L. REV. 279, 281 (2015).

<sup>272</sup> See, e.g., The Electronic Frontier Foundation, *Stop Patent Trolls: Support the Innovation Act of 2015*, available at <https://act.eff.org/action/stop-patent-trolls-support-the-innovation-act-of-2015>; see United for Patent Reform, *Patent Trolls are threatening Businesses, Jobs and Innovation. Tell lawmakers to Pass Patent Reform Legislation (S.1137/H.R. 9)* Now, available at <http://www.unitedforpatentreform.com/>.

<sup>273</sup> The Innovation Act H.R.9 is similar to the previous H.R. 3309 version, and it largely contains similar, comprehensive provisions that address NPE patent enforcement that several other proposed patent reforms had that died in congressional committee.

<sup>274</sup> Innovation Act H.R.9 § 3(a).

<sup>275</sup> Innovation Act H.R.9 § 3(d).

<sup>276</sup> Innovation Act H.R.9 § 3(b).

instrumentality allegedly infringed, and with particularity, the name and model number of each instrumentality infringe, to identify where each element of each claim is to be found within such instrumentality, and to explain with *detailed specificity* how each claim is met by the accused instrumentality, in addition to stating one's authority to file suit and grounds for the court's jurisdiction.

Such heightened pleading requirements are believed to help address meritless infringement claims filed by NPEs, where supposedly NPEs often fail to identify or disclose specific claims being asserted in patent infringement filings.<sup>277</sup> However, the Federal Rules of Civil Procedure (FRCP) were recently revised and went into effect at the end of December 2015, changing the pleading requirements for patent plaintiffs.<sup>278</sup> The current pleading standard is believed to be that at Common law, the U.S. Supreme Court cases *Bell Atlantic Corp. v. Twombly*,<sup>279</sup> and *Ashcroft v. Iqbal*,<sup>280</sup> which requires complaints to contain "sufficient factual matter" and state "a plausible claim for relief",<sup>281</sup> only slightly raising the detail required in a complaint from the previous Rule 8(a) FRCP.<sup>282</sup>

However, the proposed heightened pleading requirements of the Innovation Act went beyond what is currently required for plaintiffs to plead when filing a claim for patent infringement, potentially creating undue burdens on all patent owners. The effect of this provision essentially forced patent owners to prove much of the infringement before filing an infringement case. This was likely a too high standard for patent owners to meet as there are likely to be instances where a patent owner may have good faith for believing that a product infringes his patent, but due to the complexity of the technology, may not be knowable based on public information and thus only found through an extensive discovery process.<sup>283</sup>

Discovery is a pre-trial procedure where parties can exchange information about the case and obtain evidence from the other party to support their case. However, the Innovation Act called for such discovery process to be limited, largely based on the belief that NPEs abuse the patent litigation system by taking advantage of the often lengthy and expensive phases of the discovery process, using it as a "scare" tactic to force defendants into settling disputes with terms favorable to the NPE.<sup>284</sup> Such limited discovery provisions would nonetheless likely have affected negatively upon all patent owners. Staying discovery early in litigation

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<sup>277</sup> See, e.g., Executive Office of the President, *Patent Assertion and U.S. Innovation*, 1 (2013), available at [https://www.whitehouse.gov/sites/default/files/docs/patent\\_report.pdf](https://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf) (noting that patent trolls focus on aggressive litigation and use tactics such as suing large numbers of companies without specific evidence of infringement against them).

<sup>278</sup> See Proposed Amendments to the Fed. R. Civ. P. at 49 [hereinafter Proposed Amendments], available at [http://www.uscourts.gov/uscourts/RulesAndPolicies/rules/civil\\_rules\\_redline.pdf](http://www.uscourts.gov/uscourts/RulesAndPolicies/rules/civil_rules_redline.pdf), archived at <http://perma.cc/7MN-J4J4>.

<sup>279</sup> *Bell Atlantic Corp., v. Twombly*, 550 U.S. 544 (2007).

<sup>280</sup> *Ashcroft v. Iqbal*, 556 U.S. 662, 679 (2009).

<sup>281</sup> *Id.*

<sup>282</sup> Fed. R. Civ. P. 8. Rule 8(a) required that a pleading stating a claim for relief must contain: (1) a short and plain statement of the grounds for the court's jurisdiction; (2) a short and plain statement of the claim showing that the pleader is entitled to relief; (3) a demand for the relief sought. Form 18 FRCP, which was previously used to file a complaint for direct patent infringement prior to December 2015, only required patent plaintiffs to plead grounds for the court's jurisdiction, a demand for relief, a statement of patent ownership, a statement of defendant has been infringing the patent, and a statement that the plaintiff gave notice of the infringement to the defendant. Fed. R. Civ. P. Form 18.

<sup>283</sup> Gugliuzza (*Patent Litigation Reform*), *supra* note 271, at 290.

<sup>284</sup> Rogers & Jeon, *supra* note 43, at 300 (describing how patent holders use the high costs of litigation as a scare tactic to push patent licensing settlements).

may provide incentives for defendants to create delay tactics. Attorneys may file motions at different times in the litigation manipulating the manner in which discovery can unfold, effectively prolonging litigation and increasing costs. The Innovation Act still left unclear to what extent discovery would have been allowed, for instance, whether parties would have still been able to seek additional discovery in the event that it may be needed. Thus, this issue may have led to satellite litigation between parties only to figure out which documents would be sought in the process, leading to prolonging litigation, increasing costs and placing further pressure on court resources. Moreover, limiting discovery conflicts with the heightened pleading requirements provision, in that it is likely difficult for parties to plead with *detailed specificity* how claims are being infringed without some form of extensive discovery.<sup>285</sup>

Furthermore, it is a fundamental principle of the American legal system that parties pay for their own attorney fees, the so-called American rule.<sup>286</sup> However, the Innovation Act promoted the exact opposite, attorney fee-shifting. While American courts have long been authorized to award attorney fees in “exceptional” cases,<sup>287</sup> section 3(b) of the Innovation Act would have nevertheless modified the principle of parties paying for their own legal fees. Section 3(b) would implement a “loser pays” system, requiring the non-prevailing party in litigation to pay reasonable fees and other expenses of the prevailing party.<sup>288</sup> Such attorney fee-shifting provisions are meant to discourage patent holders, particularly NPEs, from filing weak patent infringement claims for fear of having to pay extensive legal fees not only for themselves, but namely for the defendant.<sup>289</sup>

However, the need for such attorney fee-shifting provision was unclear as the courts already have the tools to award such attorney fees in exceptional cases. Moreover, the U.S. Supreme Court recently enhanced the authority of district courts to award attorney fees in *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*,<sup>290</sup> and *Highmark Inc., v. Allcare Health Management System Inc.*<sup>291</sup>

In *Octane Fitness*, the Supreme Court defined an exceptional case as one that “simply stands out from others with respect to the substantive strength of a party’s litigating position (considering both the governing law and the facts of the case) or the unreasonable manner in which the case was litigated.”<sup>292</sup> The Court made clear that an exceptional case requires a “case-by-case” analysis, and that district courts ought to consider the “totality of the circumstances” which will be reviewed on appeal only on an abuse-of-discretion standard.<sup>293</sup> The Court also instructed district courts to consider factors such as frivolousness, motivation, objective unreasonableness, and the need in certain circumstances to advance

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<sup>285</sup> Gugliuzza (*Patent Litigation Reform*), *supra* note 271, at 290.

<sup>286</sup> *Alyeska Pipeline Service Co. v. Wilderness Society* 421 U.S. 240, 247 (1975).

<sup>287</sup> 35 U.S.C. § 285 (2012).

<sup>288</sup> Innovation Act H.R.9 § 3(b). The court shall award such fees unless the court finds that the position and conduct of the non-prevailing party was reasonably justified or that special circumstances would make an award unjust.

<sup>289</sup> Gugliuzza (*Patent Litigation Reform*), *supra* note 271, at 294 (“As with heightened pleading requirements, it seems misguided to effect such a dramatic change in *all* patent cases when the concern is about weak claims often brought by patent trolls.”).

<sup>290</sup> *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749 (2014).

<sup>291</sup> *Highmark Inc., v. Allcare Health Management System Inc.*, 134 S. Ct. 1744, 1748 (2014).

<sup>292</sup> 134 S. Ct. 1749 (2014).

<sup>293</sup> *Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*, 134 S. Ct. 1744, 1748 (2014) (quoting *Octane Fitness*, 134 S. Ct. at 1751).

considerations of compensation and deterrence when making an exceptional case decision.<sup>294</sup>

Thus, it seems quite apparent that the Courts are well fitted with any tools they may need to authorize attorney fee-shifting in the event that they find an NPE is asserting any frivolous or dubious infringement claims. Furthermore, such attorney fee-shifting provisions may create broader negative implications, for instance, dis-incentivizing smaller parties that lack the financial resources from filing infringement suits over fears of having to pay substantial attorney fees in the event they lose in litigation, which also raises concerns regarding access to justice, particularly for small businesses and start-ups. Switching to an attorney fee-shifting rule would also arguably add to the length and expense of an already expensive litigation process for patent owners by increasing the amount of appeals they may have to submit. Parties with greater financial resources, such as multinational firms, are better positioned to withstand any delays in litigation, thus would be at an obvious advantage under such fee-shifting rule.

As a result of the sweeping and broad provisions contained in the Innovation Act in attempts to curb NPE patent litigations, the legislation would have likely created several unintended consequences for all patent owners operating in the patent landscape. By weakening the ability of patent owners to enforce their patents, the Innovation Act appeared to create several litigation problems rather than solve them. Ironically, by weakening the ability for patent owners to enforce their patents, as the Innovation Act intended, NPEs would have become an even more important actor in the patent landscape for those entities that could not enforce patents on their own. The Innovation Act also seemed unnecessary given that courts already retain specific tools to deal with any alleged NPE litigation abuses.

While the Innovation Act H.R.9 was not passed in the most recent congressional session, it still has significant support from many and there could be a third version of the legislation ready to be presented to Congress soon.<sup>295</sup> Before passing any further patent reform that may impose several undue burdens on all types of patent owners operating in the patent landscape, and before rushing to judgment on the NPE phenomenon, which is largely based on mixed and arguably half reliable data at best, Congress should take care to thoroughly balance and carefully review both sides of the NPE debate. As former Director of the USPTO, David Kappos, stated in a 2013 testimony before the Houses Judiciary Committee, “we are not tinkering with just any system here; we are reworking the greatest innovation engine the world has ever known, almost instantly after it has just been significantly overhauled.”<sup>296</sup>

#### **2.4.5 “Brexit” and the Unitary Patent System**

On the morning of June 24, 2016 the world awoke to the stunning news that the result of the United Kingdom referendum was to leave the EU, also known as “Brexit”.<sup>297</sup> While the decision initially caused political upheaval and commercial concerns in the days shortly

<sup>294</sup> *Octane Fitness*, 134 S. Ct. at 1756 n.6 (quoting *Fogerty v. Fantasy, Inc.*, 510 U.S. 517, 534 n.19 (1994)) (internal quotation marks omitted).

<sup>295</sup> Gene Quinn, *Goodlatte Pledges to Pursue Patent Litigation Reform, Copyright Reform in 115th Congress*, IP Watchdog Blog (Feb. 1, 2017), available at <http://www.ipwatchdog.com/2017/02/01/goodlatte-patent-litigation-reform-copyright-reform/id=77879/>.

<sup>296</sup> Innovation Act of 2013: Hearing on H.R. 3309 Before the Comm. on the Judiciary, 113th Cong. (Oct. 29, 2013) (statement of David J. Kappos, Partner, Cravath, Swaine & Moore LLP), p. 2, available at <http://judiciary.house.gov/hearings/113th/10292013/Kappos%20Testimony.pdf>.

<sup>297</sup> The official UK referendum had taken place on June 23, 2016, where the majority voted to leave the European Union.

following the referendum, the implications of Britain's decision to leave the EU will likely be far reaching, and the situation is currently, at the time of writing, full of uncertainties. The leading concern for the patent world regarding Brexit will ultimately be how it will affect upon the planned unitary patent system.<sup>298</sup>

The unitary patent system was believed to have finally entered into force in 2017, once 13 Member States, including the three States with highest number of European patents (France, Germany, and the United Kingdom) had ratified the agreement (although, at the time of writing, only 13 countries had ratified the agreement, not including the United Kingdom or Germany). While the U.K.'s participation in the existing European patent system will not be affected, it is uncertain how the U.K. will take part in the unitary patent system at the present time.<sup>299</sup> The U.K. was to have a branch of the Central division located in London dealing with human necessities and chemistry patent related cases;<sup>300</sup> however, it is uncertain whether this will remain. It was also believed that if the U.K. were not to ratify the Agreement, that the Central Division London branch would need to be re-located outside of the U.K. The reason for this is found from Opinion 1/09 of the European Court of Justice (CJEU),<sup>301</sup> which holds that only EU Member States may set up a Unified Patent Court (UPC).

However, the U.K. government announced on November 28 2016 at the EU Competitiveness Council meeting that the U.K. would ratify the agreement despite the U.K.'s plans to leave the EU.<sup>302</sup> Now that U.K. Prime Minister, Theresa May, invoked Article 50 of the Lisbon Treaty<sup>303</sup> (the withdrawal procedures and the right of a Member State to withdrawal from the Union),<sup>304</sup> a two-year time period will begin for the U.K. to negotiate its separation from the EU (although in theory this time period may be extended).<sup>305</sup>

Consequently, a couple of different scenarios may now play out regarding the unitary patent system and subsequently for its users, particularly NPEs. As mentioned in Research Paper II (found in Part II of the dissertation), the unitary patent system may be an attractive patent

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<sup>298</sup> The unitary "patent package" consists of three elements: Regulation (EU) 1257/2012 of 17 Dec. 2012 implementing enhanced cooperation in the area of the creation of the unitary patent protection [2012] OJ L 361/1; Regulation (EU) 1260/2012 of 17 Dec. 2012 implementing enhanced cooperation in the area of the creation of the unitary patent protection with regard to the applicable translation arrangements [2012] OJ L 361/89; and the Agreement of a Unified Patent Court (hereinafter UPC Agreement), [2013] C 175/1.

<sup>299</sup> However, there are reports from the U.K. government that they will proceed with preparations for the ratification of the UPC agreement over the coming months. See UK Government Intellectual Property Office Press Release, *UK Signals Green Light to Unified Patent Court Agreement*, (Nov. 28, 2016), available at <https://www.gov.uk/government/news/uk-signals-green-light-to-unified-patent-court-agreement>.

<sup>300</sup> UPC Agreement, Annex II.

<sup>301</sup> Opinion 1/09, OJ [2011] C2112, at para. 80.

<sup>302</sup> See UK Government Intellectual Property Office Press Release, *supra* note 299.

<sup>303</sup> See UK Government Correspondence Prime Minister's letter to Donald Tusk triggering Article 50, (29 March 2017), available at <https://www.gov.uk/government/publications/prime-ministers-letter-to-donald-tusk-triggering-article-50>.

<sup>304</sup> Art. 50(1) TEU. Article 50 however includes only procedural requirements regarding a Member State withdrawing from the Union; substantive requirements are unclear, especially given that only one Member State has ever withdrawn from the Union, Greenland. In a referendum on February 23, 1982 Greenland decided to leave the then European Communities (EC). Although Greenland's withdrawal was not really a withdrawal in the legal sense, since Greenland was not a Member State of the EU, but was and remains part of EU Member State Denmark. Greenland became an "associated overseas territory" with special arrangements for it to access the EU single market for the EU market to access Greenland's fishing waters (Art. 204 TFEU).

<sup>305</sup> If no agreement is concluded in the two-year time limit between the U.K. and the EU, the U.K.'s state membership ends automatically, unless both the Member State and the European Council agree to extend the timeline for negotiations (Art.50(3) TEU).

system for NPE patent enforcements due to, *inter alia*, the patent's unitary effect covering most of the European Union and its centralized enforcement system.<sup>306</sup> It may happen that the U.K. and the other required countries ratify the agreement rather quickly and the unitary patent system enters into force near the end of 2017 as planned.

It may also happen that the unitary patent system is delayed for several years while the U.K. and the EU negotiate new agreements. In that scenario, the emphasis for NPE patent enforcement in Europe will likely be back to a national focus. NPEs will thus try to seek national jurisdictions that may offer any specialized procedures or efficiencies in patent litigation proceedings that may facilitate their patent enforcements.<sup>307</sup> This means that jurisdictions such as Germany and the Netherlands will remain important for NPEs, as these jurisdictions are relatively known for their low cost and efficient court procedures for litigation proceedings.<sup>308</sup> Germany also includes a bifurcated procedure in litigation proceedings where patent infringement and patent validity are separated into independent courts presided over by different judges.<sup>309</sup> Thus, a positive finding of infringement from a German court first before validity is decided may allow time for an NPE to be granted an injunction banning products from one of the most important commercial markets in Europe. The U.K. will also remain an important jurisdiction for NPEs to operate in as the high costs of patent litigation may deter alleged infringers from fighting patent disputes through the U.K. courts, instead promoting settlements.<sup>310</sup>

However, the likely earliest time when the U.K. will cease to be an EU member will be around October 2018. In the meantime, the EU patent system is still fragmented, which for NPEs, means that the U.K. and Germany will likely remain the most important jurisdictions for patent enforcement until further information is available regarding the ratification process of the unitary patent system and the U.K.'s role in the regime is known. Nonetheless, NPEs seek an efficient patent litigation system for their enforcements. An attractive and effective patent litigation system in the European jurisdiction is one that includes a single court system (that arguably ought to include the U.K.). Without such single court, the current fragmented European patent enforcement system creates costs for NPEs. Thus, it may also occur that NPEs choose to avoid the political and commercial uncertainty currently in Europe regarding Brexit, and focus on emerging areas for patent enforcements elsewhere, such as in Asia, and in particular, China.<sup>311</sup>

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<sup>306</sup> See *infra* Part II of the dissertation, Research Paper II, "Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe".

<sup>307</sup> *Id.*

<sup>308</sup> See Dietmar Harhoff, Economic Cost Benefit Analysis of a Unified and Integrated European Patent Litigation System, Final Report for the European Commission Tender No. MARKT/2008/06/D (2009), at 13.

<sup>309</sup> See Katrin Cremers, Fabian Gaessler, Dietmar Harhoff, and Christian Helmers, *Invalid But Infringed? An Analysis of Germany's Bifurcated Patent Litigation System*, Center for European and Economic Research Discussion Paper No. 14-072 (2014).

<sup>310</sup> Harhoff, *supra* note 308, at 13.

<sup>311</sup> See *infra* Part II of the dissertation, Research Paper III, "The Emergence of Non-practicing Entities in China".

### **3 SUMMARY AND CONTRIBUTION OF RESEARCH PAPERS**

*“There’s not many transaction markets in the world that require litigation to begin the transaction discussion and where the legal costs actually exceed the transaction value.”*

*- CEO of an American NPE*

This section includes a summary as well as the primary contributions of each research paper. Research Paper I empirically explores six different NPE patent licensing business models and reveals an “inside look” into several key strategies of NPE patent exploitation and enforcement and how some NPEs operate their patent licensing business models in practice. Research paper II sheds light on the legal implications of the current European and proposed unitary patent systems for NPE patent enforcements in Europe. Research Paper III explores and analyzes the emergence of NPEs in China applying a conceptual framework of NPE success, including the variables: (1) the Chinese patent enforcement landscape, (2) the economics of patent enforcement for NPEs in China, and (3) patent enforcement culture in China.

#### **3.1 Research Paper I - An Inside View to Non-practicing Entities Business**

##### **Models: A Case Study**

###### **Abstract**

While patents have been essential to the business models of many firms for a long time, it is only in recent years that there has been a renewed interest in how patent exploitation and enforcement may be used as an autonomous business model to generate revenues and competitive advantages. Non-practicing entities (NPEs), entities that purchase or acquire patents only to enforce them to generate revenues, have taken advantage of a business opportunity in creating various business models centered solely on the exploitation and enforcement of patent rights. However, few empirical studies have been conducted on how NPE business models precisely function, likely due to the private nature of such entities and their strategic patent transactions. This study aims to further our knowledge on the NPE phenomenon by providing a unique glimpse into the method of operations of six NPE business models and how they engage in the strategic management, exploitation and enforcement of patent rights.

##### **3.1.1 Overall Objectives and Main Contributions**

The main objective of Research Paper I is to help fill the broad gap in the patent literature on NPEs, and the much broader gap in the knowledge on how some NPE business models precisely function. The article contributes to the literature by exploring and presenting a case study incorporating a novel empirical data set consisting of six NPE business models. The research paper also contributes to the thin layer of empirical research currently available on the NPE phenomenon by exploring six different NPE licensing business models, and helps to delineate a theoretical outline of diverging types of NPE patent licensing business models. The study also illustrates how some NPEs engage in the strategic management, exploitation and enforcement of patents through varying patent licensing business models, and provides a more transparent view on the NPE phenomenon.

Anecdotal evidence suggests that the basic tenet which appears in most NPE business models - acquiring and purchasing patents and enforcing them – however, there is little empirical research available on exactly how NPEs conduct this in practice, for instance,

where do NPEs acquire their patents from, who are their cooperation partners, if any, and how do they decide which prospective licensees to target for their licensing campaigns. The main contribution this study makes to the literature is the discovering and uncovering of such NPE business models; contacting and discussing in detail with such NPEs regarding their patent licensing and enforcement activities. It is important to know more about how NPEs operate their licensing business models to better assess the potential implications such business models may have on commerce and innovation. A better description of NPEs, and a better understanding on how some NPE business models precisely function provides a basis for executives, lawyers, managers, patent owners and patent and innovation policymakers to engage in dialogue together and make better informed business and policy decisions, and to have a more comprehensive understanding of the NPE phenomenon overall. Additionally, learning more about how NPEs operate their patent enforcement and licensing campaigns allows other actors operating within the patent ecosystem to become aware of not only the advantages such NPE business models may afford to others, such as monetization opportunities, but also to become aware of the potential interferences they may cause for businesses, such as being involved in patent infringement litigation.

The article begins by explaining how the changing economic and competitive landscape created by the transition from an industrial/manufacturing economy, to the knowledge economy has placed increasing pressures on companies to ensure that every asset belonging to the firm, including its intellectual property, is being utilized to maximum potential revenues and competitive advantages for the firm. In transitioning to the knowledge economy, patents became of more interest to executives, entrepreneurs and savvy business people as firms came to recognize that patents, which had often been left under-utilized by the firm, could be used to generate revenues through various schemes such as patent sales, patent licensing, and sometimes patent litigations. Consequently, patent strategies within the firm began to evolve from firms exploiting their own patents developed inside their firm, to purchasing and acquiring third party patents to exploit. NPEs came to realize that focusing solely on exploiting and enforcing third party patents could be a viable business opportunity in itself to generate revenues.

Yet, much of what is known of NPE patent licensing models is based on descriptions given by the media or anecdotal accounts, rather than thorough scientific enquiry. One of the reasons why it has been difficult for researchers to gain a better understanding of NPE licensing models is because it is generally difficult to secure a personal meeting with NPEs, and further difficult to gain access to prevalent information regarding specific information on their patent strategies, partnerships and litigations, and their private business operations generally. Additionally, there may also be certain contractual reasons making it difficult for researchers to gain access to specific information on NPE business models, as many of the details of patent licensing contracts may be protected by non-disclosure clauses.

The article argues that there are two specific legal factors that permit NPE business models to exist: The first is the negative right to exclude (the patent right); and second, is the absence of an immediate working requirement. Generally, a working requirement requires the patent owner to “work” or “use” (manufacture or import) the patented technology in the patent grant country within a specific timeframe. The common remedy for society, or the common sanction for the patent owner for non-working of the patent is typically either forfeiture of the patent or a compulsory license.<sup>312</sup> The way in which a patent holder satisfies the “working

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<sup>312</sup> See *infra* Part II of the dissertation, Research Paper I “An Inside View to Non-practicing Entities’ Business Models: A Case Study”.

requirement” varies from country-to-country, however, in the U.S. jurisdiction, where NPEs predominately operate, there is no working requirement stipulated in the patent law. This allows patent owners the opportunity to focus on patent licensing without having to actually manufacture or import a product into the U.S., although it may be argued that patent licensing is a variant of “working” the patent.

The article presents two illustrations based on the empirical findings gathered from the interview data: an NPE enforcement cycle based; and a comparison of a traditional cross-licensing transaction and a typical NPE licensing transaction. Based on the interview data, an NPE patent enforcement cycle may consist of first researching the market for profitable patents/patent portfolios to purchase with a high degree of enforcement potential to earn licensing revenue. Next, the NPE maintains the patent/patent portfolio and begins an infringement analysis of patents in the market and assesses the viability of the licensing program. The NPE then approaches prospective licensees with the infringement claim, offers a patent license, and negotiates the patent license royalty. Finally, the NPE secures the patent licensing revenues. However, if the prospective licensee refuses to take the patent license, or pay the royalty fees requested, the NPE will assess whether further negotiations are possible or if litigation is a next feasible option and necessary.

Additionally, a comparison illustration between a (simplified) patent licensing transaction and a typical NPE patent licensing transaction is presented. The difference between a patent licensing transaction involving two firms and an NPE patent licensing transaction, in its simplest form, is that patent licensing transactions between two firms usually involves the exchange or cross-licensing of each firm’s patent, transferring the use of their technologies to one another so each firm can then continue on with their business (there may also be an exchange of money along with the patent license - a so-called “IP balance of payments” approach, where for instance, firm A may be using more of firm’s B technology than what firm B is using of firm A’s technology thus requiring a sum of money to be paid in addition to the exchange of the patent license, depending on the details of the specific transaction). In an NPE licensing transaction, however, there is no cross licensing of patent licenses from the NPE to firm A, B, and C, and so on; there is only the exchange of the patent license to a firm in exchange for patent royalties.

The article contributes empirical data on the sources of NPE patents, the types of clients they provide their enforcement services for, how they fund their patent acquisitions and patent purchases, and how they organize their patent licensing campaigns, target prospective licensees, and if necessary, proceed with litigation. The following lines offer a sort summary of these contribution findings.

*Patent sources, clients, and funding patent acquisitions and purchases.* Depending on the NPE model described in the article, NPE patent sources came from law firms, individual inventors, small businesses, large companies, universities, bankrupt companies, and NPEs filing for their own patents/patents from their own inventions. One NPE stated that they purchased their patents from the “open market”, which was described as patent brokers that deal with companies or others that want to sell patents. Some of the NPE models stated that they bought patents or litigations from other NPEs. The NPEs clients ranged from individual inventors, to law firms, to large multinational companies. Funding patent acquisitions and purchases varied from using investors’ money to purchase patents, to partnering with patent owners to partnering with law firms to divide the costs of owning, maintaining and enforcing patents. For example, some models employed a partnering model where the costs of the patent are split where the patent owner contributes the patent to the NPE, and the NPE

advances all the related costs for the enforcement and the revenues generated from licensing programs are divided. All of the NPEs interviewed bought patent portfolios, rather than a single patent, although one model (Model Six) stated that although they may purchase a single patent, an individual patent alone is never asserted.

*Patent licensing campaigns, prospective licensees, and patent litigation.* Depending on the model discussed in the article, several of the NPEs interviewed stated that they had employed external experts to examine the patents in question and conduct prior art searches and provide feedback regarding patent validity and potential infringement. Other NPEs used in-house counsel and engineering teams to examine products and the enforcement potential of the patents in question. Some NPEs also employed reverse engineering firms to examine potentially infringing products. One NPE stated that he previously used the approach of filing infringement complaints against several alleged infringers simultaneously, however, since changes in the patent law came into effect from the America Invents Act patent reform, the NPE mentioned that this approach had become much more difficult. The same NPE stated that sometimes he might target the “toughest” alleged infringer only as an example for other potential infringers that he is willing and prepared to see the patent dispute through to the end, or instead, he may decide to target the “easiest” alleged infringer, the alleged infringer that is the most likely to pay the licensing fees in order that he can conclude the enforcement deal quickly and establish the reasonable royalty benchmark from early on in his licensing program. Other NPEs used in-house teams that were familiar with the patent portfolio to conduct market research to determine who would be a prospective customer for the technology in question. One NPE found prospective licensees from the people where they received their patents. For instance, in Model two, the interviewee stated that most of their clients had previously tried to enforce their patents independently and were unsuccessful. Thus, they turned to the NPE for assistance, and their clients knew of some prospective licensees to approach. One of the NPE’s interviewed stated that due to the significant financial and personnel commitment a licensing programme requires, and the time it takes to start earning revenue from licensed patent portfolios, they are highly selective of which patent enforcement projects they are willing to pursue. Finally, most of the NPEs stated that litigation was not the focus of their business and that litigation was only used as a last resort to enforcing their patents. If litigation had proceeded, several of the NPEs interviewed employed the use of contingency fee lawyers to help keep their enforcement costs low.

### **3.2 Research Paper II - Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe**

#### **Abstract**

While literature sheds light on some NPE activity in Europe, the NPE phenomenon has been, thus far, predominately concentrated in the United States where a more unified patent marketplace exists and where damage awards may be substantial in comparison to other parts of the world. However, this may be about to change in the European context with the introduction of a proposed European Unitary Patent System. In the current European IP landscape, the European Union (EU) generally relies on its Member States’ procedures and institutions for the grant, maintenance, and enforcement of patent rights due to the absence of its own centralized enforcement mechanism. The current two-tiered state of national and European patent grant and enforcement procedures creates some limitations for patent

enforcement by non-practicing entities (NPEs) in Europe. National and European patent grant and enforcement procedures result in a fragmented European landscape, where heterogeneous characteristics of each patent system potentially complicate legal aspects of patent enforcement; parallel patent litigations might take place in various national courts with proceedings conducted in different languages presided over by judges with varying backgrounds, cultures, attitudes, and levels of patent expertise. Consequently, the current fragmented IP landscape in Europe is expensive, time consuming and full of legal uncertainties for patent proprietors such as NPEs who require efficient patent enforcement procedures to facilitate the effectiveness of their patent enforcement business models.

The proposed European Unitary Patent System, however, may change this. The European Unitary Patent System is believed to be a much more efficient patent system, providing a single application and grant of a unitary patent right enforceable in a specialized Unified Patent Court (UPC). NPEs may be interested in using the unitary patent system based on the legal implications of the unitary effect of the patent, which provides wide territorial effect covering most European countries and a unified enforcement procedure. Such unitary patent will arguably simplify the complex web of country-to-country patent litigation and increase legal certainty. Accordingly, the aim of this contribution is to further our knowledge on the NPE phenomenon specifically in Europe by further considering the legal implications of the current European patent system and the proposed unitary patent system for NPE patent enforcement in Europe.

### **3.2.1 Overall Objectives and Main Contributions**

Research Paper II discusses how the current two-tiered state of national and European patent grant and enforcement procedures creates several limitations for NPE patent enforcement in Europe. The two-tiered system of national and European patent grant and enforcement procedures results in a fragmented European patent landscape where the heterogeneous characteristics of each patent system potentially complicates important legal aspects of patent enforcement for NPEs. The lack of a European centralized enforcement mechanism where patent owners can enforce their European patents in a single court thus requires patent owners to enforce patents in each individual country they are seeking to protect their proprietary rights in. This system undoubtedly increases enforcement costs, and may lead to parallel litigation proceedings in various national courts, increasing the uncertainty of patent enforcement overall for NPEs, particularly when compared to the more unified patent marketplace in the U.S. jurisdiction where NPEs predominately tend to operate.

However, some of the limitations that make it difficult for NPEs to enforce patents under the current European patent system may soon become irrelevant with the implementation of the proposed Unitary Patent System. The unitary patent system may be an attractive patent system for NPEs to enforce patents in Europe, as it will create a more unified patent system, with a centralized court allowing for a unified enforcement procedure that will bind decisions on patent infringement and patent validity directly throughout participating Member States. It is thus the *unitary* effect of the unitary patent system that will create greater efficiencies to enforce patents in Europe, especially compared to the current fragmented national and European patent regimes.

Accordingly, given the relatively low level of NPE activity currently in Europe and the incoming new patent system, there is value in further examining the potential legal implications of the current European patent system and to evaluate these implications in

contrast to the proposed unitary patent system for NPE patent enforcement in Europe. This examination is beneficial not only for national and international companies operating in Europe to become aware of how NPEs may operate under the proposed new unitary system compared to the current system, and to take any precautions necessary, but also to become aware of the potential opportunities a potential increased future presence of NPEs in Europe may provide for, such as monetization and enforcement services. Thus, the aim of the research paper is to contribute further to the knowledge on the NPE phenomenon specifically in the European jurisdiction by analyzing the legal implications of both the current European patent enforcement system and the proposed unitary patent system for NPE patent enforcement in Europe.

The research paper first contributes to the assessment of the positive and negative legal implications of the European patent system for NPE patent enforcement. The research paper begins by analyzing the positive legal implications of the European patent system for NPE patent enforcement. The current European patent system helps to reduce the costs of obtaining patents in Europe, for example, compared to obtaining individual national protection in several different countries. Also, the heterogeneous characteristics of patent protection in various different European countries may result in a patent being able to survive at least one validity challenge in the situation where the patent is challenged in multiple national (European) jurisdictions.

Certain European jurisdictions may also include specific legal factors that may benefit NPEs in their patent enforcement campaigns by facilitating patent enforcement through specialized procedures or efficiencies. For example, the legal system in Germany implements a bifurcation procedure where actions for patent infringement and patent validity are separated into two different courts. This may lead to the beneficial situation for an NPE where a finding of patent infringement is decided first, while a decision on validity is yet to be decided, allowing the NPE time to request the court to grant injunctive relief providing additional leverage for the NPE to settle the case and negotiate a favorable licensing royalty. Other favorable European jurisdictions for NPE patent enforcement include France, where it is possible to be held criminally responsible for patent infringement, and the UK, where the relatively high costs of patent enforcement may deter alleged infringers from litigating against NPEs through courts.

On the other hand, the European patent system holds several negative legal implications for NPE patent enforcement. As patent protection secured from the EPO regime requires patent owners to validate and then enforce their rights separately in the designated Contracting Member States, such fragmentation increases the costs and uncertainty of patent enforcement for NPEs. Due to a lack of a centralized enforcement procedure patent owners may be forced to endure country-to-country litigation, increasing the costs of patent translations and renewal fees, and adding uncertainty to the time, length and outcome of potential multiple parallel litigation proceedings, in addition to facing several risks associated with patent enforcement such as the potential for a pan-European wide declaration of non-infringement and a loser pays legal system. The assessment of the positive and negative legal implications of the European patent system for NPE patent enforcement is summarized below:<sup>33</sup>

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<sup>33</sup> Based on Research Paper II: "Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement".

<b>Positive Legal Implications of the European Patent System for NPEs</b>	<b>Negative Legal Implications of the European Patent System for NPEs</b>
<ul style="list-style-type: none"> <li>• Flexibility; NPE can focus on specific key European countries;</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of a centralized enforcement procedure;</li> </ul>
<ul style="list-style-type: none"> <li>• Less expensive than obtaining individual national patent protection (in at least 3-4 jurisdictions);</li> </ul>	<ul style="list-style-type: none"> <li>• High costs of enforcement; country-to-country litigation, translation and renewal fees;</li> </ul>
<ul style="list-style-type: none"> <li>• Bifurcation procedure in key European market of Germany;</li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty regarding the time, length and outcome of litigation proceedings;</li> </ul>
<ul style="list-style-type: none"> <li>• Patent may survive multiple validity challenges in at least one jurisdiction.</li> </ul>	<ul style="list-style-type: none"> <li>• Low damage awards compared to U.S.;</li> </ul>
	<ul style="list-style-type: none"> <li>• Loser pays system;</li> </ul>
	<ul style="list-style-type: none"> <li>• Potential for pan-European declaration of non-infringement.</li> </ul>

In assessing the positive and negative legal implications of the proposed unitary patent system for NPE patent enforcement, several potential positive implications were first uncovered. The existence of a third patent system in Europe provides NPEs an additional patent regime in which to initiate their patent enforcement campaigns. The unitary effect of the unitary patent provides wide territorial effect of the patent across participating European Member States; the potential for increased leverage for licensing fees; as there will be several local/regional divisional courts in the proposed system, there may be a chance for NPEs to “forum shop” and choose the court that is likely to be most favorable to their patent enforcements campaigns; the availability of joinder connections to join multiple defendants in a single lawsuit; and the possibility of obtaining a Member State- wide injunctive relief.

Conversely, many of the potential positive legal implications of the unitary patent system may also appear simultaneously as potential negative legal implications for NPE patent enforcement under the proposed unitary patent system. For instance, while the possibility to obtain Member State-wide injunctive relief may provide NPEs with significant leverage in licensing negotiations, Member State-wide revocation of the patent may also occur in a single court decision. Also, although the unitary patent system will be a new, third patent system existing in Europe in which NPEs may try to initiate their patent enforcement campaigns through, legal principles particular to the European jurisdiction will remain. For instance, there will be an absence of a jury system and the loser pays structure will remain, which may negatively impact upon NPE patent enforcement. As there is currently a relatively low level of NPE activity in Europe, compared to the U.S., and that the unitary patent system will be an entirely new system, there is an uncertainty regarding how judges may react to a potential influx of NPE assertions, and how patent damages will be calculated. The assessment of the potential positive and negative legal implications of the unitary patent system for NPE patent enforcement is summarized below:<sup>314</sup>

<sup>314</sup> Based on Research Paper II: “Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement”.

<b>Potential Positive Legal Implications of the Unitary Patent System for NPEs</b>	<b>Potential Negative Legal Implications of the Unitary Patent System for NPEs</b>
<ul style="list-style-type: none"> <li>• A third patent system for NPEs to enforce patents in;</li> </ul>	<ul style="list-style-type: none"> <li>• Member State-wide revocation of patent in a single court decision;</li> </ul>
<ul style="list-style-type: none"> <li>• Possibility to forum shop;</li> </ul>	<ul style="list-style-type: none"> <li>• Loser pays system;</li> </ul>
<ul style="list-style-type: none"> <li>• Possibility for a Member State-wide injunctive relief;</li> </ul>	<ul style="list-style-type: none"> <li>• No jury system;</li> </ul>
<ul style="list-style-type: none"> <li>• Specialized Unified Patent Court, single court for patent enforcement;</li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty on how judges will react to unitary patent assertions, how damages will be calculated;</li> </ul>
<ul style="list-style-type: none"> <li>• Availability of Joinder connections;</li> </ul>	<ul style="list-style-type: none"> <li>• Uncertainty whether companies will be interested in and use the unitary patent.</li> </ul>
<ul style="list-style-type: none"> <li>• Potential for increased leverage in enforcement negotiations and increased licensing fees.</li> </ul>	

### 3.3 Research Paper III - The Emergence of Non-practicing Entities in China

#### Abstract

Non-practicing entities (NPEs), entities known for building business models solely around the exploitation and enforcement of patents to generate revenues mainly through licensing agreements and sometimes litigations, have become increasingly important actors in the patent litigation landscape. Yet, what is conspicuous about the NPE phenomenon is that it does not seem to significantly occur in jurisdictions outside of the United States or Europe. However, the United States and European patent enforcement landscapes appear to become increasingly difficult jurisdictions for NPEs to operate in. Several significant patent reforms and judicial decisions in the United States are making it more difficult for patent owners to enforce patents, while Europe's fragmented patent enforcement landscape of country-to-country litigation increases patent enforcement costs and raises legal uncertainties of patent assertions. As a result, NPEs may soon find it necessary to look beyond the United States and Europe to other markets for opportunities to exploit and enforce patents to generate revenues. Looking to the East, China may be able to provide for such patent enforcement opportunities.

Given the steadily increasing amount of patents available for potential assertions in China, and the government's evolving profit driven approach to patents, the focus for many patent owners in China in the future may be on the exploitation and monetization of patents via licensing and litigations. The vast Chinese market undoubtedly holds potential patent licensing opportunities for Chinese and foreign entities alike, while China already is the most litigious country in terms of IP. The Chinese government may be interested in NPEs emerging in China to help establish a patent marketplace where technology transactions and IP investments may be undertaken to further promote Chinese innovation. China has recently established its own government backed NPE called *RuiChuang IPR Funds* to aid Chinese technology companies in acquiring strategically valuable patents and for defensive purposes in foreign patent disputes.

In light of these developments, this research paper further considers the emergence of NPEs in China using a conceptual framework of three drivers of NPE success in the context of China: NPEs and the Chinese patent enforcement landscape, the economics of patent enforcement for NPEs in China, and patent enforcement culture in China. A better understanding of these drivers of NPE success in the context of China may better help determine whether NPE business models may succeed in China in the near future and may also reveal useful insights not only for Chinese policy makers but also for companies that own and use patents in China. The research paper concludes that while some of the drivers of NPE success may be applicable in the context of China, insufficient legal remedies in the Chinese legal system, for instance, low infringement damage awards and an apprehension towards court ordered injunctive relief, coupled with Chinese culture yet to embrace strong patent enforcement in practice, indicates that it will likely be difficult for NPEs to emerge in China at this time in the development of the nation's patent system.

### **3.3.1 Overall Objectives and Main Contributions**

Research Paper III conceptually explores how NPEs might emerge in the Chinese jurisdiction. Given the evolving legal and regulatory environment in the U.S. towards a weakening of patent enforcement due in large part to the supposed fears over NPE patent enforcement activities, and the difficulty of patent enforcement in Europe due to its current fragmented patent enforcement landscape, NPEs may need to find jurisdictions beyond the U.S. and Europe in which to enforce patents to generate revenues. Given China's evolving profit driven approach to IP, particularly patents, and its increasing emphasis on strengthening its patent enforcement regime, while steadily increasing the number of patents granted per year, China may become a jurisdiction focused on the exploitation and monetization of patents via licensing and patent litigations. Accordingly, China may become a jurisdiction that could facilitate NPE patent enforcement in the future. In light of these developments, the aim of this research paper is to explore how NPEs may emerge in China using a conceptual framework of three drivers of NPE success in the context of China: NPEs and the Chinese patent enforcement landscape; the economics of patent enforcement in China for NPEs; and NPEs and patent enforcement culture in China. The paper briefly discusses China's partly state owned NPE, *RuiChuang IPR Funds*, and explores why the Chinese government recently implemented such government supported NPE. The main contribution of the research paper is the analysis of the conceptual framework of NPEs emerging in the Chinese jurisdiction as summarized by the following lines.

*NPEs and the Chinese patent enforcement landscape.* There appears to be some features within the Chinese patent enforcement landscape that may help to support NPE patent enforcement, for example, the growing Chinese high-technology sectors including telecommunications and software that require and depend on patent protection for their inventions and subsequently file for and contribute to the growing and abundant amount of patents available for potential NPE assertions. Also, the predominant use of utility model patent protection, which does not require substantive examination prior to being granted as opposed to invention patent protection, may allow for NPEs to quickly obtain and enforce patents to generate revenues. However, some practical challenges remain for NPEs, such as the generally low level of damage awards compared to higher damage awards in industrialized nations, a working requirement stipulating that the patent owner must exploit the patent within three years from its grant date, and uncertainty surrounding the availability and enforceability of injunctive relief for NPEs.

*The economics of patent enforcement in China for NPEs.* A second driver of NPE patent enforcement success in China may be found from factors relating to the economics of patent enforcement in the Chinese jurisdiction. If the expected return on the patent assertion is higher than the costs to undertake such patent assertion, NPEs may assess that the patent enforcement ought to be undertaken (risk vs. reward scenario). If obtaining patents, proving infringement, using the judicial system, obtaining reasonable damage awards, and being granted injunctive relief, can all be conducted within reasonable cost and suitable time frame, these factors are likely to support NPE patent enforcement initiatives. The Chinese government provides lucrative incentives for applicants to file for patents, and the establishment of specialized IP Courts in Beijing, Shanghai, and Guangzhou may facilitate efficient enforcement procedures that NPEs may benefit from in their patent enforcement campaigns. However, the Chinese patent enforcement landscape is still in its infancy, which may mean that the economics of patent enforcement may have yet to reach a proficient level for NPE patent enforcements to be effective. For instance, some aspects of Chinese procedural law may frustrate efficient patent enforcement due to specific particularities in Chinese litigation proceedings, including parties having to first try to resolve disputes through consultation meetings, difficulty in proving infringement with a lack of discovery procedure, NPEs having to collect and provide supporting infringement evidence independently, and possibly having to hire private investigators to help collect infringement evidence, and the relatively short statute of limitations to bring a patent infringement lawsuit set at a two year limit. Also, while it may be economical for NPEs to obtain counsel in a patent infringement dispute, this may at the same time also mean that infringers are more willing to defend against an NPE if the cost of enforcement is low and the amount of damages required to pay for any infringement is also low. This may reinforce a cycle of continuous infringement and make it difficult for NPEs to enforce patents in practice.

*NPEs and patent enforcement culture in China.* Although China may have the highest amount of litigation in regards to IP than other jurisdictions around the world, the Chinese patent and enforcement system is far from being a sophisticated system and is still evolving and developing. The issue of weak IPR enforcement in China is a concern not only heard from foreign entities operating in China, but also Chinese patent owners. The concept of individual rights and ownership may still have less meaning and importance in China as the country further transitions from an agricultural to an industrial/manufacturing economy, to a knowledge economy. The concept of a patent as an independent, strong and viable asset in itself appears to yet be fully embraced in China, which may be reflective of the difficulty rights holders have in enforcing patents in practice in China. Although China may have some of the world's strongest intellectual property laws in the world on paper, in practice, China appears to have a very different cultural conception of patent enforcement at this time in the development of its economic and IP system, which is not to the benefit of NPEs wanting to enforce patents in China. However, the emergence of NPEs in China may help to further facilitate and develop a patent licensing market, where NPEs may offer their enforcement services and litigation expertise to other patent owners regarding patent enforcement initiatives. Furthermore, the Chinese government may want to allow NPEs to emerge in the country to help develop its patent system, and eventually, a thriving patent marketplace to help facilitate patent transactions and technology development. A more accepting cultural stance of supporting a stronger, sounder patent enforcement system may slowly be coming to realization as evident by the recent establishment of China's state-owned NPE *RuiChuang IPR Funds*.

## 4 CONCLUSIONS, IMPLICATIONS, AND FUTURE RESEARCH

*"I am not in the business of litigations; I am in the business of making business deals. I always try to get the deal done."*

- *An NPE from Finland on his patent licensing and enforcement business model*

In this final chapter, the overall conclusions of the dissertation will be discussed along with the resulting implications, while suggestions for areas of future research to be conducted on the NPE phenomenon are also put forth.

### 4.1 Conclusions

This dissertation provides new insights into the NPE phenomenon by exploring and examining the exploitation and enforcement of patents by NPEs in three major patent jurisdictions, the U.S, Europe, and China. The aim of the dissertation is to contribute to a more balanced academic discussion on the highly polarized NPE debate and to contribute to the scarce knowledge on the NPE phenomenon through the presentation of the Part I Introduction, and the three Research Papers presented in Part II of the dissertation. The dissertation is based on the presumption that NPEs play an integral role in the global patent enforcement system and that patents are important and valuable assets. Patents are important and valuable assets because they not only provide an incentive for people to invest in invention, with a prospect for reward, but they also act as a tool to facilitate the monetization of inventions, the transfer of technologies, and promote innovation.

In Part II of the dissertation, three research papers are presented that set out to explore and analyze three different research objectives: (1) How NPE business models operate in practice; (2) what are the legal implications of the proposed unitary patent system for NPE patent enforcement in Europe, in contrast to the current European system; and (3) how NPEs may emerge within the Chinese IP system.

The first research objective, *to investigate how NPE Business models operate in practice*, was achieved by empirically exploring through interviews, and secondary data, the method of operations of six diverging NPE business models. The study contributes to the literature not only by building upon the thin layer of empirical research on the overall NPE phenomenon through the presentation of a case study incorporating a novel empirical data set, but also contributes to the literature by the identification of such NPE business models. The study also helps to further delineate a theoretical outline of diverging types of NPE business models. Research Paper I reveals that in the current knowledge economy, patents have become much more than tools for exclusion, and illustrates that the strategic patent management, exploitation and enforcement of patents by NPEs has become more complicated, interesting, and in some circumstances, more questionable. The NPE business models uncovered revealed that NPE business models can effectively facilitate the bringing together of essential patents that would otherwise be difficult for prospective licensees to find and allocate independently. This helps to reduce transaction costs for patent owners operating in the patent landscape. Furthermore, analysis of the business models revealed that NPEs carry out diligent market research to increase their chances of purchasing or acquiring patents that would (potentially) generate the most revenues. This may be indicative of a superior patent search and risk assessment quality on behalf of NPEs, a characteristic that is of tremendous value to the patent system in regards to providing patent infringement search services to patent owners that lack the resources or time to screen the patent landscape accurately and efficiently on their own. Additionally, the NPE business

models uncovered appear to help reduce the financial risk of patent enforcement for individuals and companies that own patents by taking on the burden of funding not only infringement searches, but also the expense of finding prospective licensees, to negotiate licensing deals, and to ultimately litigate patents. One of the most interesting findings from Research paper I indicated that sometimes large companies may hire NPEs not only to enforce their patents, but to also try to gain competitive advantages by tying their competitors in litigation to increase their rivals' costs. This type of NPE enforcement conduct raises competition concerns, particularly regarding the potential effects on innovation and increased costs for affected industries. A further key finding from the research paper, one which contradicts much of the literature on NPEs, is that the NPEs interviewed mentioned that they only engaged in patent litigation as a last resort in their patent enforcement activities. They only engaged in patent litigation when licensing negotiations had broken down or there was no response to a licensing request and litigation was the only option, rather than deciding to immediately first litigate and then negotiate towards a settlement as a patent enforcement strategy.

The second research objective, *to examine the potential legal implications of the proposed unitary patent system for NPE patent enforcement in Europe*, was accomplished by conducting a comparative analysis of the legal implications of the current European patent system to the proposed unitary patent system for NPE patent enforcement in Europe. The current two-tiered state of national and European patent grant and enforcement procedures results in a fragmented European patent landscape complicating patent enforcement; parallel patent enforcements may take place in various different national courts, conducted in different languages, and presided over by different judges, which may increase legal uncertainties of patents and patent decisions. In addition, Europe does not have a jury system, and employs a "loser pays" rule where the party who is unsuccessful in court pays the other party's attorney fees and related costs. This increases the potential enforcement costs for NPEs. Thus, under the current European patent landscape, it is unsurprising that NPE patent enforcement activity is relatively lower in Europe compared to the U.S.

However, with the introduction of the new unitary patent system, which consists of a patent with unitary effect and a centralized enforcement system similar to the U.S. system, the relatively low level of NPE patent enforcement may change. Accordingly, the analysis of research paper II revealed several positive and negative legal implications of the current European patent system and the unitary patent system for NPE patent enforcement in Europe. Although the current European system provides flexibility for NPEs to focus on key enforcement jurisdictions at a lower cost compared to enforcing patents through multiple national routes, there remained several negative legal implications for NPE patent enforcement. The high cost of country-to-country litigation, in addition to translation and renewal fees, cultural differences among countries, and strong opposition proceedings available through the EPO, indicated that the current European patent system appears to consist of more negative rather than positive legal implications for NPE patent enforcement. Compared to the current European system, research paper II also revealed several potential positive and negative legal implications of the unitary patent system for NPE patent enforcement in Europe. Analysis of the positive legal implications of the unitary patent system included Member State-wide patent protection, a specialized unified patent court, a Member State-wide effect for injunctive relief, lower administrative and enforcement costs, specialized judicial panels, resulting in an overall more efficient patent enforcement system. Analysis of the negative legal implications of the unitary patent system revealed the possibility of the patent being revoked in a single decision, with effect throughout the

participating Member States, joinder limitations, infringement proceedings potentially being stayed if there is a high likelihood that the patent claims will be held invalid, in addition to an overall uncertainty regarding how the new system will operate, including how infringement damages will be calculated, and how judges may react to a potential influx of NPE patent enforcements. The comparative analysis undertaken revealed that the unitary patent system provides for more (potential) positive rather than (potential) negative legal implications for NPE patent enforcement in Europe.

The final research objective, *to analyze how NPE business models may emerge in China*, was achieved by applying a conceptual framework deductively regarding three drivers of NPE success applied in the context of China: the Chinese patent enforcement landscape; the economics of patent enforcement in China; and patent enforcement culture in China.

The conceptual assessment of the Chinese patent enforcement landscape found specific features that may help to drive NPE patent enforcement success in China. This included the dual-track IP enforcement system consisting of administrative or judicial enforcement, the abundant amount of patents in the Chinese market available for potential assertions, and a strong and growing high-technology sector, including the most Internet users and the largest smartphone market in the world. The wide use of utility model patents, which do not require substantive examination prior to being granted, are much cheaper and faster to issue and may provide opportunities for NPEs to quickly obtain and enforce such patents to generate revenues. Yet, some practical challenges remain for NPEs to emerge in China. IP damage awards are perceived as being generally low compared to other industrialized nations. China's patent law includes a working requirement to exploit the patent within three years from it being granted. Injunctive relief is available, however, it is difficult in practice to obtain due to the stringent irreparable harm standard, while even if injunction relief is obtained, it may be difficult to enforce in practice as the Supreme People's Court has indicated an adverse opinion on injunctions, and advised lower courts to use caution in issuing them. Moreover, the cost-effectiveness of obtaining patents, hiring counsel, and litigating through specialized IP courts may be frustrated by aspects of China's procedural law. For instance, prior to litigating, parties are required to first attempt to resolve the dispute through consultation proceedings. Also, there is no discovery procedure, thereby requiring NPEs themselves to collect and submit evidence, or hire private investigators to help collect information to prove infringement. The two-year statute of limitation to bring an infringement suit is rather short especially given the lack of a discovery procedure to uncover important infringement information. Finally, there is a perception of weak IPR enforcement in practice in China that is held not only by foreign patent owners but also by Chinese patent owners. Problems related to ineffective patent enforcement in China may be related to a combination of factors, such as, poor judicial protection, the absence of a strong rule of law, strong local protectionism, but also potentially Chinese culture. Despite the recent establishment of a partly Chinese government-owned NPE, the concept of individual rights or private ownership may still have less meaning or importance in China. As such, the concept of patents as strong valuable assets to be protected may have yet to be fully embraced.

The conclusions from Research Paper III suggest that, at this point in the development of China's intellectual property system, it is unlikely that NPEs will successfully emerge. While the vast Chinese marketplace and the abundant amounts of patents being granted and available for assertions, combined with a general trend towards the strengthening of its patent enforcement system may appear to be enabling features to facilitate NPEs emerging

in China, the conceptual evaluation revealed that, at the current time, there is perhaps not enough value placed on strong patent enforcement in practice in China for NPEs to be successful in the Chinese system.

## **4.2 Implications**

This dissertation makes an important contribution to the NPE debate and the patent literature and has various theoretical and practical implications. The dissertation produces new knowledge on the NPE phenomenon that may be used to help build theory and for future research themes to be conducted on the NPE phenomenon. The new knowledge presented in this dissertation can also be practically applied in law and business teaching. It can also be utilized by executives, lawyers and business and IP policymakers. Also, the use of multidisciplinary approaches in the dissertation, particularly the case study, help to advance a novel research approach within legal studies.

Furthermore, the dissertation contributes to further balancing the highly polarized NPE debate by empirically exploring NPE patent enforcement practices, providing analysis of recent developments affecting NPE patent enforcement activities, and contemplating some of the future challenges confronting NPEs in the ever evolving legal and regulatory environment. More specifically, this dissertation has uncovered some of the benefits of the *ex post* nature of NPE patent transactions. These benefits include rewarding inventors for their time and investment in invention and deterring infringers. The NPE patent enforcement business models explored in this dissertation also help to expose such flaws in the patent system. Seemingly, the patent system works well for large corporations that have the financial and human resources to navigate the complexities of the system. However, the patent system may not be so easy to navigate for individual inventors, smaller businesses, or startups, especially when they are required to enforce patents against larger, more sophisticated and more financially secure corporations. Unfortunately, the game of patent enforcement is not an equal game. Here, NPEs play a pivotal role in helping other entities to ensure that infringement will have consequences. By leveling the playing field on the enforcement side of any patent system, for instance, whereby NPEs provide enforcement service to those individuals and entities that lack the resources, financial or otherwise to enforce their patents, perhaps the patent system can work better for everyone.

## **4.3 Areas for Future Research**

This dissertation has focused on the exploitation and enforcement of patents by NPEs in the context of exploring their patent enforcement practices, developments facing their patent enforcement business models, and some of the future challenges such entities may face in the ever-evolving legal and regulatory patent environment.

There are, however, several other important areas for future research to be conducted on the NPE phenomenon. As mentioned in this dissertation, the changing patent landscape in the U.S. may force several NPEs to search for more favorable, patent friendly environments where to enforce patents. This dissertation has generally overviewed the situation in the U.S., Europe, and China. However, there may be other jurisdictions, specifically in Asia, that may also be appealing for NPEs and their patent enforcement activities, and where there is a gap in the literature on NPE patent enforcements, patent enforcement in general, and patent litigation. For instance, the locus of global growth is destined to continue to move toward Asia, where countries with rapidly developing and competitive economies, such as Singapore and Malaysia, may provide for new licensing markets. As companies, universities

and research institutes in these regions develop their knowledge and innovation-intensive industries, there may be tremendous licensing and monetization opportunities for NPEs. Other areas of potential future research importance on NPEs may come from the standard essential patent (SEPs) environment, and the enforcement of SEPs by NPEs. Specifically, on how NPEs as SEP owners will implement the commitment to license their SEPs on fair, reasonable and non-discriminatory (F/RAND) licensing terms. In the pre-litigation sphere, one area of growing importance for future research to be conducted on the NPE phenomenon is to assess the availability and viability of alternative dispute resolution methods to solving patent disputes, such as mediation and arbitration. Finally, whether current patent enforcement business models that NPEs employ will be sustainable in the future remains to be seen due to several challenges facing NPE patent enforcement. Here, there is a need for further empirical research to be conducted on NPE business models, and specifically patent litigations. History has shown the resilience of NPE patent enforcement business models over the past two centuries. Thus, it is likely that NPEs will still play an important role in the future patent landscape, evolving and adapting with diversified business models involving patents to continue to generate revenues.

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**PART II**



**RESEARCH PAPER I:**

**AN INSIDE VIEW TO NON-PRACTICING ENTITIES BUSINESS MODELS: A  
CASE STUDY**

(Peer-reviewed)

Kelli Larson

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## **An Inside View to Non-practicing Entities Business Models: A Case Study**

**Abstract:** While patents have been essential to the business models of many firms for a long time, it is only in recent years that there has been a renewed interest in how patent exploitation and enforcement may be used as an autonomous business model to generate revenues and competitive advantages. Non-practicing entities (NPEs), entities which purchase or acquire patents only to enforce them to generate revenues, have taken advantage of a business opportunity in creating various business models centered solely on the exploitation and enforcement of patent rights. However, few empirical studies have been conducted on how NPE business models precisely function, likely due to the private nature of such entities and their strategic patent transactions. This study aims to further our knowledge on the NPE phenomenon by providing a unique glimpse into the method of operations of six NPE business models and how they engage in the strategic management, exploitation and enforcement of patent rights.

**Keywords:** non-practicing entities; patents; business models; patent rights; patent exploitation; patent enforcement; patent licensing; intellectual property; intellectual property management; case study; patent litigation; patent strategy; patent law; IP; NPEs.

### **1 Introduction**

Patent systems and patent laws, once the domain of engineers, scientists and lawyers, has become a major focus of interest for executives, entrepreneurs and savvy business people as the realization of using patents as a way to generate or boost revenues have become further evident (Granstrand, 2004).<sup>315</sup> The changing economic and competitive landscape initiated by the shift to a knowledge economy has placed increasing amounts of pressure on companies to ensure that every asset belonging to the firm, particularly its patents, is being utilized effectively to support company operations entirely (Hurmelinna-Laukkanen and Soininen, 2011). Firms which own and utilize patents are becoming more dependent on this type of intellectual property (IP) to help generate revenues and to provide for and further competitive advantages (Rivette and Kline, 2000; Petrusson, 2004; U.S. Federal Trade Commission Report, 2011). Patents that were once left dormant are seeing new light by being monetized through sales, licensing and sometimes litigations. IP strategies have evolved and moved from direct techniques, where firms exploit their own IP developed from inside their firm to indirect techniques, namely the buying and acquiring of third party IP to be exploited largely for competitive purposes (Ewing, 2012). Consequently, it is not surprising that new business models built exclusively around the use and enforcement of patents have emerged and are evolving. With an increasing focus placed on the strategic use and extraction of monetary value from patents, the exploitation and enforcement of patent rights has not only become a business model of its own, but has become an entire industry of its own.

Non-practicing entities (NPEs) have taken advantage of a business opportunity afforded by exploiting and enforcing patent rights creating various lucrative business models.<sup>316</sup> Generally, NPEs are described as individuals or entities that initiate business models entirely around purchasing, acquiring or filing for their own patent rights, and

enforcing those patent rights to generate revenues.<sup>317</sup> They are ‘non-practicing’ as they neither use patent rights in the traditional sense to produce or manufacture products or to conduct research, nor to commercialize patented inventions. NPEs are interested to own the exclusionary legal right (the patent right) to a particular and valuable technology to be able to enforce the right to potentially earn profits (Fischer and Henkel, 2012). NPE business models generate revenues mainly by enforcing patent rights through licensing programs and earning licensing royalty fees, by being granted court awarded damages from successful infringement litigations or by earning money from settlement agreements (Reitzig et al., 2007). Selling patents, being employed by third parties to enforce their patent rights, or entering into cooperation agreements with other entities to enforce patent rights together is also ways revenues may be generated (Ewing, 2011).

However, besides the basic tenet that appears to run throughout most NPE business models – gathering patents and enforcing them through licensing campaigns to generate revenues – there is little information available about NPEs and even less on how such NPE business models precisely function. Moreover, much of what is known about NPEs is largely based on descriptions given by the media, such as the moniker ‘patent trolls’ or other attention seeking anecdotes, rather than thorough scientific enquiry (Risch, 2012). This may be due to the fact that it is difficult to gain direct access to such NPEs and their partners (Fischer and Henkel, 2012), which may resonate with the subsequent broad gap in the knowledge on NPEs, and a much broader gap in the knowledge on how NPE business models specifically function.

While there is increasing interest and a recognized need of further conducting empirical research on the NPE phenomenon, specifically on the professional operations of NPEs (Chien, 2009/2010; Ewing, 2011; Fischer and Henkel, 2012; Hagi and Yoffie, 2011; McDonough, 2007; Reitzig et al., 2007), there remains a lack of rich qualitative empirical studies based on NPEs and their respective business models. This lack of knowledge may be problematic as it potentially leaves managers, patent owners, executives, lawyers, and patent and innovation policy makers with false or distorted impressions of NPEs, how their respective business models function, and the impacts such business models have on commerce and innovation. Crucial decisions might be made or influenced based on these potentially distorted or false representations of NPEs. Additionally, firms need to be able to fully understand the value and significance of their patents to their business, as well as to be attentive to the ways in which they can minimize risks pertaining to patents, such as infringement, while optimizing opportunities patents may bring, such as monetization. Accordingly, it would be beneficial for actors participating in the IP ecosystem, either by owning, managing or facilitating patent rights in some way, to be aware of and understand the different method of operations of NPE business models, not only for potential advantages NPEs models might afford businesses but also for the potential interferences they may bring. From a better understanding of how NPEs business models function, we may be able to better understand the complexities of NPEs in the markets in which they operate and to increase the possibilities to make better informed decisions regarding patent and innovation policies, while firms may be able to make better informed business and IP management decisions.

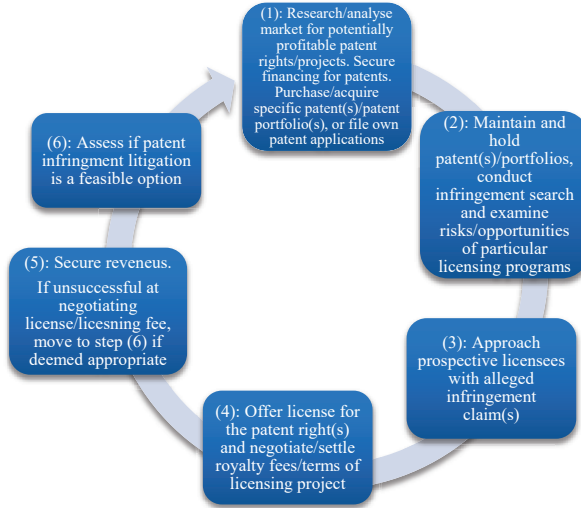
As such, the objective of this study is to help fill some of the gap in the knowledge on NPEs by exploring empirically through interviews, and secondary data, the method of operations of six NPE business models. The particular aim of the study is to illustrate how some NPEs engage in the strategic exploitation and enforcement of patent rights through their specific business models. The study contributes to literature by building upon the current thin layer of empirical research on the overall NPE phenomenon through the exploration and presentation of a case study incorporating a novel empirical data set. The study further helps delineate a theoretical outline of divergent types of NPE business models and provides an enhanced understanding of how such NPE business models function.

## **2 Background and methodology**

### *2.1 The NPE business model*

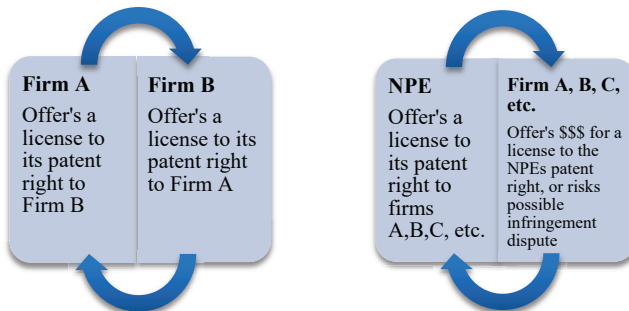
Briefly, there are two specific legal factors of patent rights which permit the existence of NPE business models: (1) the *exclusive* legal right to prohibit others from using, selling or making their patented invention without the patent owner's consent; and (2) although there are variations in different countries, the *absence* of an immediate legal requirement to use or 'work' the patent right to further develop, and actually produce/manufacture products.<sup>318</sup> Since NPEs do not use patents to produce or sell patented products or services they typically cannot be infringing someone else's patent rights. This specific characteristic makes NPEs, by and large, invulnerable to counterattacks in patent infringement disputes (McCurdy, 2008), and generally uninterested in cross licensing deals (Chien, 2010; Henkel and Reitzig, 2010). Cross licensing transactions between firms typically involve the exchange or cross licensing of patent rights, transferring the use of their technologies to each other in order to enable each party to continue producing and selling their respective patented products. However, an NPE licensing transaction does not involve the exchange of patent rights or the transfer of technologies to one another, but rather consists of a license simply being exchanged for money. Figure 1 below illustrates a typical NPE patent enforcement cycle, while figure 2 compares a simplified cross-licensing transaction to an NPE licensing transaction.

**Figure 1** NPE enforcement cycle (per patent/patent portfolio)



**Figure 2** Comparison of a (simplified) cross licensing transaction to an NPE licensing transaction

**Cross licensing transaction**      **Vs.**      **NPE licensing transaction**



## 2.2 Methodology

This case study elucidates six NPE business models that are empirically investigated through semi-structured interviews and secondary sources.<sup>319</sup> The study illustrates the heterogenic characteristics and strategies of six prevalent NPE business models to further enquire how such models function, while helping to provide a more holistic view of the NPE phenomenon. The results of the study are not meant to be generalized to each and every NPE business model currently operating, but to generate new understandings and develop propositions for further empirical enquiry (Patton, 2002). A case study is a rigorous, in-depth and systematic enquiry into the particularities and complexities of a phenomenon within its real life context to provide new understanding and knowledge. Due to the underexplored nature, and the lack of empirical research on NPE business models specifically, exploratory case study research was chosen as the most appropriate approach to further identify and investigate the functioning of such models. The case study method was therefore applied in this study based on the central research question *how do NPEs business models work/function?* Additionally, specific questions posed to the NPEs interviewed included how do NPEs obtain their patents and where from?, how do NPEs fund their patent purchases/acquisitions and if necessary litigations?, who are NPEs' clients and partners?, what strategies are used to find prospective licensees?, and how do NPEs determine which types of enforcement/licensing projects to engage in?

Criterion and snowball sampling selection approaches were used to select cases which would best be able to answer the central research question (Maxwell, 2005; Patton, 2002). Entities were selected based on specific criteria including entities or individuals which purchase or acquire or file for their own patents, which do not have manufacturing or production facilities, which conduct very little, if any, research, which do not make or sell products, and which enforce their patent rights through licensing campaigns. Cases encompassing these criteria were researched through various means including company websites, annual reports, IP management industry publications, and discussions with economic, management and legal professors, industry practitioners, and discussions at an international IP conference. Cases were also selected via the snowball approach, where upon the completion of one interview, the interviewee was asked to provide, if possible, another contact to a different NPE business/organization to interview.<sup>320</sup> All interviews were conducted during 2012, were semi-structured based and ranged from forty-five to eighty minutes. The interview data was transcribed and composed into narrative form and sent to each interviewee to confirm data accuracy. All interviewees confirmed the accuracy of the data and permitted its use in this study. From the business models explored in this study, one is operating from Finland, four are operating from the U.S. and one is operating from Canada. All persons and NPE businesses remain anonymous for confidentiality reasons.

## 3 NPE Business Models<sup>321</sup>

### Model One

#### *Overview of the model*

This model depicts a privately owned NPE business that acts as an intermediary entity in helping financial investors, strategic buyers and intellectual property rights intensive growth companies in closing mergers and acquisition deals. The model revolves around an independent owner using patents to generate revenues. This interview was conducted with the CEO and owner of this NPE business.

The owner describes his business as a NPE or ‘patent troll’ in purchasing and managing patent licensing projects, and in buying parties’ patent litigations in return for a pre-negotiated amount, or an amount of the damages awarded through litigations. The owner has been involved with over a dozen companies working with patents, some of the companies he owns, some of them he does not own, and some of them he really owns although it may not look like he does. He began ‘trolling’ in 2001 and operates from Finland, although he enforces most of his patent rights and conducts most of his licensing deals in the U.S., as he believes the U.S. is more ‘inventor friendly’ compared to Europe. He mentions the difficulty in being granted an injunction in Europe, especially if litigation is against a large operating company, and that many people view litigation as a ‘personal attack’ instead of a ‘business deal’. He reveals that he only loses money through litigations in Europe, specifically in Scandinavia, and only engages in deals in Europe to gain awareness for his brand and to let people know his services are available. He asserts that NPE business models are complex and that they are made so that nobody can really tell what the ‘real agenda’ is or why deals are made the way they are.

*Clients, patent sources, and funding patent acquisitions and purchases*

The owner reveals that his clients are only the smallest and the largest companies. He makes contacts through his networks or he is recommended and then he decides if he wants to engage in a particular patent deal. He currently operates only in high technology industries, actively searching to purchase patents pertaining to data and network security, telecom and business operations and support systems, e-procurement and e-invoicing. He regularly uses investors’ money to buy patents to assert them against infringing parties, and regularly works with a network of people and contingent fee lawyers entering into patent licensing and litigation deals sharing the profits, although he also buys and acquires patents and conducts deals independently. Additionally, he offers patent infringement deals to law firms and buys patent infringement deals from law firms. He acknowledges he has been given money from large operating companies to buy patents and assert them against a certain competitor, to tie them in litigation, while keeping the royalty fees from all the other companies involved in the licensing agreements as payment. Additionally, an operating company might give him a certain amount of money so that he does not settle a litigation dispute against their biggest competitor, but that he will settle it with all the others in the sense they would improve their competitive situation by increasing the expenses of their largest competitor.

*Licensing projects, prospective licensees and patent litigation*

In determining which types of patent projects the owner will take on, he indicates that he needs to thoroughly study the patent project and understand it himself before proceeding with any type of licensing or enforcement. He uses his wide networks and multiple co-operation partners both in Europe and the U.S. to conduct licensing deals, and employs a team of experts in India who examine the patents and conduct prior art searches and provide feedback on the patent’s validity and potential infringements. Additionally, he uses other technical experts to analyze the patents, and obtains advice from at least two lawyers before deciding to proceed with a project.

Once he has some evidence that his patent rights are likely being infringed, he then attempts to identify all the potential license takers who are allegedly infringing the patented technology and then he decides how he will approach them depending on a specific strategy. The most important factor in any licensing project is that he tries to find win-win situations early in the licensing negotiations so that patent deals can be done easier and faster. He explains that he does not have a specific strategy that he always uses but the strategy must always meet the objectives of his patent holders. In some cases he might file a complaint against all of the potential infringers. Due to changes in U.S. patent legislation (specifically the American Invents Act Joinder consolidations),<sup>322</sup> it is more difficult to file one complaint against multiple potential infringers, but the owner notes that this was a good strategy to use previously. At other times, he might decide to target the so-called 'toughest' alleged infringer to show the other (alleged) infringers that he is prepared to see through a dispute to the end, or he might decide to target the 'easiest' (alleged) infringer, the one that is the least likely to fight the infringement claim so he can get deals done quickly and get the licensing payment quickly, or so that he can establish the reasonable royalty benchmark from the first deal. Every deal depends on a particular strategy he decides to employ; it depends on how much money he has and what kinds of deals he can find from law firms. The owner and his partners might want to do a hundred deals worth 300.000 Euros each therefore they then choose a law firm with such a reputation, or sometimes they go after a single deal worth one hundred million Euros and hire a law firm with such a reputation. He also may try to structure deals to appear much better than they perhaps are, for example, such as setting up a new legal entity which owns certain rights, then selling that entity to a buyer who actually takes a patent license, yet on the stock market it appears as the client having acquired a company with particular rights for a particular technology. His fastest deal from the moment of filing to the complaint to obtaining the money was five weeks, while his longest deal started in 2005 and is still ongoing. 2011 was his most lucrative and creative year in terms of structuring and concluding deals worth over fifty million Euros.

The business owner explains that in the U.S., deals can happen after the claims construction has taken place because both parties know more about the patent rights and can have some kind of 'realism' about them. Sometimes he has to take action to prove he is for real, for example, when licensing negotiations breakdown or when there is a lack of negotiations the dispute may continue in court. In the event that he loses in litigation, he essentially takes the financial burden on everything and he and his investors have then lost their money and the patent holder has only lost their patent right. In the event that the litigation is in a country where the losing party is responsible to pay for the other party's expenses, his business model is structured that typically a special purpose vehicle is set up to separately own the patent which would then be made to go bankrupt to prevent the successful party from receiving their money, although he mentions that this has, thus far, never happened. In such a circumstance, usually he or the patent holder will first communicate to the winning party that they will never receive the amount of money they are asking for (or are awarded) but that they may offer a substantially lower amount and try to come to an agreement that way.

## **Model Two**

### *Overview of the model*

This model portrays a large public patent licensing corporation from the U.S., which, along with its subsidiaries, partners with patent owners such as individual inventors, small businesses and increasingly larger companies to license patented technology rights to prospective licensees, taking approximately half of any revenues generated from such licensing programs as payment. Half of the patents the corporation manages are coming from patent partners who have sought out the services of the company, while the other half are from the corporation's efforts in mapping and trying to find valuable patents to work with. One of the objectives of the model is to ensure that a dialogue is started early with prospective licensees, to bring up potential issues beforehand and come to reasonable understandings rather than resorting to litigation tactics. The model has significantly grown and evolved and today consists of teams of engineers, licensing executives and patent attorneys. This interview was conducted with the CEO of the corporation.

### *Origin of the model, patent sources and funding patent acquisitions/purchases*

This model was originally based on a venture capital model that funded over a dozen new technologies and start-ups in the 1990s. The corporation took a minority investment position in many of the technologies and start-ups that it funded and eventually went public in the late 1990s. After the tech bubble in 2000, the firm found it difficult to keep funding all the technology start-ups they had invested in and therefore began to sell off, and in some cases, wrote off investments in certain emerging technology companies, while retaining majority owned positions in only a limited number of technology companies to generate revenues for their shareholders. The three predominant technologies the firm invested in were micro-ray technology used in the medical diagnostics field, technology related to video-on-demand and a television V-chip technology that was licensed worldwide to all major television companies for paid up-front royalties. These patented technologies were the source of the firm's initial patents. It was during these early licensing programs that the owners realized there was a huge need in the marketplace, with literally thousands of small innovative companies that developed new patented technologies that simply did not have the financial wherewithal to compete with larger established firms such as Apple, Dell and Cisco to build major products.

Around this same time, many companies in the U.S. started to create inventions, obtain patents and license the technology to marketing and distribution channels, and as a result there started to be a lot of companies that were pure research and development based. The CEO believes this occurrence began to create a culture in the U.S. where it became more acceptable for companies to enforce their patent rights against other companies and to insist on being paid for their patents as a result of their research and development. The group that was left out of this shift in enforcing patents was the ones that were not well-financed - individual inventors and smaller companies. Therefore, the corporation decided to partner with patent owners, who did not have the resources to enforce their patents, and thereby enabled larger companies to use their patented technologies through licensing programs, with the corporation being reimbursed through royalty payments.

The corporation partners and purchases patents mainly in high technology sectors, including technologies such as flash memory, chip stacking, wireless lan, online ad tracking and television data display, yet the corporation is beginning to expand its focus into the

medical technology sector, already acquiring 15 patent portfolios, including two extensive portfolios in orthopedics and cardio vascular technologies, while expecting revenues from these medical technologies to become a significant percentage of future growth. One way the firm tries to find valuable patents to partner with or purchase is to monitor specific companies patent maintenance fee payments at a patent office.

#### *Licensing programs and clients*

The model provides for a full range of options for patent owners. If a patent owner wants to obtain full value for their patent they can choose to partner, or if they want cash quickly they may choose to sell the patent to the corporation, or if they want some cash and some of the on-going licensing royalties they can arrange split deals according to their agreements. Accordingly, there are three different sub-models within specific licensing programs available:

(1) the partnering model: the partnering model is used the most frequently and consists of partnering with patent owners such as individual inventors, small businesses and larger companies and sharing the revenues from licensing agreements. The patent owner contributes the patent to the corporation or extends an exclusive license with rights to enforce and collect past damages and the corporation takes responsibility for licensing and enforcement, advancing all the costs for experts, engineers and lawyers, therefore eliminating any financial risk for the patent partner in enforcing their patent rights. Typical partners for this model include major corporations, research labs and universities and individual inventors. The revenue from licensing or enforcement programs under the partnering model are generally split 40% to the patent owner, 40% to the corporation and 20% to the law firm;

(2) the purchasing model: the corporation will purchase patents from inventors who cannot wait for royalties to be generated or who need access to capital quickly. Typical partners in the purchasing model include distressed companies and failed corporations controlled by venture capitalists. The revenue produced from this model is generally split 80% for the corporation and 20% for the law firm; and

(3) the hybrid model: this model consists of elements of both the partnering and purchasing models.

Generally, all the patent owners that have partnered with the corporation had previously tried to enforce their patents independently and unsuccessfully, thus turning to the corporation for assistance in enforcing their patent rights. In 2011, a major growth transition took place for the corporation when large operating companies, which had previously refused to work with them, began to engage with and partner with the corporation to establish and make licensing structures more efficient rather than being engaged in legal disputes with enormous legal costs.

#### *Licensing structures, prospective licensees and patent litigation*

There are two main structures for the corporation's licensing business. The first is called 'core' licensing business and consists of core licensing deals constructed as a single patent portfolio being licensed to a single prospective licensee. Most of the deals the corporation constructs are done on core licensing deals. The second structure is called 'multi-portfolio structured' licensing business or 'structured' licensing business, consisting of four or more

core licensing agreements with a single prospective licensee. Two conditions need to be filled to lead to a structured deal: (1) the prospective licensee wants to simplify negotiations across all asserted portfolios by consolidating several licensing negotiations into one; and (2) the licensee will have access to significant funds to cover all the licensing fees to all portfolios. The structured licensing deals are usually complex and vary significantly from case to case. Structured deals often depend on which portfolios are asserted, and the terms and conditions on whether assertions can be brought in the future and how those assertions can be brought. A structured licensing deal is essentially an agglomeration of many individual portfolio license agreements and a mechanism that may govern future transactions between the corporation and its prospective licensees. Most of the deals the corporation constructs currently are based on the core licensing deals, yet they expect more structured deals to occur in the future.

Due to the great financial and personnel commitment a licensing program requires, and the time it takes to start earning revenues from patent portfolios (typically several years), the corporation is highly selective in which patent projects they are willing to pursue. In determining which patent projects they are willing to partner with or purchase outright, the corporation's in house team begins by examining the strength of the patent. The patent is examined from an engineering and legal perspective and then licensing information must be researched to determine what the norms are in the industry and what is realistic and how much people have paid for the specific types of patents and products previously. When reasonable conclusions regarding licensing fees with prospective licensees cannot be made, the corporation may decide to initiate legal proceedings. In funding litigations, the corporation employs legal teams as their partner, often employing contingent fee lawyers. The corporation finds that if their lawyers have a vested interest in the ultimate economics of the deal, it can also lead to earlier settlements.

### **Model Three**

#### *Overview of the model*

This model consists of a large defensive patent aggregation company from the U.S. The model includes patent risk solutions, patent acquisitions and syndication & advisory services. This interview was conducted with an executive of the company. The company raises money from its membership fees it charges to its clients to purchase 'dangerous' patents from the patent marketplace. The dangerous patents are then combined into a holding fund where each paid member is granted a license to all the patent rights in the fund. The patents are being taken off the market to help mitigate and manage the risk that such a patent may otherwise end up in the hands of a competitor or another NPE who may then assert the patent rights against the company's clients.

#### *Origin of the model*

The business model was founded approximately five years ago by three individuals after having multiple discussions with various high technology operating companies regarding what kind of services would be appealing to them in terms of dealing with the cost burden of intellectual property matters. The general consensus was that operating companies were frustrated by the fact that there was a lot of money from the financial community flowing into the IP space and certain NPEs were setting up holding vehicles, holding nothing else except patents and suing operating companies causing them to spend a lot of money on patent litigation. Therefore, the company was founded to serve the needs of helping

operating companies to defend against other more aggressive NPE initiated patent infringement claims and to help reduce patent litigation.

*Clients, patent sources, funding of patent purchases/acquisitions*

The company offers clients two, three or four year memberships and clients pay annual membership fees based on their overall revenue and profitability, and in exchange, receive a license to every patent the company purchases which goes into a holding fund. The company's membership fees typically range between sixty-five thousand and 6.9 million U.S. dollars; their clients include large technology companies, such as many Fortune 500 companies, representing various technologies from wireless communications, consumer electronics and PC networking space to software. This type of NPE business model does not engage in patent litigation and therefore provides a rational alternative to patent litigation for its clients.

The company purchases two thirds of its patent from what is described as the U.S. 'open patent market' and the other third from NPE litigations. The U.S. open patent market is described by the executive as essentially patent brokers who engage with companies or others that want to sell patents. This may include individual inventors, universities, research institutes or companies that patent brokers are engaged on behalf of in organizing offers to be placed on the patent market in order to try to obtain the best price for the patent portfolio. The company is seeing a shift in operating companies moving their patents to the marketplace for one reason: to extract money. A company may have tens of thousands of patents and not need all of them or they may have shut down a business, or they are not active anymore in a particular business area and therefore no longer need patent protection for that part of their business. While companies are selling their patents on the open market, companies are also buying patents to fill the gap in their patent portfolios. One very active player that is buying patents from the patent market, according to the executive, is NPEs. His company buys most of their patents from the open patent market because they believe this is where most of the NPEs are buying their patents. Therefore, the company tries to operate in the same market as NPEs, trying to pick out the 'dangerous' patents before more aggressive NPEs can buy them and sue their clients.

In trying to identify which patents are 'dangerous' patents, the company's research team conducts various levels of analyses of the patents in question and monitors patent deals going on in the market for any possible patent portfolios that may seem dangerous for their clients. There are also larger opportunities in the patent marketplace that the company tries to take advantage of, for example, 'dangerous' patents that have become available from bankruptcy sales. In these specific cases, the company may raise money above and beyond their membership fees from some clients who are willing to contribute additional finances to purchase specific patents if they deem them important enough to be included in the company's larger fund.

The company also purchases patents from NPE litigations. When an NPE has sued some of the company's clients, the company may be able to construct deals that are value creative for both the NPE and the company itself. For example, if an NPE bought a patent portfolio for one million and is suing twenty companies, and tries to settle with all of them for 200,000 dollars, the company may be willing to step in on behalf of those twenty companies and negotiate with the NPE for a smaller settlement amount, for example 100,000 dollars, an amount that would still give the NPE a return on its investment. Due to

the fact that the company does not have all of the companies from a particular market as its clients, when the company purchases ‘dangerous’ patents, takes them off the market and holds them and does not enforce them, essentially those companies operating in the same market who are not the company’s clients, and perhaps are even their clients competitors, are receiving protection without paying for it. As a result, the company may sell patents back to the patent marketplace that their clients deem to no longer hold any value for them.

## **Model Four**

### *Overview of the model*

This model represents a specialized patent licensing model for biomarkers, medical diagnostics and research tools established in the U.S. The interview was conducted with the executive director of the model. The model is based on the premise of a web-based store of over 400 global aggregated patent rights available for customized licensing; a one-stop shop for intellectual property owners looking to license their biomarker, diagnostic and research tools patent rights, and for sub-licensees needing a license to such patent rights. The model essentially allows users to shop the aisles of the web-based store, browse the patents which are available and pick and choose which patent licenses they need for their given products or laboratory practices. The model generates revenues by taking a percentage of the royalties from every licensing transaction.

### *Origin of the model*

As there are many patents and portfolios already built up relating to biomarkers and diagnostic testing, the model was created essentially to help alleviate potential patent thickets and other restrictive licensing practices that may be holding back the development of biomarker and diagnostic testing and the use of these new medical technologies. The model is run and supported by a larger U.S. parent company that was established in the mid 1990s to create and administer an electronics licensing patent pool. That company wanted to diversify to find other fields where there were patent problems to be solved and thus helped to initiate a new and separate business model based around patents in the life sciences field. As a result, the model was formed in late 2012 after recognizing a need in the marketplace for licensing patents pertaining to personalized medicine, and specifically for licensing patents related to biomarkers and diagnostic testing.

As diagnostic testing is a branch of the pharmaceutical industry, where commonly one company will license patent rights exclusively, many of the patents which already exist in the area of diagnostic testing have followed the same suit and have been licensed on exclusive basis, with only a few entities holding many of the issued patents. Additionally, since there are no standards developed in this area, such as in consumer electronics, a traditional patent pool model would not solve the problem of removing certain patent obstacles. As there are no written rules explaining to medical organizations or doctors how to conduct specific genetic testing or what genes to test for any given disease, and as doctors and scientists are continually learning more about which genes are responsible for a given disease and a given drug reaction, a standard essential patent pool cannot be built for biomarkers and diagnostics in the same way as it can for consumer electronics because there is no such way to tell which patent may be essential and which may not be essential to put into the standard.

*Licensing structures, patent sources, clients, and prospective licensees*

There are two main licensing structures for the model: one for licensors who want to license their patents into the model, and one for licensees who require a license out from the model. For licensors who want to license their patents into the model there are four different packages to choose from:

(1) Basic Nonexclusive package: a licensor may license their patent to the model on a non-exclusive basis leaving the licensor the ability to continue licensing in bilateral deals. This package currently holds the most patents coming into the model.

(2) Basic Exclusive package: a licensor may license their patent to the model on an exclusive basis, making the patent right exclusively available to the model. A patent owner that licenses a patent into the model on an exclusive basis receives a larger share of the royalties generated compared to the non-exclusive package.

(3) Enhanced Exclusive package: a licensor may license their patent to the model on an enhanced exclusive basis where the (parent) company that supports the model will assist in funding some of the patent right by taking over patent maintenance fees and annuities payments, therefore the company will keep a larger portion of the royalties generated from such licenses.

(4) Full Exclusive package: a licensor may license their patent into the model on a full exclusive basis where the patent right is only available exclusively in the model and where the (parent) company that supports the model will help fund the patent right not only by paying the patent maintenance fees and annuities but also by funding any necessary patent prosecution.

Furthermore, a licensor does not need to choose just one package to license in under; they can license some patents under one package and license other patents in under a different package. There also is an anti-royalty stacking mechanism built into the licensing pricing model. Royalty stacking may occur when, in order to commercialize a product, a developer of a product takes licenses from all the patents that affect the final product, as such royalties are 'stacked' up and the licensee may find itself with an unprofitable product because it may become too expensive to pay for all the required licenses needed to commercialize the product. However, this model is structured as the more patent rights a sub-licensee licenses out the royalties will increase in smaller and smaller increments, thereby maintaining an affordable way for prospective licensees to take all the required licenses they may need. Patents currently available to be licensed from the model include claims pertaining to cancer, cardiovascular and stroke disease, reproductive health, speech disorders and metabolic and pulmonary diseases. All sub-licenses taken out from the model are conducted on a non-exclusive basis to ensure that everybody can secure access to them as needed.

To identify prospective licensees, the team behind the model extensively examines the marketplace to determine what kinds of products are being sold and used and what kind of diagnostic tests are offered and how they are performed. They then align that knowledge with the patent rights that they have. The executive interviewed anticipates that the model will fuel new innovation in the medical technology field by simplifying biomarker, diagnostic testing and research tools patent licensing, and making it easier and more efficient for both licensors and prospective licensees to exchange such patent rights.

## **Model Five**

### *Overview of the model*

This model focuses on patent licensing and the development of semiconductor and communication technologies. The Canadian company began operations in 1975 and originally was a semiconductor memory design services company, designing entire Dynamic Random Access Memory (DRAM) chips under contract to help other companies improve their semiconductor memory chips, which then manufactured and sold the DRAM chips. The company designed DRAM chips from 1975 until the late 1990s and was a publicly traded company for eighteen years until 2011 when it became a private company again. In 2007, the company shifted its focus from designing semiconductor technologies and producing commercial memory test systems to licensing its own intellectual property and the intellectual property of others. The interview was conducted with an executive of the company.

### *Origin of the model*

In the late 1970s the company invented key circuit technology that was used in virtually all mainstream DRAM products, which was the main type of memory used in computers. By the 1980s, the company designed, built and sold the first commercial memory test system dedicated to engineering applications (known as the systems division), and it was these inventions that provided the company with the initial source of their patents which they began licensing, signing their first comprehensive patent licensing agreement with a manufacturer of DRAM chips in 1999. In 2000, the company switched from designing entire DRAM chips to designing parts of DRAM chips, which became known as the company's Semiconductor IP business.

One of the services the company offered was the reverse engineering of semiconductor chips of other companies, deconstructing the chip and assessing exactly how it functioned. As a function of this, other companies, for example, Texas Instruments, started to approach the company to buy their reports on how they improved semiconductor chips. The company realized shortly after that other companies were not only buying their reports to improve their circuitry or to improve their chips but they were also buying the reports to determine if their patents were being infringed and to figure out how their competitors' chips might work so they could then assert their patents against them. As a result, the company became educated about the patent licensing business and the owners of the business decided to take the reverse engineering part of their business and spin it out into a separate company.

Once the company became educated about the patent licensing business they realized that the design work in the DRAM technology they had invented was fundamental technology, which was essentially necessary for any kind of DRAM standard, leading them to believe that many people most likely needed their technology to further innovate and were likely infringing their technology. Therefore they began licensing campaigns for their patented technologies, which were highly successful. At this time, the company was still producing and selling memory test systems which were not very successful, thus in 2007, a decision was made to sell off their two divisions, the systems divisions and the semiconductor IP business group, to two separate California companies, and to focus solely on patent licensing, nevertheless maintaining an R&D arm to generate future patents.

*Patents sources and funding patent acquisitions and purchases*

Having already licensed to almost all of the memory companies in the world at that point, and starting to renew some of those agreements, the company realized if they are mainly going to focus on patent licensing they will have to diversify from memory chips because they have already licensed to everybody. As a result, in 2007 the company purchased its first wide body portfolio from a leading telecommunications company from the U.S. and started to license it to diversify into other technology areas rather than concentrating on only on memory chips.

As the company converted from designing semiconductor chips and producing memory tests to mainly patent licensing, their strategy to find valuable patents to license also evolved. The company pursues licensing opportunities from two main licensing programs: semiconductor licensing and telecommunications licensing. The company's patent portfolio consists of over two thousand patents and applications resulting from patent acquisitions, sub-licensing patent rights through patent licensing partnerships, and patents resulting from their own research. Sometimes patent acquisition deals are constructed as purchasing patents outright and then licensing them, others are constructed as purchasing portfolios outright and then sharing revenues generated from licensing agreements, and in certain circumstances, the company may also become an exclusive licensee with rights to sub-license patent rights on behalf of others.

Patent deals are constructed on a case-by-case basis; if the company is not owning the patent outright, they are not paying much for it up front, if at all, but are sharing more of the revenues generated, whereas if the company purchases a patent portfolio outright they may be paying a larger portion for it upfront, not sharing in any royalties generated from licensing agreements, or if they are sharing revenues it would be at a smaller percentage. The company has also structured certain patent transactions such as a patent acquisition transaction appearing as a share purchase, where the company acquires patents from a different entity, obtaining the right to enforce the patent rights while sharing the revenues. For example, in 2011, the company acquired patents from an entity which essentially only houses patents. At that time, the patent holding entity held over 2000 wireless patents and applications fundamental to the operation of global 2G, 3G and 4G wireless networks and wireless implementation. The company funded the acquisition of the portfolios through royalties from future licensing and enforcement revenues, with the entity housing the patents receiving one third of all revenues generated from future licensing and enforcements of the patents while additionally bearing all the costs associated with the patents administration, licensing, enforcements and monetizations.

Additionally, the company may purchase or acquire patent rights not because they would necessarily need them but because they would use those patents to strengthen their existing portfolio, or to cause more concern for prospective licensees. The company has an outbound division where advisors monitor for portfolios they believe are worth pursuing for purchase. They may also monitor the patent filings at the U.S. Patent and Trademark Office to determine if there are any portfolios of certain interest to pursue. All of the company's patent portfolios contain U.S. patents among other country counterparts.

*Patent litigation and licensing fees*

The company has been involved in litigation a few times in the U.S., yet the executive interviewed indicates this rarely occurs or needs to happen. To determine if its patent claims are being infringed, the company uses its in house engineers to closely examine products, or

sometimes depending on the technology, they will outsource this function to a reverse engineering firm. In the event the company needs to solve disputes through the courts, outside counsel, local to that particular jurisdiction, and typically from Tier 1 firms, are employed. The company does not use contingent fee law firms, although they indicate this is beginning to change. The company may for example, conduct a hybrid payment model with law firms, for example, they might pay a certain sum in the beginning of the case and then a bonus at the end depending on how the case concludes.

A multi-step process is used to determine the company's licensing fees. First, the company's business and market research department closely examine the technology in question and previous licensing fees in the corresponding industry. They research the sales of particular technologies and the geographic areas of sales to determine if they have patent coverage in that area. The company also uses third party forecasts, annual reports and combines all this information to build licensing models. Sometimes they determine it is best to offer a license on a running royalty basis, while sometimes they offer licenses based on fixed fees or there can be combinations or several different licensing fee structures; it depends on the type of technology and the specific patent licensing deal. In 2011, 4% of the company's licensing fees were placed back into the flash memory research division of the company.

Although the company's business model has converted from mostly designing semiconductor chips and producing memory tests to a non-practicing model, the company still retains a research department where employees focus on inventing flash memory technologies, which has resulted in over 500 patent applications in recent years. Additionally, the company has entered into discussions with several other companies regarding creating partnerships to commercialize their flash memory research, although the company has no desire to incorporate commercialization into their business model or to become a product producing entity again independently.

## **Model Six**

### *Overview of the model*

This model represents a U.S. company that licenses patent portfolios on a large scale, consisting of various technology areas through a series of three funds: one fund, is devoted to buying patents (the 'buy' fund); another fund, is devoted to inventing (the 'inventing' fund); and a third fund, is devoted to partnering with research institutions globally to create and invest in inventions (the 'partner' fund). The private company, which was co-founded in 2000 by four former legal and technology executives, packages the patents from the three funds into portfolios, approximately 40,000 patents across 50 different technology areas, and licenses them. While most of the patents the company retains are from information technology sectors, the company also has patent assets relating to nuclear power, medical devices and fuels. The company has generated over two billion in cumulative licensing revenues from its various licensing programs. The interview was conducted with one of the company's founders.

### *Origin of the model and initial source of patents*

The company was formed based on a greater awareness that patents were available on the market and a growing belief that something should be done to monetize those patents and to create a market to invest in invention. Additionally, after the collapse of the tech bubble

there were many technology companies that ended in bankruptcy that still retained valuable intellectual properties that were looking to sell their IP and needed somebody to conduct deals on their behalf. A company from Silicon Valley called General Magic, which invented one of the very first computer tablets in the 1980s, and thus retained very valuable intellectual property in a number of technology areas, eventually ended in bankruptcy selling off their patents, some of which the company acquired. As such, the company's founders began approaching investors and convinced some of the world's largest telecommunications and I.T. companies to pool money together to invest in buying patents from the market, and in 2003, the company closed its first major buy and inventing deals with investors such as Sony, Nokia and Apple.

*Licensing structures and funding patent acquisitions and purchases*

Each of the company's three funds has its own set of investors, although each fund has a different management arrangement. Each fund monetizes its patent assets through a variety of licensing and partnership programs. The 'buy' fund model entails the company acquiring inventions from individual inventors, companies of all sizes, patent brokers and sellers and then compiling the patents into industry specific portfolios and licensing the patent rights. Of the three funds, the buy fund receives the highest amount of investment and has the most amount of people working on deals compared to the inventing and partner funds.

The 'inventing' fund model consists of the company collaborating with over 120 experts, scientists and engineers in the company's own invention lab where they focus on inventing technology-based solutions to critical problems, subsequently patenting those inventions. The 'partner' fund model consists of the company partnering with its global network of over 3000 inventors at more than 400 research institutions worldwide, assisting with the development, patenting and monetization of those inventions.

In determining which patents the company purchases, an in house team examines the market looking for potential valuable portfolios available (U.S. and international issued and pending patents & portfolios) that include patented technologies they are interested in to serve their current and future needs, for example portfolios containing cloud, semiconductor, security, energy and gaming technologies. Furthermore, the company may also purchase patents from patent owners they believe are underutilized and which they can better utilize. The company funds its patent purchases and acquisitions by using investors' money, usually invested for an initial 5-7 year period. Licensing revenues, which are generated over the life of a fund, are distributed back to investors. Patent purchase deals may be structured such as offering a certain amount up front to a patent owner and a percentage of the revenues generated later or only offering a larger amount upfront, or buying the patent right out completely, depending on the type of technology at issue and the parties involved.

The company purchases patents based on a combination of the technologies they need from the market and from people who approach the company looking to sell their patents, including patent brokers, universities and individual inventors. They purchase approximately 15% of the 35,000 patents they review annually. Sometimes patents are available only as packaged deals, therefore the company might have to buy ten patents to obtain the six they actually want, which is also the reason why only 40,000 out of their 70,000 patent assets are in active licensing programs. The company has bought patents from a wide array of inventors or patent owners including, individual inventors to Fortune 10

companies. Although the company might purchase a single patent, an individual patent alone is never asserted; only patent portfolios, usually consisting of thousands of patents are asserted. Furthermore, the company always retains control of all licensing decisions, and when necessary, all litigation decisions. The company has prosecuted over six thousand patent assets successfully.

Sometimes when the company invests in patent assets they will do so under a different name to retain their competitive advantage. Since the company began operating, it has invested a substantial amount of resources in researching and forecasting trends in technology sectors, which is pertinent information to the company's success. By using holding companies under various names, the company can house their patent investments more efficiently and effectively, mitigating risks and allowing for easier maintenance of their patent portfolios.

#### *Prospective licensees*

To determine prospective licensees, the company utilizes its in house team who are familiar with the patent portfolio to conduct market research to determine who would be a good customer for the corresponding technology in question. The company's current licensees include companies such as Blackberry, HTC, Micron, LG Electronics and Samsung. To determine the appropriate licensing fee, the company looks at trends in the industry and the history of the valuations, while in house teams analyze industry dependent factors. Licensing fees are also dependent upon how important the company's intellectual property holdings are to someone's products. In the event the value of an intellectual property right cannot be agreed upon with a prospective licensee, the company may decide that the disagreement needs to be decided through litigation. The company utilizes outside legal counsel in the event of litigation and may use contingent fee lawyers depending upon the law firm and what is the most appropriate decision under the particular circumstances.

The company does not commercialize the majority of its patented technologies, as they believe their expertise lies in conducting licensing programs and fostering invention through licensing rather than taking a product to market. Although, they have on a few occasions tried to commercialize certain technologies on a trial basis to test a particular market for a particular invention. The company tries to foster innovation through its market clearing mechanism; licensing programs that help customers avoid multiple business and legal costs, such as royalty stacking, through one licensing transaction, providing one place for the buying and selling of invention rights and providing the necessary invention rights available for licensing.

#### **4 Concluding remarks**

In the current knowledge economy, patents have clearly become much more than tools for exclusion and are no longer being utilized only in a traditional sense of providing for a solitary need of protecting innovations. The NPE business models explored in this study illustrate that strategic patent management, exploitation and enforcement has become even more complicated, interesting and in some circumstances, more questionable.

Certain NPE models may not only provide an additional channel to enforce patent rights but also facilitate the bringing together of essential patents that would otherwise be difficult to find and allocate to arrange all necessary licensing transactions (Lu, 2012). As

indicative in the models explored above, by conducting diligent market research NPEs may increase their chances of allocating the most appropriate patents to purchase or acquire that potentially will generate the most revenues. This may be indicative of a superior patent search and risk assessment characteristic on behalf of some NPE business models, while also suggesting a highly selective approach to the patent portfolios they choose to engage with. In offering patent enforcement and monetization services to clients, NPE business models create a value added element to the patent market. Patent owners who lack the resources to screen the patent landscape or accurately analyse their technologies have an additional channel to fulfill these activities by outsourcing this function to particular NPEs (Shrestha, 2010). The NPE models described above substantially reduce the risks of patent enforcement for individuals and companies that own patents by taking on the burden of funding search operations to analyze patents and to find prospective licensees, to negotiate licensing fees, and if necessary, to litigate patents and negotiate settlement agreements.

However, the only way NPE business models are going to be able to generate revenues is if they are successful at finding prospective licensees and securing royalty payments. As some of the models in the case study illustrate, large operating companies employ certain NPE models to enforce their patent rights and also to gain competitive advantages by tying their competitors in litigation to increase rivals' costs. This type of enforcement conduct raises concerns regarding the potential effects on innovation, namely that of competition and possible increased costs for affected industries (Bessen et al., 2011; Bessen and Meurer, 2012; Henkel and Reitzig, 2010; Lee, 2009; Pohlmann and Optiz, 2013). Moreover, threatening or bringing lawsuits if licensing fees cannot be agreed upon may potentially deter firms from further innovating due to the potential business disruption costs a legal dispute may bring (Jaffe and Lerner, 2004), however this occurrence is not exclusive to the NPE business model as a lawsuit may occur for other reasons besides that of an NPE. Ultimately, NPE business models need to be able to address the complexity of every patent transaction conducted as patents are highly context specific and multifarious, they are content specific and time and situation sensitive, while one day they may have significant value to one company, another day they may have no value at all.

The aim of this study is to illustrate how some NPEs engage in the strategic management, exploitation and enforcement of patent rights through varying business models to help provide a more accurate perspective on the NPE phenomenon, and widen our understanding of how some NPE business models precisely function. The study provides an inside view to the method of operations of some NPE business models and also provides a premise for future research as there remains much to be explored and uncovered about NPE business models. Just as patents are dynamic, so too are NPE business models, therefore we continuously need to revisit our assumptions about how and why patents are used, specifically regarding the potential opportunities they may provide for firms to earn revenues not only from their own intellectual properties from but also from the intellectual property rights of others.

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## Notes

- 1 Indeed, a few forward thinking product-producing companies in the 1980s and 1990s were already licensing their patent rights to earn revenues. Texas Instrument (T.I.), IBM and Xerox all shifted their corporate strategies to focus on licensing their IP. For more on the topic see Rivette and Kline (2000).
- 2 There is no negative connotation implied by the use of the NPE acronym. It is used solely as the term of art in the context of entities that do not use patents to produce or manufacture products or to conduct significant, if any, research, but rather use patents in other forms, mainly licensing, to generate revenues. I do not include universities/non-profits, start-ups and others who may seek to directly commercialize their technologies in referring to the term non-practicing entity (NPE) in this study.
- 3 'Revenues' in this sense refers to any patent-related-income which may be earned from patent licensing programs, settlement agreements, litigations/court awarded damages, patent sales, patent investments and other income related to the patent right; not from the commercialization of such patent right.
- 4 'Work' or 'use' of the patent right essentially means the actual use of the patented invention in the patent granting country. Some countries require patent owners to use or work the patent right within a specified time in the jurisdiction that it covers. The ways in which a patent holder satisfies the 'work' or 'use' requirement, if there is one, varies from country to country. A rare exception where a patentee may be forced to use or practice his patented technology is by compulsory licensing; according to Article 5(A)(2) of the Paris Convention 'Each country of the Union shall have the right to take legislative measures providing for the grant of compulsory licenses to prevent the abuses which might result from the exercise of the exclusive rights conferred by the patent, for example, failure to work.'

- 5 The primary data source includes interviews, while secondary data sources include case law decisions, E.U. and U.S. patent laws, industry publications and company reports, including earning calls, annual reports, company websites, company news releases and company presentations.
- 6 The 7<sup>th</sup> Annual European Policy for Intellectual Property Conference Leuven, Belgium 2012. Two cases were criterion selected and four were snowball selected.
- 7 The models are presented in no particular order. The interview data presented is the opinion of the interviewee and does not necessarily reflect the opinion of the author.
- 8 The Leahy-Smith America Invents Act (AIA) limited when a plaintiff may sue multiple defendants for patent infringement in a single lawsuit. A claim must relate to or arise out of the 'same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, or selling of the same accused product or process...' 35 U.S.C § 299(a)(1). The rationale behind this move was to increase the litigation costs for NPEs by requiring them to initiate independent proceedings for each claim they wished to sue over; essentially, in efforts to reduce the number of litigations NPEs may bring.

**RESEARCH PAPER II:**

**LEGAL IMPLICATIONS OF THE EUROPEAN AND UNITARY PATENT  
SYSTEMS FOR NON-PRACTICING ENTITY PATENT ENFORCEMENT IN  
EUROPE**

(Peer-reviewed)

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## CHAPTER 8

# Enforcement: Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe

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## §8.01 INTRODUCTION

The current two-tiered state of national and European patent grant and enforcement procedures creates some limitations for patent enforcement by non-practicing entities (NPEs) in Europe. NPEs, sometimes pejoratively referred to as ‘patent trolls’,<sup>1</sup> are generally considered to be individuals or entities that create business models exclusively focused on the enforcement of patents to generate profits.<sup>2</sup> In the current European IP landscape, the European Union (EU) generally relies on its Member States’ procedures and institutions for the grant, maintenance and enforcement of patent rights due to the absence of its own centralized enforcement mechanism.<sup>3</sup> At the

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1. See generally J. Bessen, J. Ford & M. Meurer, ‘The Private and Social Costs of Patent Trolls’, *Boston University School of Law Working Paper No. 45*, (2011); and C. Chien, ‘Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents’, *North Carolina Law Review* 87 (2008/9).
2. See generally D. Schwartz & J. Kesan, ‘Analyzing the Role of Non-Practicing Entities in the Patent System’, *Cornell Law Review* 99 (2014); M. Risch, ‘Patent Troll Myths’, *Seton Hall Law Review* 42, no. 2 (2012); and K. Larson, ‘An Inside View to Non-Practicing Entities Business Models: A Case Study’, *International Journal of Intellectual Property Management* 6 (2013).
3. T. Jaegar, ‘The Framework for IP Rights Enforcement in the EU’, in *The Enforcement of Intellectual Property Rights: Comparative Perspectives from the Asia-Pacific Region*, ed. C. Antons (The Netherlands: Kluwer Law International BV, 2011), 48.

national level, competent national authorities of European Member States handle the grant and enforcement of patent protection, while at the European level, the European Patent Office (EPO) undertakes a similar role in dealing with patent applications and administrative enforcement procedures. In reality, however, a European patent granted by the EPO is not a single patent but rather made up of a bundle of national patent rights that are validated, and if necessary, subsequently enforced separately in each corresponding Contracting Member State. Thus, the two-tiered system of national and European patent grant and enforcement procedures results in a fragmented European patent landscape, where heterogeneous characteristics of each patent system potentially complicate legal aspects of patent enforcement; parallel patent litigations might take place in various national courts with proceedings conducted in different languages presided over by judges with varying backgrounds, cultures, attitudes and levels of patent expertise. Moreover, conflicting judgments might be given on the same-patented invention, increasing legal uncertainty of the patent and potentially distorting the patent's quality, as the patent may be valid and enforceable in one European country yet invalid and unenforceable in a neighbouring European country.

The fragmented European IP landscape complicates not only legal aspects of securing and enforcing patents but also economic aspects.<sup>4</sup> Incumbent expenses related to enforcing patents include seeking appropriate legal advice, procedural and translation costs in addition to expenses such as maintenance fees, infringement search costs, and if necessary litigation costs.<sup>5</sup> Accordingly, the costs of applying for patent protection and individually validating, maintaining and litigating patents in corresponding Member States may be highly prohibitive. Consequently, the current fragmented IP landscape in Europe is expensive, time consuming and full of legal uncertainties for patent proprietors such as NPEs who require efficient patent enforcement procedures to facilitate the effectiveness of their patent enforcement business models.

While literature sheds light on some NPE activity in Europe,<sup>6</sup> the NPE phenomenon has been, thus far, predominately concentrated in the United States where a larger more unified patent marketplace exists and where damage awards may be substantial in comparison to other parts of the world.<sup>7</sup> However, with the introduction

4. J. Danguy & B. van Pottelsberghe de la Potterie, 'Economic Cost Benefit Analysis of the Community Patent', Report for the European Commission DG Internal Market (2009).

5. M. Mejer & B. van Pottelsberghe de la Potterie, 'Economic Incongruities in the European Patent System', European Center for Advanced Research in Economics and Statistics Working Paper No. 003 (2009). According to Mejer and van Pottelsberghe de la Potterie, despite the London Agreement, which aims at reducing translation costs, a European patent is still five times more expensive than a US patent.

6. C. Helmers & L. McDonagh, 'Trolls at the High Court?' London School of Economic Law Society and Economy Working Paper No. 13 (2012); B. Love, C. Helmers & L. McDonagh, 'Is There a Patent Troll Problem in the U.K.?', *Fordham Intellectual Property Media & Entertainment Law Journal* 24 (2014); and D. Geradin, A. Layne-Farrar & A. Jorge Padilla, 'Elves or Trolls? The Role of Non-practicing Patent Owners in the Innovation Economy', Tilberg University Discussion Paper No. 18 (2008).

7. S. Fusco, 'Markets and Patent Enforcement: A Comparative Investigation of Non-Practicing Entities in the United States and Europe', *Michigan Telecommunications and Technology Law Review* 20 (2014); A. Kur & T. Dreier, *European Intellectual Property Law Text, Cases & Materials*

of a believed to be much more efficient unitary patent system, Europe may become a more attractive jurisdiction for NPEs and their patent enforcement programmes in the future. A unitary patent system that will manage the single application and grant of a unitary patent right enforceable in the specialized Unified Patent Court (UPC), will theoretically make it more efficient for NPEs to not only secure broad geographical patent protection in Europe but to also enforce patents more efficiently compared to the current fragmented national and European patent systems.<sup>8</sup> For it is believed that such unitary patent system will reduce the overall costs of European patent protection, simplify the complex web of country-to-country patent litigation and increase legal certainty.<sup>9</sup> Thus, the unitary patent system may become highly desirable for NPEs given the current complex, expensive and time-consuming state of the fragmented national and European patent grant and enforcement procedures in Europe.

However, as developments continue regarding the ratification and implementation of the unitary patent system many uncertainties still remain. The fees for using the new unitary patent system including court and unitary patent renewal fee levels have yet to be publicized, while rules regarding the grant of injunctions by the UPC are still unclear, while furthermore, the details of the UPC rules of procedure are still being scrutinized. Moreover, the unitary patent system will be an entirely new system in addition to the national and European patent routes that already exist, and in the future individuals and businesses will be able to use all three systems simultaneously. Consequently, this tri-level structure of European patent systems may further complicate rather than mitigate matters in patent use and enforcement.<sup>10</sup> The new unitary patent system potentially creates some unknown legal and business risks and it is uncertain whether industry will embrace the new system once it enters into force. Many businesses currently already have effective strategies in place for using national and EPO routes for securing patent protection and for patent litigations. It is possible that companies may not be willing to alter those strategies or they might oppose notions that threaten to disrupt them. If businesses ultimately choose not to use the new system, there likely will be no use for such unitary patent system in Europe. Accordingly, the unitary patent system will not only have implications for European entities but also for non-EU entities and there will be a tremendous influence on the

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(Cheltenham: Edward Elgar, 2013), 85; Damage awards may be substantial in the US legal system due to the inclusion of 'treble damage' awards. In patent infringement cases, for example, the court may increase the damages up to three times the amount found or assessed. 35 U.S. Code § 284.

8. The unitary 'patent package' is the legislative initiative that lays the groundwork for unitary patent protection in Europe. It consists of: Regulation (EU) 1257/2012 of 17 Dec. 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection [2012] OJ L 361/1 (hereinafter Unitary Patent Regulation 1257/2012); Regulation (EU) 1260/2012 of 17 Dec. 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements [2012] OJ L 361/89; and the Agreement of a Unified Patent Court (hereinafter UPC Agreement), [2013] C 175/1.
9. Recital 4 Unitary Patent Regulation 1257/2012; European Commission website document, 'Increasing the Competitiveness of the EU', [http://ec.europa.eu/internal\\_market/indprop/patent/faqs/index\\_en.htm](http://ec.europa.eu/internal_market/indprop/patent/faqs/index_en.htm), 22 Sep. 2014.
10. B. van Pottelsberghe de la Potterie, 'Patent Fixes for Europe', *Nature* 467 (2010): 395.

patenting strategies patent applicants exercise in securing and enforcing patent rights in Europe.

NPEs may be interested in using the unitary patent system based on the legal implications of the *unitary effect* of the patent, which provides wide territorial effect believed to cover most EU countries and a unified enforcement procedure. The unitary effect of the patent will bind decisions on patent infringement and validity directly throughout participating Member States. Thus, one of the most notable legal implications of the unitary patent system will be the availability of an (unitary) patent injunction that will ban unlicensed products containing the patented technology from most of the European market.<sup>11</sup> This powerful legal and economic tool may be used by NPEs as leverage in their patent enforcement initiatives to increase their bargaining position in negotiating beneficial licensing or settlement terms in patent disputes.<sup>12</sup>

Accordingly, it would be valuable to further examine the potential legal implications of the unitary patent system for NPE patent enforcement in Europe, as a closer examination of such legal implications may reveal insightful knowledge not only for European IP policy makers, but also for those who will actively participate in the new system, namely European and international businesses. This examination may also be beneficial for national and international companies and organizations which own and use patents to become aware of how NPEs may utilize the new system, not only to take into consideration any precautions that might be necessary regarding potential NPE patent assertions, but also for any potential opportunities NPEs may be able to provide firms, such as patent monetization and enforcement services under the new unitary system. This examination also helps lay the groundwork for future empirical analysis on NPE patent enforcement in Europe once the new unitary patent system is operational. Still, a comprehensive understanding of the legal implications of the unitary patent system is not feasible without first having a clearer perception of the current European patent system and its legal implications for NPE patent enforcement, not least to extrapolate any potential key variances that may be uncovered regarding the two patent systems for NPE patent enforcement in Europe. As such, the aim of this contribution is to further our knowledge on the NPE phenomenon specifically in Europe by considering the legal implications of the current European patent system and the proposed unitary patent system for NPE patent enforcement in Europe. The remainder of the chapter is as follows: first, some background information on NPE patent enforcement will be introduced along with a brief discussion on some salient features of NPE business models. Next, the legal implications of the European patent system for NPE patent enforcement in Europe will be discussed. Finally, potential legal implications of the unitary patent system for NPE patent enforcement in Europe will be explored followed by some concluding remarks.

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11. Articles 62, 63 UPC Agreement.

12. L. Fishwick, 'Mediating with Non-practicing Entities', *Harvard Journal of Law and Technology* 27 (2013): 336.

**§8.02 NON-PRACTICING ENTITY PATENT ENFORCEMENT****[A] The *Modus Operandi* of NPE Business Models**

NPEs rely on the exclusive nature of patent rights for their business models to function. Owning the exclusive *negative* right to exclude others from making, using, selling, storing or importing a patented invention permits an NPE to initiate enforcement actions against alleged infringers. There is a multitude of varied business models of patent enforcement that NPEs employ. For example, some models include the sourcing and procuring of patent rights to be enforced by a single NPE independently, to stock listed corporations that focus on constructing massive patent portfolios for licensing purposes, to those that purchase large quantities of patent portfolios to sell for defensive reasons.<sup>13</sup> Furthermore, there are also models that focus mainly on enforcing patent rights for third parties, in addition to those focusing on trying to invent and patent innovative products for the future in anticipation that the invention will eventually become highly desired by consumers and valued in a particular market.<sup>14</sup>

Typically, before a particular patent or patent portfolio is sought, an analysis by the NPE of potential infringers or prospective licensees is carried out. Prospective licensees may range from those clearly infringing the patent to those who will eventually need to take a license on the patented invention in the future.<sup>15</sup> Generally, once a prospective licensee is identified, contact is made and licensing negotiations are initiated, and if successful, the NPE begins collecting royalty fees in due time. In the event that licensing negotiations breakdown or cannot be concluded satisfactorily an NPE might decide to commence patent infringement litigation proceedings.<sup>16</sup> NPEs try to generate revenues through various means in their patent enforcement initiatives. Generally, the most common way NPEs generate revenues is by negotiating licensing agreements with prospective licensees and then collecting royalty payments from such agreements. Other means of generating revenues include awarded court ordered damages from successful patent infringement litigations, enforcing patent rights on behalf of third parties, entering into agreements with other firms to enforce patent rights together, and by selling superfluous patents back to a technological marketplace.<sup>17</sup> Searching for and purchasing (potentially) valuable patents to enforce, in addition to conducting patent due diligence and searching for prospective licensees is

13. Larson, *An Inside View*, 299; Tim Pohlmann & Mariek Opitz, 'Typology of the Patent Troll Business', *R&D Management* 43 (2013).

14. T. Ewing, 'Indirect Exploitation of Intellectual Property Rights by Corporations and Investors', *Hastings Science & Technology Law Journal* 4 (2011); J. Golden, 'Patent Privateers: Private Enforcement's Historical Survivors', *Harvard Journal of Law and Technology* 26 (2013); and Larson, *An Inside View*, 299.

15. Larson, *An Inside View*, 299.

16. *Ibid.*, 297.

17. T. Fischer & J. Henkel, 'Patent Trolls on Markets for Technology – An Empirical Analysis of NPEs' Patent Acquisitions', *Research Policy* 41 (2012); M. Reitzig, J. Henkel & C. Heath, 'On Sharks, Trolls and Patent Prey – Unrealistic Damage Awards and Firms' Strategies of 'Being Infringed'', *Research Policy* 36 (2007); see generally Larson, *An Inside View*; and Ewing, *Indirect Exploitation*.

time consuming and costly. Thus, it is in the best interest for NPEs to ensure that the patents and patent portfolios they own and enforce are of the utmost quality to increase the probability of succeeding in licensing and litigation campaigns, in addition to surviving potential patent validity challenges.

### **[B] Asymmetrical Advantages**

What makes the NPE phenomenon a fascinating and topical research focus, and a potential concern for many of those who use patents in commerce, is the influential asymmetrical advantages that NPEs enjoy. Arguably, the most significant asymmetrical advantage that NPEs enjoy is their typically immune position from (counter-assertion) patent infringement claims.<sup>18</sup> As NPEs typically neither produce nor manufacture products but instead focus mainly on licensing patent rights, a patent infringement claim against an NPE is likely going to be ineffective since by not making or selling products there is essentially nothing for an NPE to be infringing upon. For this reason, NPEs are also not interested in cross licensing arrangements as third party protected technology is not needed to manufacture products.

Moreover, NPEs profoundly change the economics of patent enforcement and litigation by using economies of scale in their patent enforcement assertions. They often enforce the same patent, in the same venue, against multiple alleged infringers, and use contingency fee lawyers to keep their enforcement costs low.<sup>19</sup> Furthermore, NPEs have fewer concerns regarding potential business disruptions that may occur during litigation proceedings, such as time constraints in allocating and submitting pertinent documents, redirecting time and resources away from other key areas of the business, reputational and public image concerns, and spending resources on litigation opposed to further research and development initiatives.<sup>20</sup> Some view NPEs as controversial entities arguing that by not using patents to create and build new products but rather to only enforce them to generate revenues, NPEs allegedly contribute nothing to technological innovation or society.<sup>21</sup> However, appreciatively, there are other views highlighting the potential benefits NPEs may provide, such as the development and maturation of a secondary market for patents,<sup>22</sup> and enforcement services for patent owners that lack the financial wherewithal to enforce their patents independently.<sup>23</sup>

18. Chien, *Of Trolls, Davids, Goliaths, and Kings*, 1571, 1577; C. Chien, 'Patent Assertion Entities', Presentation to the US Department of Justice/Federal Trade Commission Hearing on PAEs (2012).

19. Chien, *Patent Assertion Entities*, presentation.

20. C. Chien, 'From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System', *Hastings Law Journal* 62 (2010): 318.

21. For example, see M. Liang, 'The Aftermath of TS Tech: The End of Forum Shopping in Patent Litigation and Implications for Non-Practicing Entities', *Texas Intellectual Property Law Journal* 19 (2010): 29, 37.

22. A. Kelley, 'Practicing in the Patent Marketplace', *The University of Chicago Law Review* 78 (2011); and Fusco, *Markets and Patent Enforcement*, 439.

23. Larson, *An Inside View*, 299.

**§8.03 LEGAL IMPLICATIONS OF THE EUROPEAN PATENT SYSTEM FOR NON-PRACTICING ENTITY PATENT ENFORCEMENT**

**[A] *Positive Legal Implications of the European Patent System for Non-practicing Entity Patent Enforcement***

The current European patent system provides flexibility in allowing patent proprietors such as NPEs to selectively choose particular European markets which to obtain patent protection from. The option to choose several Member States in which to seek patent protection from (and subsequently validate the patent in) may help in reducing some of the consequences related to the probabilistic nature of patent rights.<sup>24</sup> As patents contain several elements of uncertainty (e.g., uncertain scope and validity), in the event an NPE's patent's validity is challenged successfully and revoked in one Member State, the patent may yet still be able to withstand a validity challenge in another Member State. The option of being able to secure patent protection from several Member States through the EPO (European) route thus may help NPEs to retain at least some patents that may be enforced to potentially generate revenues. Furthermore, it may be more economical to secure patent protection from the EPO compared to securing patent protection from different Member States individually. Depending on the technology and how many Member States patent protection is sought from, the cost of obtaining patent protection for several jurisdictions across Europe (typically 3–4) is generally lower through the EPO route compared to obtaining protection from three to four Member States individually.<sup>25</sup>

European patent protection granted by the EPO system influences NPE patent enforcement mainly through the enforcement mechanisms in specific Member States' legal systems. As patent protection secured from the EPO requires patent proprietors to validate and subsequently enforce patent rights separately in designated Contracting Member States, NPEs will likely seek distinct national legal systems for any potential advantages that might be available regarding the monetization and enforcement of patents. NPEs may be interested to commence patent litigations in key European markets which receive the most patent litigation in Europe such as the UK, Germany, France and the Netherlands,<sup>26</sup> (with German courts hearing the largest amount of patent disputes by far<sup>27</sup>) to take advantage of any specialized procedures or efficiencies these jurisdictions may provide for in enforcement proceedings. The German and

24. M. Lemely & C. Shapiro, 'Probabilistic Patents', *Journal of Economic Perspectives* 19 (2005).

25. L. Hallenborg, M. Ceccagnoli & M. Clendenin, 'Intellectual Property Protection in the Global Economy', in *Technological Innovation: Generating Economic Results*, eds. G. Libecap and M. Thursby (Oxford: Elsevier, 2008), 85.

26. Mejer & van Pottelsberghe de la Potterie, *Economic Incongruities*, 4; S. Graham & N. van Zeebroeck, 'Comparing Patent Litigation Across Europe: A First Look', *Stanford Technology Law Review* 17 (2014); see T. Wessing 'Global Intellectual Property Index 4th Report 2013', <http://sites.taylor-wessing.vuturvx.com/12/590/landing-pages/gipi3-report-request-form.aspx> > , 16 Sep. 2014.

27. K. Cremers et al., 'Patent Litigation in Europe', Center For European Economic Research Discussion Paper No. 072 (2013).

Dutch jurisdictions are relatively known for their low cost and efficient court systems for litigation proceedings.<sup>28</sup> Quick judicial decisions help keep NPE enforcement costs low and allow them to swiftly move onto their next prospective licensing campaign. In France, it is possible to be held criminally liable for patent infringement.<sup>29</sup> The possibility of criminal liability for patent infringement may be enough to deter alleged infringers from litigating patent disputes in the courtroom and instead enter into settlement agreements. While in the UK, the high costs of litigation may also deter alleged infringers from contesting patent disputes through the courts,<sup>30</sup> potentially increasing the leverage for NPEs to negotiate auspicious settlement terms.

Furthermore, some national legal systems include unique enforcement mechanisms that may be advantageous for NPEs in their patent enforcement initiatives. The German legal system includes a bifurcation procedure in litigation proceedings where actions for patent infringement and patent validity are separated into independent courts and presided over by different judges.<sup>31</sup> The bifurcation procedure is a positive legal implication for NPEs as decisions regarding infringement and validity are decided independently thus allowing time for a positive finding of infringement to be potentially determined first before the question of validity is decided. In practice, the finding of a positive infringement decision first before the question of validity is decided allows time for an NPE to apply for and possibly be granted an injunction barring products from important commercial markets in Europe such as Germany. NPEs might use an injunction (or the threat of an injunction) as leverage to drive the defendant into settling patent licensing disputes at favourable terms.

However, it is noted that in the bifurcation procedure, it is still possible after a positive decision for infringement has been made and an injunction has been granted, that the patent may subsequently be found invalid.<sup>32</sup> It is thus crucial for effective NPE patent enforcement that infringement and injunction decisions are made quickly in order for NPEs to have as much time as possible to use the injunction to pressure the alleged infringer into settling before any potential nullity action can be commenced and the patent determined invalid. Yet, the time between a positive finding of infringement, an injunction being granted, and a later decision invalidating the patent (known as the injunction gap)<sup>33</sup> may still be enough time for NPEs to temporarily enforce the patent and cause serious disruption to the alleged infringer's business. The bifurcation procedure may also reduce the likelihood that alleged infringers, particularly resource

28. D. Harhoff, 'Economic Cost Benefit Analysis of a Unified and Integrated European Patent Litigation System', Final Report for the European Commission Tender No. MARKT/2008/06/D (2009), 13.

29. European Patent Academy Study (European Patent Office), 'Patent Litigation in Europe An Overview of National Law and Practice in the EPC Contracting States', 3rd edition (2013), [http://www.eplit.eu/files/downloads/patent\\_litigation\\_in\\_europe\\_2013\\_en.pdf](http://www.eplit.eu/files/downloads/patent_litigation_in_europe_2013_en.pdf), 7 Oct. 2014.

30. Harhoff, *Economic Cost Benefit Analysis*, 13.

31. K. Creemers et al., 'Invalid but infringed? An Analysis of Germany's Bifurcated Patent Litigation System', Center for European and Economic Research Discussion Paper No. 14-072 (2014).

32. *Ibid.*

33. *Ibid.*, 2.

constrained firms, challenge an NPE's patent validity as this requires a separate legal action to be filed thus increasing the defendant's costs.<sup>34</sup>

Furthermore, NPEs may search for the most patentee-friendly court venues available or at least the most inconvenient venue for their defendant in initiating their enforcement campaigns. Germany appears to be a popular jurisdiction not only for the number of NPEs operating per European country,<sup>35</sup> but also because of the numerous benefits the German system seemingly provides for NPE patent enforcement: the bifurcation procedure, the relatively inexpensive and efficient litigation proceedings, the availability of injunctions, and one of the most important commercial product markets in Europe.<sup>36</sup> For a summary of the positive legal implications of the European patent system for NPE patent enforcement see Table 8.1.

**[B] Negative Legal Implications of the European Patent System for Non-practicing Entity Patent Enforcement**

The current European patent system consists of several negative legal implications for NPE patent enforcement. To obtain European patent protection, the patent proprietor is required to complete a validation process in designated Contracting Member States within a specific time limit to retain the patent's protective effect and enforceability. The validation process will vary depending on the Member State in which protection is sought. Generally, for a number of Contracting Member States, NPEs may have to file language translations of the patent specification into an official language of the national patent office, pay related translation fees in addition to paying yearly renewal fees to individual Member States where the patent is validated. Furthermore, the myriad of nuances among national enforcement systems makes the rules of patent litigation unique in every country. This poses challenges for NPE patent enforcement as decisions must be made according to individual local/national laws, customs and business culture. This fragmented enforcement landscape increases the costs for NPEs in the enforcement of their patents by requiring them to engage in country-to-country litigation.

Furthermore, during the first nine months after the patent has been granted by the EPO, anyone can start an opposition procedure at the EPO to have a patent right annulled in all validated designated countries. After this nine-month period, there is the possibility that the patent may not stand a validity challenge in one Member State but will be upheld in another Member State; divergent decisions on patent validity may affect the overall quality and therefore the value of the patent an NPE enforces. Moreover, the time, length and costs of litigation proceedings may vary between Member States in addition to any judicial and litigation cultural differences that might exist. These issues increase the complexity of patent enforcement for NPEs under the current European patent system.

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34. *Ibid.*

35. Fusco, *Markets and Patent Enforcement*, 452.

36. European Patent Academy Study, *Patent Litigation in Europe*, 26.

Another negative legal implication of the current European patent system for NPE patent enforcement includes the generally low level of damages awarded in patent infringement cases compared to the US jurisdiction.<sup>37</sup> In the US, ‘treble damages’ may be awarded where the court can increase the infringement damage award up to three times the original amount assessed.<sup>38</sup> As such, NPEs may find that it is more profitable to conduct their patent enforcement initiatives mainly in the US jurisdiction due to the possibility of obtaining ‘treble damage’ awards. Furthermore, Europe’s legal character of requiring the unsuccessful party in litigation proceedings to pay the costs of the successful party (loser pays system) is a particularly negative implication in the event an NPE is unsuccessful in patent litigation proceedings.

In some European countries, patent owners may apply for a declaration of non-infringement, which is a legal determination of a court that resolves uncertainty surrounding possible infringement for a party involved in an actual or potential future legal matter. Some parties may apply for a declaration of non-infringement as a defence to an NPE patent infringement claim in a particular Member State concerned. Recently, however, a UK Court granted a declaration of non-infringement in respect of not only the UK designation of the European patent but also the French, Italian and Spanish designations of the European patent.<sup>39</sup> Such pan-European declarations of non-infringement will make NPE patent enforcement much more difficult if they are to become part of common practice among court decisions in Europe. This significant decision essentially means that a prospective licensee may potentially be able to block an NPE’s license request or patent infringement claim in several European countries by applying for such (pan-European) declaration of non-infringement from one court. For a summary of the negative legal implications of the European patent system for NPE patent enforcement see Table 8.1.

*Table 8.1 Summary of the Positive and Negative Legal Implications of the European Patent System for NPE Patent Enforcement*

	
Flexibility; option to focus on specific key European markets (Germany, UK, France, The Netherlands)	No centralized enforcement procedure
Less expensive than obtaining individual national patent protection if require protection in at least 3-4 jurisdictions	High costs of Enforcement; country-to-country litigation, translation and renewal fees

37. Fusco, *Markets and Patent Enforcement*, 454.

38. 35 U.S. Code § 284.

39. *Actavis UK Ltd & Ors v. Eli Lilly & Company* [2014] EWHC 1511 (Pat).

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Patent may survive validity challenges in at least one jurisdiction Bifurcation procedure in Germany	Time and length of litigation proceedings may vary Strong opposition proceedings Member State judicial/litigation cultural differences Patent may be decided valid and enforceable in one country, yet invalid and unenforceable in another country Low damage award levels compared to US Loser pays system Potential for Pan-European declaration of non-infringement
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**§8.04 POTENTIAL LEGAL IMPLICATIONS OF THE UNITARY PATENT SYSTEM FOR NON-PRACTICING ENTITY PATENT ENFORCEMENT**

**[A] Potential *Positive* Legal Implications of the Unitary Patent System for Non-practicing Entity Patent Enforcement**

The proposed unitary patent system will create a European unitary patent right that will have legal effect in participating Member States and will be implemented alongside the already existing national and EPO patent systems in Europe. In the future, patent proprietors such as NPEs will have the choice of using three different patent systems for the European jurisdiction. The new system is expected to make securing patent protection easier, less costly and more legally secure by providing uniform patent protection across participating Member States. The application and grant procedure for a unitary patent will remain the same as for a European patent granted by the EPO. However, within one month of the mention of the grant in the European Patent Bulletin the patent proprietor may request *unitary effect* be added to the patent right transforming it into a single object of property with legal effect across all participating Member States.<sup>40</sup> There will be no further validation process or translation fees required.<sup>41</sup> A single specialized unified patent court (UPC) will provide uniform protection, and crucially, a centralized enforcement system for unitary patent disputes and eventually European patents.<sup>42</sup> The unitary effect of the patent also means that infringement and revocation proceedings will be decided for the unitary patent as a whole rather than for each European country individually.

In theory, there are several potential positive legal implications of the unitary patent system for NPE patent enforcement. The unitary patent system will provide an

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40. Recital 18 Unitary Patent Regulation (EU) No. 1257/2012.

41. Although a patent owner may have to pay translation fees depending on the language of proceedings at different local and regional divisions of the Court of First Instance. Arts 49, 50, 51 UPC Agreement.

42. Article 1 UPC Agreement.

additional channel for NPEs to enforce patent rights to potentially generate revenues. The wide territorial effect of a unitary patent will undoubtedly be attractive for NPEs in providing broad patent protection covering most EU countries in a single application. The licensing of the unitary patent right will remain at the national level, thus NPEs will have the opportunity to license their unitary patents to prospective licensees in up to twenty-five Member States which may help to increase their revenues.<sup>43</sup> The wide territorial effect of the patent may be used as leverage by NPEs to negotiate an increased amount for licensing fees, and may also potentially increase the amount of damages awarded in infringement litigations.

Moreover, NPEs may be able to take advantage of the UPC's rather complex structure. Multiple local and regional divisions of the Court of First Instance will provide the opportunity for NPEs to forum shop for the most attractive, patentee-friendly courts or at least to choose a venue that is likely the most inconvenient for a defendant. The geographical distances of the local or regional divisions, and/or potential language differences may also increase costs for defendants and further promote a favourable settlement. Accordingly, NPEs will be able to bring actions for actual or threatened patent infringement and injunctions before:

- (a) the local division hosted by the Contracting Member State where the actual or threatened infringement has occurred, or may occur, or the regional division in which the Contracting Member State Participates;<sup>44</sup>
- (b) the local division hosted by the Contracting Member State where the defendant, or in case of multiple defendants, one of the defendants has its residence, or principal place of business, or place of business, or the regional division in which that Contracting Member State participates;<sup>45</sup>
- (c) if the defendant resides outside of the Contracting Member State, actions shall be brought before the local or regional division where the actual or threatened infringement has occurred or may occur, or if that Contracting Member State does not host a local or participate in a regional division, then actions shall be brought before the Central division.<sup>46</sup>

Furthermore, at the discretion of the Court, it will be possible for NPEs to join multiple parties into one infringement action if the defendants have a commercial relationship and where the action relates to the same alleged infringement.<sup>47</sup> This is a positive legal implication for NPEs as joining multiple parties in one infringement suit allows NPEs to take advantage of economies of scale in their patent enforcement initiatives, facilitating cheaper and more efficient patent enforcement.

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43. Twenty-five European Member States currently participate in 'enhanced cooperation' on the unitary patent protection.

44. Article 33(1)(a) UPC Agreement.

45. Article 33(1)(b) UPC Agreement.

46. Article 33(1)(b) UPC Agreement.

47. Article 33(1)(b) UPC Agreement.

Interestingly, and depending on the Member State, there will also be the possibility for a bifurcation procedure under the UPC.<sup>48</sup> Actions for the invalidity of patents, a common defence against NPE patent infringement assertions, may be brought in the case of an action for infringement (actions for actual or threatened infringements of patents) in the local or regional division which has the discretion to either:

- (a) proceed with both the action for infringement and with the counterclaim for revocation and request the President of the Court of First Instance to allocate a technically qualified judge in the field of technology concerned;
- (b) refer the counterclaim for revocation to the central division and suspend or proceed with the action for infringement (bifurcation procedure);
- (c) with the agreement of the parties, refer the case to the central division.<sup>49</sup>

As mentioned above, the bifurcation procedure is advantageous for NPEs in their patent infringement campaigns as it potentially allows for a positive finding of infringement to be decided first, and an injunction to be possibly granted, before the question of validity is decided potentially banning the defendants unlicensed products from being manufactured and sold in up to twenty-five European Member States. Moreover, applicants that reside outside of the participating UPC Member States will have their unitary patent treated as a national patent of the State where the EPO has its headquarters, which is Germany.<sup>50</sup> This may result in a positive legal implication for NPEs as infringement actions can then be brought against defendants in Germany's local division of the Court of First Instance which may utilize the bifurcation procedure, in addition to Germany's efficient procedures for patent litigation proceedings.

Another potential positive legal implication of the unitary patent system on NPE patent enforcement relates to the declaration of non-infringement which parties may use to defend against an NPE patent infringement claim. An action for the declaration of non-infringement pending before the central division shall be stayed once a patent infringement action between the same parties (or between the holder of an exclusive license and the party requesting a declaration of non-infringement relating to the same patent) is brought before a local or regional division within three months of the date on which the action was initiated before the central division.<sup>51</sup> This essentially means that in the event a party files an action for a declaration of non-infringement against an NPE, the NPE can stop the declaration action from continuing by filing an infringement action within three months of the date of the declaration for non-infringement action. This positive legal implication allows NPEs to pre-empt a ruling of a declaration of non-infringement and proceed with their infringement action facilitating their patent enforcement initiatives to potentially generate revenues.

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48. Article 33(3)(b) UPC Agreement.

49. Article 33(3)(a)(b)(c) UPC Agreement.

50. Article 7(3) Unitary Patent Regulation (EU) No. 1257/2012.

51. Article 33(6) UPC Agreement.

A further potential positive legal implication of the unitary patent system for NPE patent enforcement is the ability for an NPE to avoid a patent validity challenge by bringing enforcement actions through licensees. The validity of a patent cannot be challenged in an action for infringement brought by the holder of a license where the patent proprietor does not take part in the proceedings.<sup>52</sup> Unless the licensing agreement states otherwise, an exclusive licensee may bring actions before the UPC under the same circumstances as the patent proprietor provided that he is given prior notice.<sup>53</sup> Thus, if a party in the action for infringement wants to contest the validity of the patent he shall have to bring a separate action against the patent proprietor in the central division raising his defence costs.<sup>54</sup>

Furthermore, another potential positive legal implication of the unitary patent system for NPE patent enforcement may be found from Recital 15 of the Unitary Patent Regulation regarding the licensing of patents. In order to promote and facilitate the economic exploitation of the patented invention, if the patent owner files a statement with the EPO that he is willing to grant a license in return for appropriate consideration he will benefit from a reduction in renewal fees.<sup>55</sup> Thus, an NPE may notify the EPO that he would be willing to license his patent for appropriate consideration to receive a discount on annual unitary patent renewal fees. This positive legal implication possibility helps NPEs to keep their patent enforcement and maintenance fees low facilitating their patent enforcement initiatives in generating revenues.

Moreover, a transitional period of seven years after the date of entry into force of the UPC Agreement provides for another potential positive legal implication of the unitary patent system for NPE patent enforcement.<sup>56</sup> An opt-out option allows an NPE to remove any European patents (not unitary patents) they may have under the jurisdiction of the UPC before the end of the seven-year transitional period essentially placing them back under the jurisdiction of national courts. This allows NPEs the opportunity to strategically decide the more beneficial system – the unitary patent system or national systems – in which to enforce their European (EPO granted) patents. An NPE may first assess how the enforcement of their European patents fare under the jurisdiction of the UPC, while later (up to the seven year transitional period), if it seems to be more advantageous to enforce them through national systems they may choose to opt-out those patents (although likely for a fee) where they will then fall under national jurisdiction for enforcement purposes.

Further potential positive legal implications of the unitary patent system for NPE patent enforcement include the five-year limitation period to bring actions relating to all forms of financial compensation under the UPC.<sup>57</sup> Generally, this allows NPEs to bring actions for infringement damages five years from the date of becoming aware of the infringement, which is a lengthier limitation period found from some national

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52. Article 47(5) UPC Agreement.

53. Article 47(2) UPC Agreement.

54. Articles 33(4), 47(5) UPC Agreement.

55. Recital 15 Unitary Patent Regulation (EU) No. 1257/2012.

56. Article 83 UPC Agreement.

57. Article 72 UPC Agreement.

systems, including that of key European patent litigation jurisdiction Germany.<sup>58</sup> Additionally, the expected efficient UPC enforcement proceedings are also a positive legal implication of the unitary patent system for NPE patent enforcement initiatives. Being able to file actions for infringement and to receive judgments quickly allows NPEs to swiftly move onto the next prospective licensing or litigation campaign to potentially help generate revenues; for example, when an NPE files an infringement claim against an alleged infringer, there is only a three month time period to respond to the claim.<sup>59</sup> This rather short time period may be in an NPE's favour as the defendant has limited time to find pertinent documents, organize legal counsel and prepare for forthcoming litigation. For a summary of the potential positive legal implications of the unitary patent system for NPE patent enforcement see Table 8.2.

**[B] Potential Negative Implications of the Unitary Patent System for Non-practicing Entity Patent Enforcement**

Inevitably, due to the unitary effect of the patent, some of the positive legal implications of the unitary patent system at the same time appear to also be some of the negative legal implications of the new system. While the unitary effect of the patent is arguably one of the most attractive features for NPEs in their patent enforcement it also creates some possible risk. A significant potential negative legal implication of the unitary patent system for NPE patent enforcement is the possibility that a unitary patent may also be revoked in all participating Member States in a single decision. This makes the unitary patent system potentially riskier than the current European patent system for NPE patent enforcement as it essentially establishes an 'all or nothing' patent. As NPEs are dependent upon licensing their patents to generate royalty income, the unitary patent system may create too much risk in enforcing patents as the patent could potentially be revoked in its entirety terminating any potential licensing revenues expected for the future. Furthermore, the 'opt-out' option available for European patents further creates complexities for NPEs regarding the licensing of patents. European patents can only be opted-out of the unitary patent system in their entirety; not according to their division, for example for the UK or the German division. Thus, NPEs may come into conflict with licensees regarding the opting-out of European patents from the UPC jurisdiction; an NPE may wish to opt-out the European patent from the UPC jurisdiction yet his licensee may wish to remain in the UPC jurisdiction, or vice versa. As such, different licensees in different Member States and different types of patents (European and unitary) may further complicate licensing negotiations and agreements for NPEs.

58. For example, Germany, Austria, and Romania follow a three-year limitation to bring infringement actions. However, the UPC Statute of Limitation period of five years is less than the UK Statute of Limitation period of six years. See 'CMS International Patent Litigation Guide 2013', <http://www.cmslegal.com/relatedsites/patentswithoutborders/Documents/CMS-International-Patent-Litigation-Guide-2013.PDF>, 8 Oct. 2014.

59. 16th draft UPC RoP 23.

Moreover, in the event that a patent dispute is bifurcated in one of the local or regional divisions of the UPC and there is a high likelihood that the relevant patent claims will be invalidated, the panel will likely stay the infringement proceedings.<sup>60</sup> This means that even though an NPE may be able to have patent infringement and validity actions heard separately (bifurcated), the court will stop the infringement proceedings if it appears that the patent claims will be held invalid until the question of validity is decided. Having patent validity decided first before the decision of patent infringement is not in the best interest for an NPE as their patent may be held invalid, unenforceable, and consequently useless in helping to generate any potential licensing revenues.

Furthermore, it is unclear how judges of the UPC will react to patent infringement suits and how patent infringement damage levels will be determined. Certain legal characteristics of the European system, such as the unsuccessful party being responsible for paying the legal costs of the successful party and the absence of juries will also remain in the unitary patent system. These features of the proposed new system are potential negative legal implications that may increase the risk and cost for NPEs to enforce unitary patents. Data suggests that NPEs tend to earn higher damage awards with jury trials compared to bench trials.<sup>61</sup> Moreover, structural safeguards implemented into the new system may also be considered negative legal implications for NPE patent enforcement. The limited judicial appointment of judges, the preliminary and on-going training of judges in patent law matters and judicial panels being composed of national and non-nationals may make it increasingly difficult for NPEs to prove and convince to judges positive infringement of patent claims. Furthermore, if an NPE is able to find a pro-patentee court venue, the judges presiding in that court will be limited in their appointment to a term of six years.<sup>62</sup> While furthermore, the joinder consolidations allowing the joining of multiple parties to be sued in one patent infringement action<sup>63</sup> may subsequently be disjoined as only infringement suits that concern the same patent right may be heard together.<sup>64</sup> If NPEs are not able to enforce the same patent against multiple infringers in one infringement action they will need to initiate separate infringement actions individually against alleged infringers raising their enforcement costs.

Finally, it is also unclear how companies will react to the new system. Some companies might use the new system yet in time decide to opt-out their European patents from the system altogether potentially increasing the complexity of licensing and enforcement transactions for NPEs. Some industries may prefer to move their manufacturing completely outside the jurisdiction of the UPC to avoid any potential injunctions NPEs may try to use against them. Therefore, the uncertainties surrounding the functioning and usefulness of the proposed unitary patent system may also be

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60. 16th draft UPC RoP 37(4).

61. See Pricewaterhouse Coopers Patent Litigation Study, As Case Volume Leaps, Damages Continue General Decline (2014).

62. Article 14(2) UPC Agreement. However, judges may be re-appointed for an additional six-year term after their initial term ends.

63. Article 33(1)(b) UPC Agreement.

64. 16th draft UPC RoP 340(2).

considered a potential negative legal implication for NPE patent enforcement in Europe. For a summary of the potential negative legal implications of the unitary patent system for NPE patent enforcement see Table 8.2.

*Table 8.2 Summary of Positive and Negative Legal Implications of the Unitary Patent System for NPE Patent Enforcement*

<p>Participating MS-wide patent protection, wide territorial effect of the patent</p> <p>Specialized Unified Patent Court, single enforcement procedure</p> <p>Additional channel to enforce patent rights, opportunity to forum shop</p> <p>Potential for increased leverage and increased licensing fees</p> <p>Possibility for participating MS-wide injunction</p>	<p>Participating MS-wide revocation of the patent in a single decision</p> <p>Uncertainty on how judges will react to unitary patent infringements/how damages will be calculated</p> <p>Loser pays system</p> <p>No jury system</p> <p>Structural safeguards: limited judicial appointments, training of judges, multi-national composition of judicial panels - may make it more difficult to prove and convince judges of infringement</p> <p>Cultural differences of the judicial panels</p> <p>Joinder limitations</p>
<p>Joinder connections</p> <p>Specialized and trained judges, cultural differences of the judicial panels, increase probability of finding in favor of patentee</p> <p>Administrative and enforcement cost savings</p> <p>Declaration for non-infringement - actions stayed by bringing an infringement action within three months of the declaration for non-infringement action</p> <p>Avoid validity challenge by bringing infringement action through licensee</p> <p>Can opt out EP of the UPC (transitional period)</p>	<p>All-or-nothing patent/ patent system</p> <p>Companies moving manufacturing outside of UPC jurisdiction to avoid injunctions</p> <p>Infringement proceedings will be stayed if there is a high likelihood that the patent claims will be held invalid</p> <p>Damages may not be as high compared to the US jurisdiction</p>

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Reduced renewal fees by notifying EPO about willingness to grant licenses	Opt-out may create complications with licensees/licensing agreements
Planned efficient UPC proceedings	
Five-year limitation period to bring actions for infringements/damages	

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### §8.05 CONCLUDING REMARKS

The introduction of the new unitary patent system will create immense influence on the patenting strategies NPEs and other entities carry out in securing and enforcing patent rights in the European jurisdiction. It is undoubtedly important for firms to begin considering how the new system may influence not only their own patent enforcement strategies but also how the new system may potentially influence the enforcement strategies of NPEs. While it remains to be seen what definitive legal implications the unitary patent system will create for NPE patent enforcement, this chapter has examined several potential positive and negative legal implications of the European patent system and the unitary patent system for NPE patent enforcement in Europe.

Theoretically, the unitary patent system may potentially create several positive legal implications for NPE patent enforcement in Europe. The *unitary effect* of the unitary patent is believed to provide for wide territorial patent protection covering most EU countries, while the centralized enforcement procedure through the UPC is expected to increase legal certainty and make patent litigation proceedings more efficient. The proposed low costs and high benefits of the new system, including the opportunity to forum shop, the possibility to enjoin multiple parties in one infringement suit, the potential for a bifurcation procedure in litigation proceedings, the five year statute of limitation for bringing actions for patent infringement damage claims, and the possibility of an injunction with effect across most European countries are all potential positive implications of the new patent system for NPE patent enforcement in Europe.

However, the unitary patent system appears in some respects to create a double-edged sword for NPE patent enforcement. While the unitary effect of the patent along with a centralized enforcement system will potentially create several positive legal implications for NPE patent enforcement, inevitably at the same time, it may also potentially create several negative legal implications for NPE patent enforcement. Most notably, a unitary patent may be revoked in its entirety in a single court decision. Moreover, the bifurcation procedure, where patent infringement and validity are determined separately, will be left to the discretion of the court. The opt-out option for European patents may further complicate licensing negotiations, agreements and business relationships. The complexity of the UPC may actually impede the expected efficiencies of the centralized enforcement procedure, while it is unclear how damages will be determined or how judges might react to unitary patent infringement disputes. It is also uncertain whether companies will embrace the new system once it comes into

effect and whether NPEs will ultimately be able to efficiently enforce their patents against alleged infringers to generate potential revenues.

The examination undertaken in this chapter of the potential legal implications of the European patent system and the unitary patent system for NPE patent enforcement in Europe sheds some light on how both patent systems may affect NPE patent enforcement in Europe. While the unitary patent system appears free of the fragmentations evident in the current European patent system, the 'all or nothing' character of the unitary patent system may raise the stakes of patent enforcement and litigation in Europe in the future once the new system is in force. The unitary patent system may nonetheless provide another channel for NPEs to try to enforce patents to earn potential revenues, albeit at a possible higher risk.

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**RESEARCH PAPER III:**

**THE EMERGENCE OF NON-PRACTICING ENTITIES IN CHINA**

Kelli Larson

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## The Emergence of Non-practicing Entities in China

*Kelli Larson\**

### 1. Introduction

Non-practicing entities (NPEs), entities known for building business models solely around the exploitation and enforcement of patents mainly through licensing agreements and sometimes litigations to generate revenues, have become increasingly important actors in the patent litigation landscape.<sup>1</sup> Yet, what is conspicuous of the NPE phenomenon is that it does not seem to significantly occur in jurisdictions outside of the US. Some NPE activity is found in Europe, albeit on a much lower level than their US counterparts.<sup>2</sup> This may be due to differences between European and US industries, legal remedies, and judicial cultures.<sup>3</sup> It may also be attributed to the current fragmented nature of the European patent landscape. The two-tiered state of national and European patent grant and enforcement systems,<sup>4</sup> creates a prohibitive patent enforcement environment for NPEs to operate in, where the multi-jurisdictional and multi-cultural and language enforcement landscape of country-to-country patent litigation may increase the costs of extensive patent enforcements and raises legal uncertainties of patent assertions.<sup>5</sup>

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<sup>1</sup> See PricewaterhouseCoopers 2014 Patent Litigation Study 'As Case Volume Leaps, Damages Continue General Decline', <[http://www.pwc.com/en\\_US/us/forensic-services/publications/assets/2014-patent-litigation-study.pdf](http://www.pwc.com/en_US/us/forensic-services/publications/assets/2014-patent-litigation-study.pdf)> accessed 15 January 2015.

<sup>2</sup> Stefania Fusco, 'Markets and Patent Enforcement: A Comparative Investigation of Non-Practicing Entities in the United States and Europe' (2014) Michigan Telecommunications and Technology Law Review 439.

<sup>3</sup> Ibid.

<sup>4</sup> Patents are territorial by nature meaning they can only be enforced in the country of grant. At the national level, competent national authorities of European Member States handle the grant and enforcement of patents, while at the European level, the European Patent Office (EPO) conducts a similar role in handling the patent applications and administrative enforcement procedures. Even when a European patent is granted by the EPO, patent owners must still validate, and if necessary, subsequently enforce their patent in each corresponding Contracting Member State where they seek protection and enforcement. See Thomas Jaegar, 'The Framework for IP Rights Enforcement in the EU' in Christoph Antons (ed.), *The Enforcement of Intellectual Property Rights: Comparative Perspectives from the Asia-Pacific Region* (Kluwer Law International BV 2011) 48.

<sup>5</sup> Kelli Larson, 'Legal Implications of the European and Unitary Patent Systems for Non-practicing Entity Patent Enforcement in Europe' in Rosa Ballardini, Marcus Norrgård and Niklas Bruun (eds.) *Transitions in European Patent Law: Influences of the Unitary Patent Package* (Kluwer Law International 2015). The EU is currently attempting to implement the creation of a unitary patent right and a unitary patent court that would create pan-European patent protection and a centralized enforcement system that in theory would make it more efficient for NPEs to secure broad geographical patent protection in Europe and enforce patent rights. The unitary 'patent package' is the legislative initiative that lays the groundwork for unitary patent protection in Europe. It consists of: Regulation (EU) 1257/2012 of 17 December 2012

However, the US patent enforcement landscape is undergoing a significant transformation which may also impact upon the future effectiveness of NPE business models in their dominate market. The 2011 Leahy-Smith America Invents Act<sup>6</sup> (AIA) patent reform introduced various provisions not only making it more difficult for patent owners to enforce patents,<sup>7</sup> but also made it easier for alleged infringers to invalidate patents.<sup>8</sup> In addition to the AIA, a significant number of further patent reforms are being debated<sup>9</sup> among the Senate and House of Representatives, many with the potential effect of making patent enforcement more difficult for NPEs.<sup>10</sup> Moreover, recent judicial decisions have also placed limitations on NPEs in enforcing patents. For example, the 2006 decision in *eBay v MercExchange*<sup>11</sup> significantly limited the ability for patent owners to receive an injunction barring infringing products from the US marketplace by implementing a four-part test to determine whether an injunction is warranted.<sup>12</sup> Consequently, both the evolving US patent

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implementing enhanced cooperation in the area of the creation of unitary patent protection [2012] OJ L 361/1 (hereinafter Unitary Patent Regulation 1257/2012); Regulation (EU) 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements [2012] OJ L 361/89; and the Agreement of a Unified Patent Court (hereinafter UPC Agreement), [2013] C 175/1.

<sup>6</sup> Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.).

<sup>7</sup> 35 U.S.C. § 299 (2012). Section 299 of the AIA created a new joinder statute restricting the ability of a patent proprietor to sue multiple unrelated defendants in one suit.

<sup>8</sup> 35 USC § 311, 321. The AIA created two key administrative procedures for defendants to try to invalidate patents: the Post Grant Review Process and the *Inter Partes* Review procedure.

<sup>9</sup> This is evidenced by the fact that there has been a staggering amount of patent reforms, at least ten, that have been proposed since 2011 alone directly meant to address NPE business endeavors. Some of the Acts being proposed in the U.S. Congress include the SHILED Act (Saving High-Tech Innovators from Egregious Legal Disputes), the Patent Litigation and Innovation Act, and the Patent Transparency and Improvements Act. Furthermore, at the State level, Vermont has been the first state to create their own law (House Bill 299) meant to curb NPEs alleged “bad faith assertions” of patent infringements. Even U.S. President Barack Obama has become engaged in the debate on NPEs, releasing five executive actions and seven legislative recommendations designed to protect innovators from “challenges” allegedly caused by NPEs.

<sup>10</sup> For example, the Innovation Act, calls for heightened pleading standards at the outset when filing for patent infringement lawsuits requiring plaintiffs to disclose information that usually occurs later in the discovery stage or closer to litigation including the identification of all ownership claims in the patent, while another provision of the patent reform would implement a fee shifting provision making the unsuccessful party in patent litigation liable to pay the attorney costs of the successful party. § 281A H.R. 3309 – 113<sup>th</sup> Congress: Innovation Act; § 285 H.R. 3309 – 113<sup>th</sup> Congress: Innovation Act.

<sup>11</sup> *eBay, Inc. v MercExchange* 547 U.S. 388 (2006).

<sup>12</sup> *Ibid.* A patent owner must now demonstrate: (1) It has suffered an irreparable harm; (2) the remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) Considering the balance of hardships between the parties, a remedy in equity is warranted; and (4) the public interest would not be disserved by a permanent injunction. Other judicial cases which made it more difficult to enforce patents include *MedImmune, Inc. v Genentech, Inc.* 549 U.S. 118 (2007) which made it easier for alleged infringers to challenge the validity of patents while still

landscape and European patent enforcement landscape appear to be increasingly difficult jurisdictions for patent owners such as NPEs to operate patent enforcement businesses. As a result, NPEs may soon find it necessary to look beyond the US and Europe to other markets for opportunities to exploit and enforce patents to generate revenues. Looking to the East, China may be able to provide for one such patent exploitation and enforcement opportunity.

As the second largest economy in the world, many foreign companies have no choice but to invest in and transfer technology to China to remain competitive. Through a method of legal transplant and independent norm making,<sup>13</sup> China has been trying to establish a comprehensive intellectual property (IP) system to encourage foreign and domestic investment in research and development and to help create wealth for the country and its citizens. Within a relatively short period of time, starting from the late 1970s through Deng Xiaoping's 'Open Door Policy',<sup>14</sup> the People's Republic of China (PRC) has been transforming China's planned economy to a market-driven economy with a shift in the development of government policy over the years to increasingly foster the development of its own domestic economy and innovative technologies.<sup>15</sup> China's 'Indigenous Innovation'<sup>16</sup> policies, which generally refer to China's self-developed and self-owned technology, began in 2006 and ever since China has been undergoing a vast and complex economic and legal transition in the development of its intellectual property policies and laws. China is thus trying to transform itself from a manufacturing economy to an innovation and knowledge-based 'IP power' economy.<sup>17</sup> Subsequently, the

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maintaining their license rights; and *KSR Int'l Co. v Teleflex, Inc.* 550 U.S. 398 (2007) which raised the bar for patent holders to prove their inventions are non-obvious.

<sup>13</sup> Legal transplant generally consists of a borrowing or moving of legal rules or systems of law from one jurisdiction to be applied in another jurisdiction. For example see, Alan Watson, *Legal Transplants: An Approach to Comparative Law* (first published 1974, University of Georgia Press 1993). The first and second amendments to China's patent law (1992 and 2000 respectively) were made in efforts to further align the country's laws with international treaties and more with the patent laws of the US, while the third and fourth (draft) patent law amendments (2008 and draft, 2012 respectively) were more focused on the development of Chinese domestic law and to further develop the transition of the Chinese economy to a knowledge-based economy.

<sup>14</sup> Kungchia Yeh, 'Foreign Trade, Capital Inflow, and Technology Transfer Under the Open-Door Policy' in Michael Ying-Mao Kau and Susan H. Marsh (eds.), *China in The Era of Deng Xiaoping: A Decade of Reform* (ME Sharpe, Inc. 1993) 124.

<sup>15</sup> For example, see China's National Patent Development Strategy (2011-2020) <<http://graphics8.nytimes.com/packages/pdf/business/SIPONatPatentDevStrategy.pdf>> accessed 24 November 2014; and the Further Implementation of the National IP Strategy Action Plan (2014-2020) <[http://english.sipo.gov.cn/news/official/201501/t20150114\\_1061802.html](http://english.sipo.gov.cn/news/official/201501/t20150114_1061802.html)> accessed 27 January 2015.

<sup>16</sup> Stefan Luginbuehl, 'China's Patent Policy' in Stefan Luginbuehl and Peter Ganea (eds.), *Patent Law in Greater China* (Edward Elgar Publishing Limited 2004) 10.

<sup>17</sup> See China's National Patent Development Strategy (2011-2020), *supra* note 15; also see the State Intellectual Property Office of the PRC (SIPO) website (hereafter SIPO) Chinese National Meeting of Heads of IPR Administration held 15 January 2015, <[http://english.sipo.gov.cn/news/official/201501/t20150127\\_1067461.html](http://english.sipo.gov.cn/news/official/201501/t20150127_1067461.html)> accessed 27 January 2015.

procurement and enforcement of IPRs in China has become an important issue to many stakeholders in and outside of China.

The vast Chinese domestic market undoubtedly holds potential licensing opportunity for Chinese and foreign companies alike<sup>18</sup> that may be able to benefit from NPEs expertise in patent enforcement in patent licensing and litigation.<sup>19</sup> Given China's 'Indigenous Innovation' goals in lessening its dependence on foreign-based technology and becoming more self-sufficient with Chinese-invented technologies, the Chinese government may be interested in NPEs emerging in China to support the country's evolving profit driven approach to intellectual property (IP)<sup>20</sup> and help establish a patent marketplace promoting investments in and technology transactions to take place.<sup>21</sup> China has, only recently, created a state-owned and partly state-funded NPE, called *RuiChuang IPR Funds*, set up largely to aid Chinese technology companies in acquiring patents and for defensive purposes in foreign patent disputes.<sup>22</sup> With the further sophistication and strengthening of the Chinese patent enforcement landscape,<sup>23</sup> *RuiChuang IPR Funds*, also partly funded by the likes of Chinese mega companies Xiaomi and Kingsoft,<sup>24</sup> could easily transform from a defensive patent fund into a patent assertion and monetization fund. What is even more salient, however, is the considerable and steadily increasing number of Chinese patents available for potential assertions. In 2014, Chinese patent applications for invention patents were 928,177,<sup>25</sup> of which 233,228

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<sup>18</sup> Derek Bosworth and Deli Yang, 'Intellectual Property Law, Technology Flow, and Licensing Opportunities in the People's Republic of China' (2000) 9 *International Business Review* 453.

<sup>19</sup> Kelli Larson, 'An Inside View to Non-practicing Entities Business Models: A Case Study' (2013) *Int'l Journal of Intellectual Property Management*.

<sup>20</sup> For example see China's National Patent Development Strategy (2011-2020), *supra* note 15.

<sup>21</sup> See Anne Kelley, 'Practicing in the Patent Marketplace' (2011) 78 *The University of Chicago Law Review*; and J.F. McDonough, 'The myth of the patent troll: an alternative view of the function of patent dealers in an idea economy' (2006) 56 *Emory Law Journal*.

<sup>22</sup> See Jia Liu, 'The RuiChuang Patent Operation Fund Is Announced to Be Established' (translated from Chinese) Chinese website <<http://www.yicai.com/news/2014/04/3749724.html>> accessed 10 May 2015. Also See SIPO website <[http://english.sipo.gov.cn/specialtopic/number/201405/t20140516\\_950286.html](http://english.sipo.gov.cn/specialtopic/number/201405/t20140516_950286.html)> accessed 10 May 2015. Also see Jack Ellis, 'Inside the Multi-Million Dollar Chinese Patent Buying Fund with IV Connections' (*IAM Magazine*, 19 June 2014) <<http://www.iam-media.com/Blog/Detail.aspx?g=48293ab7-eb17-423b-8cc3-fbdac475e943>> accessed 29 November 2014. In Chinese literature, *RuiChuang* includes a 'g' at the end of the word; however, in English literature the 'g' is missing (*RuiChuan*). In this chapter I use the spelling from the Chinese SIPO website, *RuiChuang*.

<sup>23</sup> Ying Zhan, 'Problems of Enforcement of Patent Law in China and its Ongoing Fourth Amendment' (2014) 19 *Journal of Intellectual Property Rights* 266, 268. Also see Minge Li 'Intellectual Property Law Revision in China: Transplantation and Transformation' in this volume.

<sup>24</sup> See Jack Ellis, *supra* note 22.

<sup>25</sup> SIPO website, Distribution of Applications for Inventions Received from Home and Abroad, of which 801,135 were Chinese domestic applications, while 127,042 were from abroad

patents were granted.<sup>26</sup> By the end of 2015, the Chinese government's target is to increase the number of patent applications to a staggering 2 million.<sup>27</sup> This target may be attainable supported by the lucrative incentives the Chinese government offers for those filing patent applications, such as tax breaks and monetary rewards among others.<sup>28</sup> One does question, however, what patent holders will do with all those patents and how domestic and foreign companies operating in China will traverse this great wall of patents?<sup>29</sup>

Given China's evolving profit driven approach to patents, the focus for many may be on the exploitation and monetization of patents via licensing and potentially litigation.<sup>30</sup> However, even if NPEs pursue the Chinese market for opportunities to exploit and enforce patents, it is not certain that the 'Western' style NPE model – purchase, acquire, or file for their own patents and enforce them against alleged infringers – would necessarily be effective in the Chinese jurisdiction. China's legal system may prove challenging for NPE patent enforcement as there are concerns over the level of protection, or lack thereof, afforded to IPRs in China, particularly on matters regarding patent protection and how serious China is on the enforcement of its patent laws in practice.<sup>31</sup>

In light of these developments, this chapter further considers the emergence of NPEs in China using a conceptual framework of three drivers of NPE success in the context of China: NPEs and the Chinese patent enforcement landscape; the economics of patent enforcement for NPEs in China; and NPEs and patent enforcement culture in China. A better understanding of these three drivers of NPE success in the

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<[http://english.sipo.gov.cn/statistics/2014/12/201502/t20150204\\_1071541.html](http://english.sipo.gov.cn/statistics/2014/12/201502/t20150204_1071541.html)> accessed 8 February 2015.

<sup>26</sup> SIPO website, Distribution of Grants for Inventions Received from Home and Abroad, <[http://english.sipo.gov.cn/statistics/2014/12/201502/t20150204\\_1071537.html](http://english.sipo.gov.cn/statistics/2014/12/201502/t20150204_1071537.html)> accessed 8 February 2015.

<sup>27</sup> See China's National Patent Development Strategy (2011-2020), *supra* note 15.

<sup>28</sup> Haiyang Zhang, 'Patent Institution, Innovation and Economic Growth In China' in Ligang Song, Ross Garnaut and Cai Fang (eds.) *Deeping Reform for China's Long-Term Growth and Development* (Canberra, Australian National University 2014) 512-513. Incentives may be further heightened for 'home grown' domestic innovations. See Xibao Li 'Behind the Recent Surge of Chinese Patenting: An Institutional View' (2012) 41 *Research Policy* 236.

<sup>29</sup> Albert Guangzhou Hu and Gary H. Jefferson, 'A Great Wall of Patents: What is Behind China's Recent Patent Explosion?' (2009) 90 *Journal of Development Economics* 57, 68. Albert Guangzhou Hu, 'Propensity to Patent, Competition and China's Foreign Patenting Surge' (2010) 39 *Research Policy* 985.

<sup>30</sup> China already is the most litigious country in terms of IP. See Richard P. Suttmeier and Xiangkui Yao, The National Bureau of Asian Research Special Report #29, 'China's IP Transition Rethinking Intellectual Property Rights in a Rising China' (July 2011) 13; Susan K. Sell, 'The Geo-Politics of the World Patent Order' in Frederick M. Abbott, Carlos M. Correa and Peter Drahos (eds.) *Emerging Markets and the World Patent Order* (Edward Elgar Publishing 2013) 59.

<sup>31</sup> See Ying Zhan, *supra* note 23; Peter K. Yu, 'Intellectual Property, Economic Development, and the China Puzzle' in Daniel J. Gervais (ed.) *Intellectual Property, Trade and Development: Strategies to Optimize Economic Development in a TRIPS Plus Era* (Oxford University Press 2007) 174; Qing Cao, 'Insight into Weak Patent Enforcement of Intellectual Property Rights in China' (2014) 38 *Technology in Society* 40.

context of China may better help determine whether an NPE business model may succeed in China in the near future. It may also reveal useful insights not only for Chinese IP Policy makers but also for businesses that own and use patents in China. Accordingly, the remainder of the chapter is as follows: section 2 provides some general background information on the NPE phenomenon, while section 3 considers the potential emergence of NPEs in China using a conceptual framework of three drivers of NPE success in the context of China: NPEs and the Chinese patent enforcement landscape, the economics of patent enforcement for NPEs in China, and NPEs and patent enforcement culture in China. Section 4 explores the Chinese government's decision to establish its own state-run NPE *RuiChuang IPR Funds*, while section 5 provides some concluding remarks.

## 2. Background on the NPE Phenomenon

NPEs generally are described in literature as individuals or entities that create business models focused solely on the enforcement of patent rights to generate revenues.<sup>32</sup> NPE patent enforcement is conducted mainly in the context of creating, negotiating and executing licensing programs for prospective licensees in order to collect revenues from licensing/royalty payments, in addition to any damages awarded from patent litigations. The NPE phenomenon is of essential research importance due to the asymmetrical advantages that NPEs encompass which allow them to fundamentally change the economics of patent enforcement and litigation.<sup>33</sup>

Traditional patent litigation economics is set against patent enforcement; it is expensive and risky for parties to litigate patents through courts, it may take years and cost millions of dollars to pursue a patent infringement lawsuit through to full trial, which may only provide for a small return in a judgment or settlement.<sup>34</sup> Thus, for a patent owner the costs of patent enforcement may be too prohibitive to endure, while for a defendant, it may be more economical to settle any infringement allegation by paying for a license rather than litigating in court, even if the defendant strongly believes there is non-infringement. As a result, many patents may end up being unenforced

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<sup>32</sup> Christian Helmers and Luke McDonagh, 'Trolls at the High Court?' (2012) LSE Legal Studies Working Paper No. 13; Colleen Chien, 'Of Trolls, Davids, Goliaths and Kings: Narratives and Evidence in the Litigation of High-Tech Patents' (2009) 87 North Carolina Law Review 1571; David Schwartz and Jay Kesan, 'Analyzing the Role of Non-practicing Entities in the Patent System' (2014) 99 Cornell Law Review 425; Michael Risch, 'Patent Troll Myths' (2012) 42 Seton Hall Law Review 457; and Kelli Larson, 'An Inside View' *supra* note 19.

<sup>33</sup> Colleen Chien, Presentation to the DOJ/FTC Hearing on Patent Assertion Entities (10 December 2012) <<http://digitalcommons.law.scu.edu/facpubs/591/>> accessed 7 November 2014.

<sup>34</sup> The average cost of patent litigation in the US is 3-10 million dollars. See World Intellectual Property Organization (WIPO) Magazine, *IP Litigation Costs Special Edition* (2010) ch 2 and 3.

simply to avoid the costly use of the patent litigation system, particularly in the US.<sup>35</sup>

However, NPEs change the economic dynamics of enforcing and litigating patents. As NPEs are ‘non-practicing’ in the sense that they neither use patents to manufacture nor sell products, but rather only to enforce patents to generate profits, they typically cannot be countersued for patent infringement.<sup>36</sup> As a result, NPEs need not worry about indirect costs in patent litigations such as preparing and defending against a countersuit or other business disruptional impacts. Furthermore, because NPEs do not build products with their patents they are likely not interested in cross licensing agreements, as they do not require the use of third party patents to manufacture products. In patent assertions, NPEs may use the benefit of economies of scale by enforcing the same patent against multiple alleged infringers in one lawsuit, often in the same court venue, while using contingency fee lawyers as counsel to help reduce the direct costs of patent enforcement and further drive down the cost of enforcement per assertion.<sup>37</sup> These factors help to make patent enforcement highly efficient, economical and scalable for NPEs.

### 3. Drivers of NPE Success and China

#### 3.1 NPEs and the Chinese Patent Enforcement Landscape

Various inputs in the Chinese patent enforcement landscape may help to drive NPE patent enforcement success. Generally, China has a two-track IP enforcement system via administrative or judicial enforcement.<sup>38</sup> While both tracks have their advantages and disadvantages, NPEs will likely be more interested in the judicial route as monetary damages cannot be sought from administrative enforcement.<sup>39</sup> Besides China’s dual enforcement system and abundant amount of patents available for potential assertions,<sup>40</sup> China also has a strong and growing high-technology sector. NPEs tend to focus on the high-technology sector for their patent enforcement assertions and specific industries such as telecommunications, computer software and consumer electronics where typically many different innovations are incorporated into a single product and where the scope of the patent

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<sup>35</sup> Ibid. The high cost of patent litigation may deter many from enforcing their patents.

<sup>36</sup> Ahmed J. Davis and Karolina Jesien, ‘The Balance of Power in Patent Law: Moving Towards Effectiveness in Addressing Patent Troll Concerns’ (2012) 22 *Fordham Intellectual Property Law Journal* 837.

<sup>37</sup> Colleen Chien, Hearing on Patent Assertion Entities, *supra* note 33.

<sup>38</sup> See Niklas Bruun and Liguozhang, ‘Legal Transplant of Intellectual Property Rights in China: Norm Taker or Norm Maker’ in this volume.

<sup>39</sup> Shan Hailing, ‘Cross Border Enforcement of Intellectual Property Rights in China’ in Paul Torremans (ed.) *Research Handbook on Cross-Border Enforcement of Intellectual Property* (Edward Elgar Publishing 2014) 76.

<sup>40</sup> See SIPO website, Distribution of Applications for Inventions Received from Home and Abroad, *supra* note 25.

may be difficult to delineate.<sup>41</sup> In addition to having the most Internet users and the largest smartphone market in the world,<sup>42</sup> China's developing telecommunications and consumer electronics industries may help support NPE business models in China. China's developing high-tech sectors may help foster its patent landscape where future innovations can be invented and where further patents may be generated for potential future assertions. Industries where multi-component innovations consisting of thousands of patents are incorporated into one invention, such as many inventions in high-tech industries, potentially may create environments which are conducive for widespread infringement to occur and where it may be difficult to determine the extent of patent protection coverage on a given component of an invention. As such, NPEs may be able to benefit from such unclear protection boundaries in new innovations in their patent infringement enforcement campaigns.

Another unique input in China's patent landscape is the wide use of utility model patents as opposed to invention patents.<sup>43</sup> Utility model patents do not require substantive examination prior to being granted in contrast to invention patents;<sup>44</sup> thus, utility model protection can generally be obtained much faster than invention patent protection.<sup>45</sup> Also, the term of protection for a utility model patent differs from an invention patent, 10 years compared to 20 years respectively.<sup>46</sup> Although, utility model patents do exist in Europe,<sup>47</sup> foreign NPEs in China may find the use of this type of patent to be unfamiliar. Nonetheless, Chinese utility model patents may provide an opportunity for NPEs to quickly obtain and enforce patents to potentially generate revenue.

However, further practical challenges might remain for NPE patent enforcement to emerge in China. For example, Civil IP damage awards are generally perceived as being low in China compared to

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<sup>41</sup> Colleen Chien, 'Of trolls, Davids, Goliaths, and Kings' *supra* note 32. For example see Patent Freedom website, 'Exposure by Industry' <<https://www.patentfreedom.com/about-npes/industry/>> accessed 10 February 2015.

<sup>42</sup> China had approximately 649 million Internet users in 2014. See CNN website, 'China's Online Users More than Double Entire US Population' <<http://www.internetlivestats.com/internet-users/>> accessed 12 February 2015.

<sup>43</sup> Yifei Sun, 'Determinants of Foreign Patents in China' (2003) 25 *World Patent Information* 27. China has three types of patents: invention patents with a duration of twenty years, and utility model and design patents both with a duration of ten years. See SIPO website <[http://english.sipo.gov.cn/FAQ/200904/t20090408\\_449726.html](http://english.sipo.gov.cn/FAQ/200904/t20090408_449726.html)> accessed 28 January 2015.

<sup>44</sup> Art. 40 Patent Law of PRC (2008).

<sup>45</sup> Art. 2 Patent Law of PRC (2008). See WIPO website 'Protecting Innovation by Utility Models' <[http://www.wipo.int/sme/en/ip\\_business/utility\\_models/utility\\_models.htm](http://www.wipo.int/sme/en/ip_business/utility_models/utility_models.htm)> accessed 5 March 2015.

<sup>46</sup> Art. 42 Patent Law of PRC (2008).

<sup>47</sup> See WIPO 'Protecting Innovation by Utility Models' at *supra* note 45.

industrialized countries.<sup>48</sup> However, the proposed fourth Amendment to China's patent law may revise damage amounts with the potential introduction of punitive damages.<sup>49</sup> Moreover, China's patent law includes a working requirement where a patent owner is required to exploit the patent within three years from the date the patent is granted.<sup>50</sup> Thus, if an NPE cannot exploit its patent appropriately or find prospective licensees to take licenses the entity may potentially lose its patent. While injunctive relief is available,<sup>51</sup> it may be difficult in practice for an NPE to obtain and enforce an injunction as the 'irreparable harm' standard must be clearly proven, while the Supreme People's Court has indicated an adverse opinion on injunctions, urging lower courts to use caution in issuing such injunctions in the first instance.<sup>52</sup> Furthermore, the rule of law as a relatively new concept to China<sup>53</sup> may render the Chinese patent enforcement landscape too unpredictable and unreliable overall for NPEs to initiate their patent enforcement programs in China.

### **3.2 The Economics of Patent Enforcement for NPEs in China**

A second driver of NPE success may be found in the economics of patent enforcement in China. If the various inputs in China's patent enforcement landscape (i.e. obtaining patents, proving infringement, use of the judicial system, being awarded damages and injunctions, etc.) can be attained or conducted in a cost-effective manner these factors are likely to help drive NPE success in China. From the perspective of an NPE, if the expected return on patent enforcement is higher than the costs to undertake the enforcement, the patent enforcement ought to be taken (risk vs. reward scenario). However, patent enforcement is full of risk as there is no guarantee that a return on the patent assertion will ever be realized; the boundaries of patent protection may be difficult to determine and furthermore patents may be disputed and invalidated.<sup>54</sup> China's single jurisdiction for patent enforcement likely favors economical patent enforcement as an infringement or injunction decision is applied to the entire country, while it may also be highly economical for NPEs to obtain patents due

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<sup>48</sup> YieYie Yang, 'A Patent Problem: Can Chinese Courts Compare With the U.S. In Providing Patent Holders With Adequate Monetary Damages' (2014) 96 *Journal of Patent and Trademark Office Society* 140.

<sup>49</sup> See Minge Li 'Intellectual Property Law Revisions in China: Transplantation and Transformation' in this volume.

<sup>50</sup> Art. 48 Patent Law of the PRC (2008).

<sup>51</sup> Art. 66 Patent Law of the PRC (2008).

<sup>52</sup> Stefan Luginbuehl and Thomas Pattlock, 'The Awakening of the Chinese Patent Dragon: The Revised Chinese Patent Law 2009' (2011) *International Review of Intellectual Property and Competition Law* 143; J. Benjamin Bai, Peter J. Wang and Helen Cheng, 'What Multinational Companies Need to Know About Patent Enforcement and Patent Litigation in China' (2007) 5 *Northwestern Journal of Technology and Intellectual Property* 459.

<sup>53</sup> Yahong Li, 'Pushing for Greater Protection: The Trend Toward Greater Protection of Intellectual Property in the Chinese Software Industry and the Implications for the Rule of Law in China' (2002) 23 *Journal of International Law* 637.

<sup>54</sup> Mark Lemley and Carl Shapiro, 'Probabilistic Patents' (2005) 19 *Journal of Economic Perspectives* 76.

to the lucrative incentives the government provides for applicants to file for patents.<sup>55</sup> Enforcement procedures may be made even more efficient with the recently established specialized Chinese IP Courts in Beijing, Shanghai and Guangzhou to pursue patent infringement assertions.<sup>56</sup>

However, some aspects of China's procedural law may frustrate efficient, economical patent enforcement procedures for NPEs in China. For example, prior to patent litigation proceedings, parties shall first try to resolve disputes through consultation meetings,<sup>57</sup> which may be time consuming for NPEs. Proving infringement may take a lot of time and resources as the Chinese legal system does not include a discovery procedure, thereby requiring NPEs themselves to collect and submit their own evidence to prove infringement.<sup>58</sup> NPEs may have to hire private investigators to help with the collection of evidence and have a notary public authority authenticate any evidence adduced, while furthermore there is only a two year statute of limitation to bring a patent infringement lawsuit beginning from the date the patentee knew (or should have known) about the infringement.<sup>59</sup> Additionally, a major challenge lies in the difficulty of calculating patent infringement damages.<sup>60</sup> While the cost of defense in China is lower compared to the US due to lower legal fees,<sup>61</sup> patent infringement damage awards in China are substantially lower than in the US and low compared to the likely degree of harm caused.<sup>62</sup> Therefore, while it may be economical for an NPE to obtain counsel in a patent infringement dispute, infringers may be more willing to defend against an NPE if the cost of defense is low and the amount of statutory damages required to pay for infringement would also be low. This may reinforce a cycle of continuous infringement and make it difficult for NPEs to enforce patents in practice. However, the recent proposed Fourth Amendment to China's Patent Laws calls for an increase in patent damage awards, namely through the introduction of punitive damages.<sup>63</sup> Furthermore, the availability of preliminary injunctive relief (or cessation of infringement for permanent injunction) banning infringing products from the second largest market in the world would be an efficient leveraging mechanism for NPEs to use in encouraging auspicious licensing or litigation settlement terms. However, obtaining and enforcing an injunction in practice may prove to be difficult and time

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<sup>55</sup> Haiyang Zhang, *supra* note 28.

<sup>56</sup> See Mingde Li, 'Specialized Intellectual Property Court in China' in this volume.

<sup>57</sup> Art. 60 Patent Law of the PRC (2008).

<sup>58</sup> See J. Benjamin Bai et al., 'What Multinational Companies Need to Know About Patent Enforcement and Patent Litigation in China' *supra* note 52; Mingde Li, 'Intellectual Property Law Revision in China: Transplantation and Transformation' in this volume.

<sup>59</sup> Art. 68 Patent Law of the PRC (2008).

<sup>60</sup> Art. 65 Patent Law of the PRC (2008).

<sup>61</sup> Kristina Sepetyts and Alan Cox, 'Topics in Law and Economics in China Intellectual Property Rights Protection in China: Trends in Litigation and Economic Damages' (2009) National Economic Research Associates.

<sup>62</sup> *Ibid.*

<sup>63</sup> See Mingde Li, 'Intellectual Property Law Revision in China: Transplantation and Transformation' in this volume.

consuming for NPEs.<sup>64</sup> It is also unclear how Chinese judges may react to awarding injunctive relief to NPEs, which do not manufacture products but instead focus mainly on licensing.<sup>65</sup>

### 3.3 NPEs and Patent Enforcement Culture in China

In efforts to promote economic development and attract foreign investment, China finally introduced its modern day patent law in 1984.<sup>66</sup> While the introduction of Chinese patent law is more a history of legal transplants of a Western imported system,<sup>67</sup> the problem of weak IPR protection in China is a concern held not only by foreigner patent holders but also by Chinese patent owners.<sup>68</sup> Problems related to ineffective patent enforcement in China may be due in combination of various factors including poor judicial protection, strong local protectionism or the presence of less rule of law, yet they may also be related to Chinese culture.<sup>69</sup> Adverse attitudes towards invention and property rights transitioned in China first with the recognition of the necessity in having a modern patent system<sup>70</sup> and furthermore with an effective and well-functioning patent enforcement system. However, the concepts of individual rights or ownership may still have less meaning and importance in China as the country further transitions from an agricultural, to industrial to knowledge economy. China appears to have a different cultural concept of patent enforcement at this stage in its economic and intellectual property system development.<sup>71</sup> The concept of patents as a strong valuable asset has yet to be fully embraced and respected in China which may be reflective of the approach many Chinese have towards infringement of IPRs and the difficulty rights holders have in enforcing patents in China,<sup>72</sup> which is likely not to the benefit of NPEs. As China's legal IPR framework developed rather quickly, it may take time for the Chinese people to recognize the importance and value that a sound enforcement system may bring to China's economic development. With the promotion of China's Indigenous Innovation goals China's cultural acceptance of stronger patent enforcement may be slowly on the horizon. A shift in cultural attitude towards protecting IPRs in China

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<sup>64</sup> Ibid.

<sup>65</sup> For example, Court decisions in the US and the UK have limited the availability of injunctive relief to NPEs based on the argument that it is difficult for an NPE to prove 'irreparable harm' and thus a reasonable royalty should sufficiently compensate for infringement. See *eBay, Inc. v MercExchange* 547 U.S. 388 (2006) and *Nokia Corp. v. ICom GmbH & Co. KG*, [2012] EWHC 1446 (Ch).

<sup>66</sup> Patent Law of the PRC (promulgated by the Presidential Order No. 11 of March 12, 1984).

<sup>67</sup> See for example, Peter K. Yu, 'The Transplant and Transformation of Intellectual Property Laws in China' in this volume.

<sup>68</sup> Yin Zhang, *supra* note 23.

<sup>69</sup> Ibid.

<sup>70</sup> John R. Allison and Lianlian Lin, 'Evolution of Chinese Attitudes Toward Property Rights in Invention and Discovery' (2014) 20 *Journal of International Law* 737.

<sup>71</sup> Yin Zhang, *supra* note 23.

<sup>72</sup> Ibid. See also Dan Prud'homme, *Dulling the Cutting Edge: How Patent Related Policies and Practice Hamper Innovation in China* (European Chamber 2012) 103.

may be evident by the establishment of China's state-owned NPE – *RuiChuang IPR Funds*.

#### **4. China's State owned NPE - *RuiChuang IPR Funds***

This section briefly considers China's decision to create a state-owned, partly state-funded NPE *RuiChuang IPR Funds*.<sup>73</sup> In line with the promotion and development of its IP economy and Indigenous Innovation goals it makes sense that China would take initiatives to help protect its domestic technology companies and help increase the country's global competitiveness through the monetization of IPRs. China, however, is not the first country to establish such government or state-sponsored NPE. Japan, Taiwan, France and South Korea have all created patent funds generally managed and funded by their governments to help protect their respective domestic companies from foreign patent infringement attacks and for patent monetization purposes.<sup>74</sup> While the specific business model of *RuiChuang IPR Funds* has yet to be viewed from an operational level, it is believed that the fund will focus on acquiring IP from both domestic and foreign companies, assist Chinese companies to obtain and finance patents and help provide a defensive shield to protect Chinese companies against patent infringement attacks from foreign companies or foreign NPEs.<sup>75</sup> *RuiChuang IPR Funds* may have also been created in a response to the surge of NPE business models emerging, particularly in the US over the past couple of years with the objective of trying to purchase certain patents before NPEs purchase them which could then be used to attack Chinese technology companies. As China's patent and licensing market further develops and the Chinese government's evolving profit driven approach to IP strengthens, it is foreseeable that *RuiChuang IPR Funds* will also begin to monetize its patents against foreign firms to generate returns from its investments. Furthermore, *RuiChuang IPR Funds* may have been established as vehicle for further

<sup>73</sup> See SIPO website, *supra* note 22.

<sup>74</sup> Miyuki Monroig and Patrick Terroir, 'Asia Drives Transformation of Patent Economy' (IAM Magazine, July 2013) <<http://www.iam-media.com/Magazine/Issue/60>> accessed 14 November 2015. For example, see Japanese government NPE, Innovation Network Corporation of Japan website <<http://www.incj.co.jp/english/>> accessed 8 May 2015; South Korean government NPE, Intellectual Discovery <<http://www.i-discovery.com/site/eng/model/licensing.jsp>> accessed 8 May 2015; and French government NPE, France Brevet <<http://www.francebrevets.com/>> accessed 8 May 2015.

<sup>75</sup> Jack Ellis, 'It's Time to Talk About Patent Funds' (IAM Magazine, March 2015) <<http://www.iam-media.com/Magazine/Issue/70/Cover-story/Its-time-to-talk-about-patent-funds>> accessed 5 April 2015; Miyuki Monroig and Patrick Terroir, 'Inside Asia's Patent Funds' (IAM Magazine, July 2012) <http://www.iam-media.com/Magazine/Issue/54/Features/Inside-Asias-patent-funds>> accessed 5 April 2015; Joshua Philipp, 'China's State-funded Company looks to Profit Off US Patents' (Epoch Times, 6 November 2014) <<http://printarchive.epochtimes.com/a1/en/hk/nnn/2014/11-Nov/06/A5.pdf>> accessed 15 April 2015; Peter Roff, 'The Frightening Emergence of Government Patent Trolls' (The WashingtonTimes, 31 August 2014) <<http://www.washingtontimes.com/news/2014/aug/31/roff-the-frightening-emergence-of-government-paten/>> accessed 25 March 2015.

national protectionism and government sponsored subsidization of private enterprise through an anti-trade policy.<sup>76</sup> *RuiChuang IPR Funds* allows the Chinese government and private industry to work together to potentially disadvantage foreign companies by instead of placing tariffs on imported products which compete with China's domestic industries, *RuiChuang IPR Funds* may be used to assert patent infringements against foreign companies raising their operating costs relative to domestic firms. This may give Chinese firms an upper hand with greater financial resources in competing not only domestically in China but also internationally in global trade. Moreover, *RuiChuang IPR Funds* may be used as a political tool in international trade negotiations.<sup>77</sup> For example, the West is pushing for stronger patent protection to be transplanted through international Free Trade Agreements (FTAs) such as the proposed Trans-Pacific Partnership (TPP) Agreement and the Transatlantic Trade and Investment Partnership (TTIP) Agreement, to less powerful signatories such as China. Both the TPP and TTIP cover trade related issues including trade and investment related aspects of intellectual property.<sup>78</sup> The Chinese government might utilize *RuiChuang IPR Funds* to potentially pre-empt stringent trade provisions or for leverage in such trade negotiations, or to retaliate against nations which enforce their patents against Chinese domestic industry as a result of a trade dispute.<sup>79</sup>

## 5. Concluding Remarks

While the world watches China's transition from a made-in-China to an invented-in-China economy, the strengthening of China's patent enforcement regime may be creating fertile ground for international patent litigation to take place and for an environment to be created which supports the emergence of NPEs in China. The vast Chinese domestic marketplace, abundant amount of patents available for potential assertions, and the availability of remedies such as injunctive relief banning products from one of the most important markets in the world appear to be attractive features that may support NPEs emerging in China. However, while some of the drivers of NPE success may be applicable in the context of China, perhaps Chinese culture has yet to place enough value on and implement strong enough patent enforcement in practice for NPEs to emerge in China at this point in the development of its intellectual property system. Furthermore, an essential driver of NPE success rests on strong remedies being

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<sup>76</sup> Javade Chaudhri, 'Chinese Industrial Policies: Indigenous Innovation, Intellectual Property Rights, and the Trade Issues of the Next Decade' (2011) 34 *Thomas Jefferson Law Review* 5, 6.

<sup>77</sup> For example see Hosuk Lee-Makiyama and Patrick Messerlin, 'Sovereign Patent Funds (SPFs): Next Generation Trade Defence?', European Centre for International Political Economy Policy Brief (2014) <<http://www.ecipe.org/app/uploads/2014/12/PB06.pdf>> accessed 8 May 2015.

<sup>78</sup> Peter K. Yu, 'The Non-Multilateral Approach to International Intellectual Property Normsetting' in Daniel J. Gervais (ed.) *International Intellectual Property A Handbook of Contemporary Research* (Edward Elgar Publishing 2015) 83.

<sup>79</sup> See Hosuk Lee-Makiyama and Patrick Messerlin, *supra* note 77.

available for alleged patent infringements, such as high damage awards and injunctive relief. Given the relatively low level of damage awards available and the apprehension regarding court ordered injunctive relief in China, NPEs would likely need to find other ways to profit from patents until the licensing market develops enough where NPEs can sustain themselves from licensing royalties. Still, even if NPEs are to emerge in China in the future it is questionable whether they would take the same shape as they do for example in Europe or the US. Given China's evolving profit driven stance on IP, China might be interested in utilizing NPEs to further develop its IP landscape and intellectual property regime. The establishment of *RuiChuang IPR Funds* by the Chinese government shows the emergence of one type of NPE in China despite concerns with China's IP enforcement system.

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KELLI LARSON

# THE EXPLOITATION AND ENFORCEMENT OF PATENTS BY NON-PRACTICING ENTITIES. PRACTICES, DEVELOPMENTS, AND FUTURE CHALLENGES

The last fifteen years has witnessed major and dramatic changes in the world of patent law and patent litigation. The impetus for these changes has not only come from the usual sources - the judiciary, legislators, and administrative agencies, and from advances in technology and innovation, but also from actors operating within the patent landscape. One particular type of patent actor operating in the intellectual property (IP) realm that seemingly everyone is talking about are "Non-practicing Entities" (NPEs), or their more pejorative alternate "patent trolls".

NPEs are generally described as entities that create business models focused solely on the exploitation and enforcement of patents to generate revenues. Labelled as the "most significant problem facing the patent system today", the NPE phenomenon has become a highly polarized debate in academia and on the political stage. Vilified by companies, academics, congresspersons, the U.S. Supreme Court, and even former U.S. President Barack Obama, NPEs are at the center of a contentious patent law and policy debate focused on vexatious patent exploitation and enforcement related to alleged abusive behaviours of patent owners demanding "excessive" patent licensing fees, creating an "explosion" of unwarranted patent litigation, imposing undue burdens on industry, and thereby stifling innovation. However, there is very little empirical evidence to substantiate such claims made about

NPE patent enforcement. Even more unfortunate is the fact that it is headline catching terms like "patent troll" that appear to have captured much of the public's imagination and policymakers' attention of such pure patent licensing entities. The "patent troll" rhetoric has arguably itself contributed to much of the misunderstanding and disapproving perceptions of such entities operating in the patent marketplace, and to a greater extent, negative perceptions being formed of the patent system overall.

This dissertation discusses these issues and provides new insights into the NPE phenomenon by empirically exploring and examining the exploitation and enforcement of patents by NPEs in three major patent jurisdictions, namely the U.S.A., Europe, and China. The dissertation adds to patent literature by providing a more balanced academic discussion on the highly polarized NPE debate, and contributes to the scarce knowledge on the NPE phenomenon through the presentation of its substantial introduction covering four chapters, followed by a compilation of three published research papers. At the core of the dissertation is the proposition that argues despite some of their drawbacks, NPEs effectively contribute to the patent ecosystem and play an integral role in the enforcement of patents, which is a key element in any well-functioning patent system.



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