

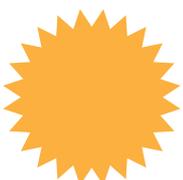


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Patent assertion entities and standard essential patents: keep calm and carry on

by Igor Nikolic
PhD researcher in law at the University College, London.



Patent Assertion Entities and Standard Essential Patents: Keep Calm and Carry On

Igor Nikolic*

Introduction

Patent Assertion Entities (PAEs), often called “patent trolls”, are companies active in acquisition and monetisation of patents. They do not produce any products covered by the patented technology, and instead earn their revenues only by licensing patents acquired from others. PAEs have been frequently presented in the negative light as harmful predators that attack inadvertent companies that produce patent implementing products, demanding excessive licensing fees, harming implementing companies and ultimately rising prices for consumers.

PAEs have been especially criticised in a situation when they assert patents that are essential for widely adopted standards in telecommunications industry, such as 3G UMTS and 4G LTE standards. They have been accused of imposing unreasonably high licensing costs to firms practicing the standard, making the implementation of standard excessively costly and ultimately harming consumers. It has been suggested that competition law should apply against PAEs’ assertion of essential patents.

The aim of this article is to demonstrate that, first, PAEs are not a unitary phenomenon, but adopt many different business models. It will show that it is incorrect to label all PAEs as “bad” and to devise rules that would be aimed at this one particular category of patent holders. Next, it will show that in the SEP context, competition law is not an appropriate remedy and that PAEs do not have the ability to charge excessive royalties for SEPs.

The article will first proceed by defining PAEs and explaining their various business models. It will then discuss positive and negative effects of PAEs’ patent assertions that have been raised in the literature. The article will then discuss the assertion of standard essential patents by PAEs, the problematics surrounding patent privateering and propose effective solutions to perceived problems with the assertion of essential patents by PAEs.

What Are PAEs?

It is important to first look and try to define patent assertion entities. Patents can be held by different categories of companies. On the one hand, there are companies that hold a portfolio of patents which they implement in their products or services. These companies are called Practicing Entities (PEs). For example, the large high-technology companies such as Apple, Google, Huawei, Microsoft or Samsung hold thousands of patents covering various technologies that they implement in their products or services.

On the other hand, there are companies that hold a portfolio of patents but do not manufacture any products or provide services implementing those patents. These companies are called Non-Practicing Entities (NPEs). However, NPEs are not a uniform category, but they include a wide range of companies with different business models.¹ For example, there are universities, start-ups or large

* PhD Researcher, University College London. I would like to thank Sir Robin Jacob and Dr Christopher Stothers for their support and helpful comments. All views are my own. E-mail: igor.nikolic.15@ucl.ac.uk

¹ For example, see John Allisson, Mark Lemley and Joshua Walker, ‘Extreme Value or Trolls on Top? The Characteristics of the Most Litigated Patents’ (2009) 158 *University of Pennsylvania Law Review* 1 (identifying 10 different types of NPEs); Christopher Cotropia, Jay Kesan, David Schwartz, ‘Unpacking Patent Assertion Entities (PAEs)’ (2014) 99 *Minnesota Law Review* 649 (identifying 7 different types of NPEs: universities, individual inventors, large patent aggregator, fail operating or start-up company, IP holding company owned by operating company and technology development company)

technology developing companies that engage in research and development and patent their inventions. They generate revenue by licensing their patents to practicing entities.

A special type of NPEs are Patent Assertion Entities (PAEs). As opposed to universities, start-ups or technology developing companies, they do not develop patented technologies. Instead, their primary business model is acquiring patents from third parties and generating revenue by asserting them against alleged infringers.²

To further complicate matters, PAEs are not a unitary phenomenon, as different categories of PAEs can be identified. For example, depending on the relationship with operating companies, Shapiro and Scott-Morton identify 'Pure' and 'Hybrid' PAEs.³ Pure PAEs acquire patents from a variety of sources and generate revenue by asserting them. They have no relationship with operating companies from which they acquired patents and have no financial interest in targeting specific companies or products.⁴ Hybrid PAEs, on the other hand, maintain relationships with operating companies after the acquisition of patents.⁵ For instance, an operating company may receive a share of the revenue acquired from the assertion of SEPs, determine the method or a level of royalty that PAE may charge or structure the transaction so that the PAE will primarily target its competitors.

Depending on the business model, The Federal Trade Commission (FTC) further identified two types of PAEs: 'Portfolio PAE' and 'Litigation PAE'.⁶ Portfolio PAEs typically amass a large patent portfolio, numbering thousands of patents, and generate revenue by licensing the whole portfolio. They generally license without bringing litigation, and fund their initial patent acquisitions through capital raised by investors.⁷ On the other hand, Litigation PAEs use numerous affiliate entities to acquire and assert a small portfolio of patents, without bundling or aggregating them into large portfolios. They typically first sue potential licensees and settle shortly; often with relatively low value settlements below the expected costs of litigation.⁸

The European Commission's (EC) study thoroughly examined PAEs in Europe and identified 6 different business models. It found that PAEs can be differentiated whether they target main players in one industry with relatively high-quality patents ('focused assertion entities'), massively assert patents of relatively dubious quality ('serial assertion entities') assert patent with the aim of blocking competitors ('strategic assertion entities') or assert patents on behalf of practicing entities in ICT sector ('patent monetisation entities').⁹ On the other hand, it found that there are certain types of PAEs have the aim of facilitating patent licensing. Such are patent pools, that combine patents in certain technological area and offer a joint license for the whole portfolio, and defensive patent aggregators, that acquire problematic patents that can be asserted against practicing entities and then license the entire portfolio to its members in order to mitigate the risk of being accused for patent infringement.¹⁰

Therefore, when talking about PAEs it is important to note that PAEs come in many sized and shapes. The effects of PAE patent assertion would depend entirely on the adopted business model.

What is the problem with PAEs?

PAEs have mainly been U.S. phenomenon. There has been an "explosion" of PAE litigation in the U.S in the recent years, with several studies suggesting that PAEs are responsible for the majority of

² Federal Trade Commission, 'Patent Assertion Entity Activity: An FTC Study' (2016) (FTC PAE Activity Study) p. 1.

³ Fiona Scott Morton, Carl Shapiro, 'Strategic Patent Acquisitions' (2013) 79 *Antitrust Law Journal* 464, 464.

⁴ *Ibid.*

⁵ *Ibid.*

⁶ FTC: PAE Activity Study (n 2), p. 3.

⁷ *Ibid.*, p. 45-47.

⁸ *Ibid.*, p. 47-50.

⁹ European Economics, *Patent Assertion Entities in Europe* (Nikolaus Thumm, Garry Gabison (eds.), Joint Research Center 2016) (JRSC: PAEs in Europe) p. 130-132.

¹⁰ JRSC: PAEs in Europe, (n. 9) p. 132-133.

patent cases in the U.S.¹¹ According to one report, approximately 69% percent of the patent cases filed in the U.S. in 2015 were initiated by PAEs.¹²

The major criticism of PAEs business model is that they supposedly impose licensing and litigation costs that do not reflect the value of the patented technology at issue.¹³ Instead, critics argue that PAEs use the fact that they are immune from patent infringement counter suits because they do not produce patented products, as well as high costs of litigation,¹⁴ to pressure companies into settlement or unfavourable licensing agreements that do not reflect that overall value of the patented technology.

Put differently, the principal problem raised with PAEs is that they engage in *ex post* licensing – that is after firms have invested in creating, developing or commercialising the patented technology and incurring significant sunk costs – as opposed to *ex ante*, which is before companies incur any costs in the commercialisation of technologies.¹⁵ Patent licensing that occurs *ex ante* is presumptively efficient because royalty rates will reflect licensee’s choice between alternative technologies and products designs. *Ex post* licensing, by contrast, occurs after manufacturers have invested into the technology, and licensing royalties are believed to reflect the costs of redesigning the product and the expected costs of litigation.¹⁶

Precisely because of the *ex post* licensing, PAEs have been claimed to impose a ‘tax on innovation’¹⁷ and have been pejoratively called ‘patent trolls’, as a reference to the children’s tale of the three billy goats who must pay a toll to the troll waiting under the bridge if they wish to pass.¹⁸ Similarly to billy goats, practising companies must pay their toll to patent trolls if they wish to continue manufacturing patented products.

Another criticism, at least in the U.S., is that PAEs mainly assert weak software patents in the ICT sector and primarily target small companies. According to some reports, the patent portfolio of studied

¹¹ US Government Accountability Office, Report to Congressional Committee, Intellectual Property: Assessing Factors That Affect Patent Infringement Litigation Could Help Improve Patent Quality, August 2013 (GAO Report) p. 17; Executive Office of the President, Patent Assertion and US Innovation, June 2013; Robin Feldman, Tom Ewing, Sara Jeruss, ‘The AIA 500: Expanded: The Effects of Patent Monetization Entities’ (2013) 17 *UCLA Journal of Law & Technology* 1, 5;

¹² RPX Corporation, 2015 Report: NPE Litigation, Patent Marketplace and NPE Costs (2016) p. 7.

¹³ FTC Patent Assertion Entity Study (n. 2), p. 24; Fiona Scot Morton, Carl Shapiro (n. 3) (explaining how PAEs use “outside threats”, such as requesting injunctions, suing end-customers, strategically filing suits during target’s initial public offering or other funding events, hiding their patent portfolio and building reputation as aggressive patent monetizers, to extract unreasonably high royalties from practicing firms).

¹⁴ See: American Intellectual Property Law Association, ‘Report of the Economic Survey’ (2015) (AIPLA Report 2015), p. 37-38. (finding that the average cost of patent litigation in the U.S. was \$2 million where the amounts in controversy are up to \$10 million, raising to \$5 million in costs when the amount in controversy are more than \$25 million). However, PAEs incur much lower litigation costs than practising entities because they do not make products and have less information to disclose during discovery process. On the other hand, patent litigation in Europe is less expensive than in the U.S. but nevertheless still high. See: JRSC: PAEs in Europe (n. 9) p. 40 (holding that average costs for defending one patent infringement lawsuit in Europe range from \$550,000 to \$3.5 million).

¹⁵ See Brian Love, ‘An Empirical Study of Patent Litigation Timing: Could a Patent Term Reduction Decimate Trolls Without Harming Innovators?’ (2013) 161 *University of Pennsylvania Law Review* 1309; Michael Risch, ‘Patent Troll Myths’ (2012) 42 *Seton Hall Law Review* 456; Federal Trade Commission: The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition (2011) (FTC: The Evolving IP Marketplace) p. 50-54.

¹⁶ FTC: The Evolving IP Marketplace (n 15) p. 52. See also: Alan Devlin, *Antitrust and Patent Law* (1st edition, Oxford University Press 2016) p. 80-82.

¹⁷ FTC: PAE Activity Study (n. 2) p. 24; James Bessen, Michael Meurer, ‘The Direct Costs from NPE Disputes’ (2014) 99 *Cornell Law Review* 387 (finding that PAE patent assertion imposed costs to the US society of \$500 billion from 1990 to 2010, and approximately \$30 billion in 2011 alone); RPX Corporation, ‘NPE Litigation: Costs by Key Events’ (2015) (finding that PAE litigation costed operating companies around \$12.2 billion in 2014); however see: David Schwartz, Jay Kesan, ‘Analyzing the Role of Non-Practicing Entities in the Patent System’ (2014) *Cornell Law Review* 425 (criticising the methodology and results of Bessen and Meurer).

¹⁸ Tom Ewing, Robin Feldman, ‘The Giants Among Us’ (2012) *Stanford Technology Law Review* 1, p. 1.

PAEs included approximately 75% of software related patents,¹⁹ while more than half of defendants were small companies.²⁰

In Europe, however, PAEs are present to a lesser extent, but their importance is growing. A recent empirical study found that PAEs accounted for approximately 10% of patent assertions in Germany (between 2000 and 2008) and the UK (2000 – 2013).²¹ Another European peculiarity is that PAEs often assert standard essential patents against large telecommunications operators.²² Thus, the characteristics of PAE litigation in Europe differs to some extent from the U.S. but shares the common problem associated with ex-post licensing

In sum, critics fear that PAE litigation clogs the judicial system, harms targeted companies, has negative impact on innovation by diverting resources from research and development, and ultimately increasing the costs of products and services across industries.

On the other hand, defenders of the PAE business model counter that these entities are operating within their legal rights by asserting patents duly issued by governmental authorities.²³ Patents are tradeable rights and there is nothing in patent law suggesting that patents can only be asserted by the entities obtaining them from the patent office. Another argument in support of PAE business model is that they are able to monetise under-utilised patents, providing needed liquidity to the market and helping innovators who are unable to compete directly with large companies.²⁴ In other words, they protect inventors by bringing asserting patents on their behalf, which they otherwise would not be able to do because of high costs of litigation.²⁵

Therefore, as mentioned before, it cannot be generally said whether PAE business model is desirable or not. Rather, it all depends on the way PAEs behave in practice.

PAEs and Standard Essential Patents in ICT industry

What happens when PAEs assert patents that are essential for widely adopted standards? Technical interoperability standards are of significant importance in information and telecommunications industry as they enable devices produced by different companies to work together.²⁶ An example of widely used standards are UMTS (3G) and LTE (4G) in telecommunications industry; Wi-Fi and USB in computer hardware sector; MPEG and PDF standards in computer software industry and Blue Ray disc in electronics industry.

Interoperability standards are generally developed by private companies that collaborate within standard-setting organisation (SSO).²⁷ Successful standards often include patented technologies from companies participating in standards development. As such, a large number of patents cover

¹⁹ FTC: PAE Activity Study (n. 2), p. 135. see also GAO Report (n. 11) p. 22.

²⁰ Coleen Chien, 'Startups and Patent Trolls' (2014) 17 *Stanford Technology Law Review* 461; also RPX Corporation, 2015 Report: NPE Litigation, Patent Marketplace and NPE Costs (2016) p. 30.

²¹ Brian Love, Christian Halmers, Fabian Gaessler, Max Ernicke, 'Patent Assertion Entities in Europe' in Daniel Sokol (ed), *Patent Assertion Entities and Competition Law* (Cambridge University Press 2017).

²² JRSC: PAEs in Europe (n. 9) p. 25-28.

²³ Damien Geradin, 'Anne Layne-Farrar, Jorge Padilla, 'Elves or Trolls? The Role of Nonpracticing Patent Owners in the Innovation Economy' (2012) 21 *Industrial and Corporate Change* 73 (discussing how patents in the hands of non-practicing entities cannot be simplistically views as either good or bad).

²⁴ FTC: The Evolving IP Marketplace (n. 15), p. 67-71; James McDonough III, 'The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy' (2006) 56 *Emory Law Journal* 189.

²⁵ Stephen Haber, Seth Werfel, 'Why Do Inventors Sell to Patent Trolls? Experimental Evidence for the Asymmetry Hypothesis' (2015) available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2552734 (finding that asymmetry in financial resources between individual patent holders and manufacturers prevents individuals from making a credible threat to litigate against infringement); Michael Risch (n. 15) (finding that NPEs provide a better way for individuals to enforce their patents than bringing lawsuits themselves).

²⁶ See: Brad Biddle et al, 'The Expanding Role and Importance of Standards in the Information and Communications Technology Industry' (2012) 52 *Jurimetrics* 179.

²⁷ For the discussion on different types and workings of SSOs, see European Commission, 'Patents and Standards: A Modern Framework for IPR Based Standardisation' (2014) (EC Patents and Standards Study) p. 31-33.

important interoperability standards. 3G UMTS and 4G LTE standards reportedly have over 23,500 and 4,600 declared SEPs respectively.²⁸ The video coding standards MPEG-2 and MPEG-4 are believed to have around 800 declared SEPs,²⁹ while the Wi-Fi standard is estimated to have around 3000 declared SEPs.³⁰

Patents that are a necessary to implement to comply with a standard are called Standard Essential Patents (SEPs). If patent is truly essential, then it is not possible to implement a standard without infringing a patent. In order to promote broad adoption of standards, SSOs general require from their member to license their SEPs on fair, reasonable and non-discriminatory (FRAND) terms.³¹ These commitments are intended to assure manufacturer that licenses will be available on terms that are reasonable, while at the same time assuring technology contributing companies that they will receive fair rewards for their research and development.

In recent years, operating companies have been increasingly divesting a part of their SEP portfolio to PAEs. Latest study found that approximately 80% patents asserted by PAEs came from operating companies.³² Not surprisingly, PAEs are increasingly asserting their newly acquired SEPs against other practicing entities. PAEs are responsible for the majority of SEPs suits in the U.S. (70%)³³ and Germany (78%),³⁴ and a lesser but still significant number in the UK (22%).³⁵ There are a number of well reported cases evidencing such trend, such as *In re Innovation IP Ventures*,³⁶ *Vringo v ZTE*,³⁷ *Unwired Planet v Huawei*,³⁸ and *Saint Lawrence v Vodafone*.³⁹

The alleged concern with PAE assertion of SEPs is that they would be able to impose unreasonably high licensing costs to practicing entities, because they must take a license in order to continue practicing the standard. Transferring part of SEP portfolio to other companies artificially inflates the number of licensors for the relevant standard, increasing the cumulative royalty yield. In other words, the disaggregation of patent portfolio raises 'Cournot complements' problem, meaning that the aggregate royalty that will be charged by multiple firms will exceed the royalty that would be charged by a single firm.⁴⁰ Further, due to characteristics of PAEs described above, they are believed to be able to impose higher licensing costs than practicing entities, making the implementation of standard excessively costly, damaging practicing entities and harming consumers.

The next section will discuss to what extent such concerns are possible.

²⁸ Rudi Bekkers, Arianna Martinelli, 'Knowledge Positions in High-Tech Markets: Trajectories, Standards, Strategies and True Innovators' (2012) 79 *Technological Forecasting & Social Change* 1192, 1203; C-170/13, *Huawei Technologies v ZTE*, ECLI:EU:C:2015:477 p. 40. Note that the patent declared by the company to be SEP does not necessarily mean that the patent is essential in fact. Over declaration of SEPs is generally seen as a problem within SSOs. For more information see: EC Patents and Standards Study (n. 27) p. 114-117.

²⁹ Fraunhofer Institute, 'Study on the Interplay Between Standards and Intellectual Property Rights' (2011) p. 62.

³⁰ *In re Innovation IP Ventures LLC Patent Litigation* 956 F.Supp.2d 925 (N.D. Illinois 2013) 41-42.

³¹ Rudi Bekkers, Andrew Upgedrove, 'A Study of IPR Policies and Practices of a Representative Group of Standards Setting Organizations Worldwide' (2012), Commissioned by the US National Academies of Science, Board of Science, Technology, and Economic Policy (STEP), Project on Intellectual Property Management in Standard- Setting Processes (finding that all analysed SSOs contain FRAND or royalty free licensing rules).

³² JRSC: PAEs in Europe (n. 9) p. 19.

³³ Jorge Contreras, 'Assertion of Standard Essential Patents by Non-Practicing Entities' in Daniel Sokol (ed.) *Patent Assertion Entities and Competition Law* (Cambridge University Press 2017), p. 58-59.

³⁴ Jorge Contreras, Fabian Gaessler, Christian Helmers, Brian Love, 'Litigation of Standard-Essential Patents in Europe: A Comparative Analysis' (2017) *Berkeley Technology Law Review* forthcoming (data for 2000-2008 period).

³⁵ *Ibid* (data for 2000-2013 period).

³⁶ *In re Innovation IP Ventures LLC Patent Litigation* 956 F.Supp.2d 925 (N.D. Illinois 2013).

³⁷ *Vringo v ZTE* [2013] EWHC 1591 (Pat).

³⁸ *Unwired Planet v Huawei* [2017] EWHC 711 (Pat).

³⁹ *Saint Lawrence v Vodafone*, Dusseldorf Regional Court, 4a O 73/14 (31 March 2016).

⁴⁰ Carl Shapiro, 'Navigating the Patent Thicket: Cross Licensing, Patent Pools, and Standard Setting', (2000) 1 *Innovation Policy and the Economy* 119.

How much higher licensing costs can PAEs actually impose for SEPs?

A preliminary issue to consider is to what degree are PAEs bound by the FRAND licensing commitments made by original SEP owners? PAEs generally do not participate in the standard-development process and are typically not members of standard-setting organisation. If the original SEP owner gave commitment to license their essential patents on FRAND terms and then transfers its SEPs to PAEs, does the FRAND commitment follow with the patent or can the PAE claim that it is not bound by predecessors FRAND licensing commitment and thus charge more than the transferor?

It has been generally accepted that FRAND commitment follows with the patent. The EU and U.S. antitrust authorities have been holding that failure to abide by previous owners FRAND commitment would be contrary to competition laws.⁴¹ There is, however, no court case yet or a final decision of the competition authorities sanctioning the sale of SEPs without FRAND obligation as breach of competition law. The Central District Court of California came close in *Vizio v Funai*, where it denied a motion to dismiss claims that companies violated Section 1 of the Sherman Act by failing to transfer FRAND obligation to assignee of SEPs.⁴²

Furthermore, all major SSOs have amended their IP rules to clarify that FRAND commitment binds subsequent owners.⁴³ Therefore, PAEs would be bound to comply with FRAND commitment either via contract law mechanism or, alternatively, via competition law. As such, to date there appears to be no cases where PAEs have been successful in claiming that they are not bound by transferor's FRAND commitment.

Another, often overlooked, issue is which companies can PAEs actually target. When a company transfers its patents to PAE, it transfers not only FRAND commitment but all other encumbrances, including all existing licensing agreements. In other words, transferee "stands in the shoes" of the transferor,⁴⁴ and is subject to all existing patent licenses. As such, PAEs can only target those practicing companies that have: i) never taken a license from the transferor, or ii) had previously taken a license, but the license expired.

Therefore, it is hard to justify the complaints of companies that have never taken a license before, either because they successfully avoided licensing negotiations with the previous SEP owner or because they are newcomers to the market, that they would now have to pay something for the use of patented technology. As to the argument that licensing demands PAEs may be are unreasonable, FRAND commitment is in place to ensure that PAEs would not be able to extract unreasonable licensing terms.

In sum, PAEs are bound by FRAND commitment and existing licenses of the transferor. This means that they can only target those companies that are not licensed and, when they do approach such companies, they can only ask for a royalty that is FRAND. The potential for PAEs to extract unreasonably excessive licensing royalties for SEPs is therefore constrained.

⁴¹ See in the US: In the Matter of Negotiated Data Solutions, FTC File No. 051 0094; in the EU: Antitrust: Commission welcomes ICom's public FRAND declaration, 10 December 2009, MEMO/09/549; Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements, OJ 2011/C 11/01 para 285.

⁴² *Vizio Inc v Funai Electric Co. Ltd.*, 2010 WL 7762624 (C.D. Cal).

⁴³ See: ETSI Rules of Procedure, Annex 6: ETSI Intellectual Property Rights Policy, clause 6.1bis (20 April 2016); ANSI Essential Requirements: Due Process Requirements for American National Standards, clause 3.1.1. (January 2017); IEEE-SA Standards Board Bylaws, section 6.2 (December 2015); Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC, Section 7 and Annex 2 (26 June 2015) (all providing that: i) FRAND commitment shall be interpreted as encumbrances that bind all successors in interest; ii) the SEP holder must include provisions in patent transfer agreement that FRAND commitment is binding on the transferee (i.e. transferee must accept to be bound by FRAND commitment; and iii) the SEP holder must include provisions in patent transfer agreement ensuring that transferee shall, in case of future transfers, include similar provision to bind its subsequent transferees to respect FRAND obligation and that transferees shall do the same in case of any future transfer)

⁴⁴ See: Noel Byrne, Amanda McBratney, Licensing Technology (3rd edition, Jordans Publishing 2005) p. 17.

Patent privateers – a growing concern

However, although PAEs should comply with FRAND licensing commitment, a growing current concern is the practice of operating companies transferring a part of their SEP portfolio to PAEs that monetise patents on behalf of operating companies. Operating companies enter into an agreement with PAEs where they may receive a share of the revenue acquired from the assertion of SEPs, determine the method or a level of royalty that PAE may charge or structure the transaction so that PAE will primarily target operating company's competitors.

In the literature, this type of business practice is referred to as a 'Hybrid PAE',⁴⁵ or 'patent privateering' based on the historical practice of kingdoms issuing 'letters of marque' to sea captains who were free to attack and capture enemy vessels. Letters of marque protected privateers with the charge of piracy, who in turn had to share spoils of such ventures with the government.⁴⁶ Privateering thus allowed governments to enlist private parties and wage war against other countries with no impact on the treasury.⁴⁷ Similar to historical privateers, PAEs attack competitors of operating companies and share spoils with them.

Two main issues have been raised over privateering practice. First, transferring a part of SEP portfolio to other companies inflates the number of licensors for the relevant standard. Even though PAEs should still charge FRAND terms for SEPs, the overall royalty that is now charged by the transferor and the PAE for the SEP portfolio could be higher than the royalty charged when all SEPs were in the hand of transferor.

Another concern with privateering model is that operating companies may structure a transaction agreement in such way as to provide incentives for PAEs to target operating company's rivals, thus raising their costs and harming their operations.

The problems identified above are actively happening in practice, and are not merely theoretical. For instance, in one recent UK case, Unwired Planet, a PAE, acquired some 2.185 SEPs from Ericsson and later sued Google, Samsung and Huawei for infringement of five SEPs and one non-essential patent.⁴⁸ The transfer agreement between Ericsson and Unwired Planet included terms in which Ericsson shares in the revenue earned by Unwired Planet from licensing the patents.

Similarly, in one recent U.S. case, PAEs Acacia, Conversant and Core Wireless have acquired SEPs from Nokia, where Nokia retained the right to receive a share of royalties or settlements that PAEs obtain, and asserted such patents against Apple.⁴⁹

Competition law solution?

In response to aggressive privateering, a number of commentators and legal cases have been brought alleging that Hybrid PAE model represents a harm to competition and thus violates competition laws.⁵⁰

The main argument in support of competition law intervention is that Hybrid PAE model not only raises overall costs to implementer companies for licensing SEPs due to disaggregation of patent

⁴⁵ Fiona Scott Morton, Carl Shapiro, 'Strategic Patent Acquisitions' (n. 3) p. 489.

⁴⁶ See John Golden, 'Patent Privateers: Private Enforcement's Historical Survivors' (2013) 26 *Harvard Journal of Law & Technology* 545, 557; Tom Ewing, Robin Feldman, 'The Giants Among Us' (2012) *Stanford Technology Law Review* 1, p. 13..

⁴⁷ Tom Ewing, Robin Feldman (n. 46) p. 13.

⁴⁸ *Unwired Planet v Huawei* [2017] EWHC 711 (Pat).

⁴⁹ see *Apple v Acacia, Saint Lawrence, Conversant and Core Wireless*, No. 16-CV-7266 (N.D. Cal. 2016)

⁵⁰ In argument for competition law intervention see: Daniel Sokol, 'Patent Privateering: The Rise of Hybrid Patent Assertion Entities' in Daniel Sokol (ed), *Patent Assertion Entities and Competition Law* (Cambridge University Press 2017); Mark Popofsky, Michael Laufert, 'Antitrust Attacks on Patent Assertion Entities' (2014) 79 *Antitrust Law Journal* 445; Maurits Dolmans, 'Privateers and Trolls Join the Global Patent Wars: Can Competition Authorities Disarm Them?' (2014) 37 *Computerrecht* 80; Mark Popofsky, Michael Laufert, 'Patent Assertion Entities and Antitrust: Operating Companies Patent Transfers' (2013) *Antitrust Source*, April 2013; Michael Carrier, 'Patent Assertion Entities: Six Action the Antitrust Agencies Can Take' (2013) *CPI Antitrust Chronicle*, January 2013.

portfolio, but also helps operating companies that transfer their SEPs to PAEs to harm their rivals by raising their overall licensing costs. Further, by retaining an interest in collected royalties by PAEs, operating companies are believed to be able to earn more than they would have if they would have licensed the whole portfolio by themselves. US commentators have suggested the more aggressive use of merger control process via Section 7 of the Clayton Act, Section 1 of the Sherman Act on unlawful restraints on trade, or considering such practice as an unfair method of competition contrary to the Section 5 of the FTC Act.⁵¹

Similarly, in the EU, Dolmans argues that Hybrid PAE model represents restriction of competition by object, contrary to Article 101 TFEU.⁵² He concludes that an analysis 'by object' is appropriate because "standard economic analysis indicates that fragmentation of patent ownership has a foreseeable Cournot royalty stacking effect; raising rivals' costs and using PAE has a foreseeable royalty raising effect as countervailing power is eliminated."⁵³

Indeed, companies have invoked competition law defence in proceedings against PAEs. For instance, Apple has alleged in one US case that Nokia conspired with a number of PAEs, such as Acacia Research and Conversant, to divide Nokia's portfolio of SEPs in order to collect excessive licensing fees, contrary to its FRAND commitment, supposedly representing a violation of US competition laws.⁵⁴ Apple alleged that Nokia failed as a supplier of cell phones and changed its business model from producing cell phones to monetizing its SEPs. In doing so, Nokia allegedly charges excessive royalties and uses the strategy of divesting its SEP portfolio to PAEs to harm more successful cell phone makers like Apple.

Likewise, in the EU, the agreement between Ericsson and Unwired Planet was challenged before the UK and German courts as contrary to EU competition law because it allowed Ericsson to disaggregate its SEP portfolio, effectively evading its FRAND commitment and allowing Ericsson to earn allegedly unfair higher royalties.⁵⁵

Better way – a FRAND approach

Nevertheless, the application of competition law may not be an appropriate mechanism in case of patent privateering involving FRAND committed SEPs.

Critics point out that standard competition law analysis would hardly apply in PAE cases and suggest that the real problem lies in the procedural rules and the quality of issued patents.⁵⁶ A concern that PAS may impose higher licensing costs, without more, would hardly be caught by standard competition law analysis. The US competition law does not prohibit excessive licensing royalties as such,⁵⁷ while in the EU excessive royalties, as an abuse of dominant position, are difficult to establish and it is further questionable whether from a policy perspective competition authorities should engage in price regulation.⁵⁸ As Wright and Ginsburg note, applying competition law "stretches the standard analysis beyond its limits in an attempt to discourage use of a particular business model."⁵⁹

⁵¹ See: Daniel Sokol (n. 50); Mark Popofsky, Michael Laufert (n. 50); Michael Carrier (n. 50).

⁵² Maurits Dolmans (n. 50) p. 86.

⁵³ Ibid.

⁵⁴ *Apple v Acacia, Saint Lawrence, Conversant and Core Wireless*, No. 16-CV-7266 (N.D. Cal. 2016).

⁵⁵ *Unwired Planet v Huawei* [2015] EWHC 2097 (Pat); *Unwired Planet v Samsung*, LG, Dusseldorf Regional Court, 4b O 120/14 (19 January 2016)

⁵⁶ Joshua Wright, Douglas Ginsburg, 'Patent Assertion Entities and Antitrust: A Competition Cure for a Litigation Disease?' (2014) 79 *Antitrust Law Journal* 501; John Jurata, Amisha Patel, 'Taming the Trolls: Why Antitrust is Not a Viable Solution for Stopping Patent Assertion Entities' (2014) 21 *George Mason Law Review* 1251; also: Maureen Ohlhausen, 'The Elusive Role of Competition in the Standard-Setting Antitrust Debate' (2017) 20 *Stanford Technology Law Review* 93 (arguing generally that competition law should play a limited role in SEP disputes).

⁵⁷ John Jurata, Amisha Patel (n. 56) p. 2174-1277.

⁵⁸ See: Damien Geradin, 'Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: A View from Europe' (2009) 76 *Antitrust Law Journal* 329.

⁵⁹ Joshua Wright, Douglas Ginsburg (n. 56) p. 511.

However, more fundamentally, supporters of competition law intervention ignore that SEPs are encumbered by FRAND commitment. As seen above, FRAND commitment travels with the patent and in no case of patent privateering to date have PAEs successfully argued that they are not bound by FRAND commitment. Properly constructed, FRAND commitment constrains the market power of the patent holder and acts as a pricing mechanism. It can ensure that PAEs are not able to impose excessive licensing fees to operating companies.

How does FRAND commitment work in practice? The courts have generally recognised that FRAND is an enforceable third-party beneficiary contract,⁶⁰ and all implementers of a standard can invoke a contractual defence in court that the SEP holder should license its essential patents on FRAND terms. Courts are increasingly being asked to determine FRAND terms and a number of methodologies for calculating FRAND royalties have emerged.⁶¹

A good example on how to set FRAND royalties in case of patent privateering may be the UK's *Unwired Planet v Huawei* case.⁶² As mentioned above, the case concerned Ericsson's transfer of a number of its SEPs to Unwired Planet, a PAE, which later sued Google, Samsung and Huawei for patent infringement. The court, among other things, had to consider how to calculate FRAND royalty for Unwired Planet's SEP portfolio which it acquired from Ericsson.

Mr Justice Birss first looked at Ericsson's prior licensing agreements for the SEPs in question and determined that they should be used for calculating Unwired Planet's royalties.⁶³ Accordingly, Birss J. reasoned that the appropriate FRAND royalty for Unwired Planet's SEP portfolio should be the rate charged by Ericsson for its SEP portfolio, scaled down to represent the relative strength of Unwired Planet's smaller portfolio.⁶⁴ Therefore, by taking the licensing agreements of Ericsson (the prior owner of the SEPs) as a benchmark for calculating FRAND royalties for Unwired Planet's SEPs, Birss J. practically ensured that patent privateering would not cause the imposition of excessive royalties to other operating companies.

Furthermore, Birss J. used a "cross-check" to ensure that cumulative royalties for a standard are not excessive. It calculated the total aggregate SEP royalty burden of a particular standard on a product (i.e. a percentage of a smartphone price that should be charged for patents covering 4G standard) and then calculated the share of the aggregate royalty that is allocable to the SEP holder (Unwired Planet).⁶⁵ This method had the aim to ensure that Unwired Planet's share in the total royalties for a particular standard remains FRAND.

A lesson from the *Unwired Planet* case is that patent privateering can be successfully tackled by proper interpretation of FRAND commitment.⁶⁶ If FRAND royalties are calculated in relation to prior owner's licensing agreement, with cross check of the value of the PAE's SEP portfolio in relation to other patents in a standard, it would ensure that PAEs would not be able to impose overall excessive licensing fees to practicing companies. Even if SEP portfolio is disaggregated, overall royalties will remain fair and reasonable.

Finally, the last question may be whether the PAE must charge the same royalty for transferred SEPs as the transferor, or whether it may decide to change the royalty rate? An argument may be made

⁶⁰ *Unwired Planet v Huawei* [2017] EWHC 711 (Pat) para 98-147; *Microsoft v Motorola*, 696 F.3d 872, 878 (9th Cir. 2012); *Apple v Motorola*, 886 F.Supp.2d 1061 (W.D. Wisconsin 2012); also Gregory Sidak, 'A FRAND Contract's Intended Third Party beneficiary' (2016) 1 *The Criterion Journal of Innovation* 1001.

⁶¹ See Chryssoula Pentheroudakis, Justus Baron, 'Licensing Terms of Standard Essential Patents. A Comprehensive Analysis of Cases' (2017) JRC Science for Policy Report (analysing cases where courts have determined FRAND royalties).

⁶² *Unwired Planet v Huawei* [2017] EWHC 711 (Pat) paras 179-180.

⁶³ *Ibid.*

⁶⁴ *Ibid.*

⁶⁵ *Ibid.* 476.

⁶⁶ A similar conclusion was reached in German *Unwired Planet v Samsung* case, where the Düsseldorf court found that it was not a breach of competition law to transfer SEPs to PAEs, as long as that overall royalties remained FRAND and no unjustified discrimination took place. See: *Unwired Planet v Samsung*, LG Düsseldorf, 19 January 2016 - Case No. 4b O 120/14.

that acquired patents are particularly strong, were undervalued or not monetised by transferor. The success of these arguments would depend on the facts of the case. Prior licensing agreements of the transferor would have high probative value and the burden of proof should be on the transferee to demonstrate why the increase in price is justified. In any event, the FRAND commitment requires that the rate charged by the transferee, as well as the overall rate for the standard, to be within the FRAND range. Put differently, the transferee would be able to argue that the increase in royalty rate is justified by the strength of acquired portfolio and the fact that acquired patents were licensed on the lower end of FRAND range, as long as any price increase is still within the FRAND range for the SEPs in question and for the standard overall. Indeed, such position was confirmed by Dusseldorf court in German *Unwired Planet v Samsung* case.⁶⁷

In sum, FRAND commitment provides an efficient remedy against potential harmful effects of patent privateering.

Conclusion

The aim of this article was to demonstrate that PAEs are not a unitary phenomenon, but adopt many different business models. It is therefore incorrect to label all PAEs as “bad”. Instead, the effects of patent assertion would depend on the specific PAE business model.

Moreover, in the context of standard essential patents, the potential harmful effect of patent privateering can be avoided by the proper interpretation of FRAND commitment. FRAND commitment effectively constrains the licensing demands of PAEs, making competition law intervention unnecessary.

⁶⁷ *Unwired Planet v Samsung*, LG Düsseldorf, 19 January 2016 - Case No. 4b O 120/14 (finding that the acquirer of SEPs is not obliged to continue with transferee’s licensing practice as long as the overall licensing conditions are within the FRAND range).