

Are Property Rules a Liability?

An argument for the inclusion of liability rules in patent law

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ABSTRACT

This paper examines liability rules in the context of patent law. At a time when technology is rapidly developing, the overwhelming use of property rules to protect the rights awarded by patents may be stifling innovation. Using Calabresi and Melamed's theory of entitlement, economic analysis of the current state of patent enforcement may be conducted, and a new direction for efficient patent infringement under a liability rule framework emerges.

Introduction

Patents are a form of intellectual property, comprising of a government license that gives the holder exclusive rights to a process, design or new invention for a designated period of time. In New Zealand, a patent registered under the Patents Act affords its owner the right to exploit an invention for a 20-year period.¹ In return for this designated monopoly, the patentee must disclose all details of their invention on the patents register, so that the public can understand the technology and then make use of it once the patent expires.² To qualify for a patent the invention to be protected must be:³

- (1) novel;
- (2) involve an inventive step; and
- (3) be useful.

New Zealand, like most countries, also excludes from patentability any invention that would be contrary to public order or morality.⁴ Thus, it is only under certain conditions that it is possible for a patent to be granted, and this is decided according to the rules created by the legislature.

The general aim of patent legislation is to promote innovation and economic growth.⁵ In accordance with this aim, a patent confers to the holder an exclusionary right over the use of a particular idea. It gives owners the right to prohibit all others from using their idea, and the courts may protect this right by awarding an injunction against those who infringe on the

¹ Paul Sumpter *Intellectual Property Law: Principles in Practice* (2nd ed, CCH New Zealand Ltd, Auckland, 2013) at 501.

² Sumpter, above n 1.

³ Patents Act 2013, s 14.

⁴ Section 15.

⁵ Section 3.

patent.⁶ This is thought to be the most effective way to promote innovation.⁷ Exclusionary rights offer the assurance that no one but the patent holder will be able use the patented concept for the specified time period, giving the patent holder time to develop and invest in their invention and making return on investment more likely.⁸ As the patent holder has a designated monopoly over the invention, they will not be subject to unauthorised market competition until the patent lapses. It also allows the patent-holder to license or sell the rights to use their patent to others, and increases their negotiating power. This is especially so in lucrative markets where others are likely to want to use their idea.

It is generally thought that without the exclusionary rights offered by patents, innovation will be stifled. This paper will argue that the opposite is true. As technology sectors grow exponentially, the overlapping rights from an increasing number of patents in all jurisdictions are encumbering cumulative innovation processes, suggesting that that the traditional framework needs to be reviewed. Using Calabresi and Melamed's theory of entitlement, it can be illustrated that non-exclusionary rights in patent law may be more effective in promoting innovation and efficiency than the current exclusionary ones. It is likely that employing liability rules in the protection and enforcement of patent rights will create a more efficient infringement system. This paper will firstly go over (I) the Anticommons problem that could arise when there are too many exclusionary patent rights in a particular sector. It will then discuss (II) Calabresi and Melamed's theory of entitlement, and explain how property rules and liability rules relate to patents. It will analyse (III) the current state of patent infringement law in the context of entitlement theory, and weigh up (IV) the efficiency implications of both property and liability rules in patent law. (V) Strategic behaviour and overclaiming will also be noted as symptoms of the overuse of property rules. This will

⁶ Section 152. Damages and account of profits may also be available at the option of the plaintiff.

⁷ Peter Lee "The Accession Insight and Patent Infringement Remedies" (2011) 110 (2) Mich.L.Rev 175 at 180.

⁸ Sumpter, above n 1.

illustrate (VI) that the case for liability rules is stronger than the case for property rules only, particularly in relation to improvement on patented technology. This is bolstered by the recent US decision *eBay v MercExchange*,⁹ and the doctrine of accession, which together indicate (VII) a new direction in which patent law could potentially develop. Finally, a practical framework for the courts to use in assessing infringement remedies will be described. This will illustrate that liability rules have an undeniable place in the evolution of efficient patent infringement in a technological context.

I) The Anticommons Problem

A) The tragedy of the commons:

Where there are resources available for common use, they are bound to be overused, as each individual has an incentive to use the common resource for as much of their own gain as possible. This is because of the transaction costs of freeriding, which create an incentive to let the group bear the costs and bear none of the costs as individuals. By awarding exclusionary rights to resources in the form of property rights, the tragedy of the commons situation is likely to be avoided, as owners will be incentivised to care for their property and prevent its overuse. But excessive or fragmented issuance of property rights can conversely give rise to the tragedy of the anticommons.¹⁰ This is a type of coordination breakdown, where too many rightsholders in property debar others from its use and prevent socially beneficial outcomes. This issue lies at the heart of this paper. If patent rights over ideas are too fragmented, it becomes increasingly difficult for new inventions to be developed without infringing on the rights of others. This could be rendering the patent system inefficient.

⁹ *eBay Inc. v. MercExchange, L.L.C.* (2006) 547 U.S. 388.

¹⁰ Michael Heller "The Tragedy of the Anticommons: Property in the Transition from Marx to Markets" (1998) 111(3) Harv.L.Rev. 621.

B) The tragedy of the Anticommons

The tragedy of the anticommons is a theory originally developed by Michael Heller, and describes the situation where too many owners hold rights to the exclusive use of a resource, leaving it prone to underuse.¹¹ It essentially mirrors the tragedy of the commons. Heller explores the ‘Marx to Markets’ transition period in Russia as an example of the way anticommons property may come into existence during a transitional regime.

In Russia, government efforts to move away from communist ideals of common ownership resulted in issuance of new rights to underutilised resources such as street front shops. But awarding rights to these resources failed to combat their lack of use. It was found that people would persist in selling goods from individual street carts while the shops remained empty. Heller explains that this occurred because initial endowments issued by the government amounted to ‘disaggregated rights rather than coherent bundles’ of rights, and anyone who tried to acquire a full set of rights was deterred by the high transaction costs associated with the acquisition.¹² Heller suggests that this situation would not be necessarily ‘tragic’ if transaction costs did not exist.¹³ In a world of cost-free transactions, redistribution of the initial endowments into usable bundles would happen easily through the process of unobstructed trade. But the transaction costs arising from negotiating and implementing bargains in the real world encumber this process, by disincentivising rightsholders from negotiating and generally preventing the redistribution of rights into bundles which could allow the resources to be fully utilised.¹⁴ It can therefore be said that when new rights are issued that do not represent *full* ownership of a given resource, there is a risk that the anticommons situation will arise. This may result in a communication breakdown where

¹¹ At 622.

¹² At 623.

¹³ At 625.

¹⁴ At 623-624

multiple rightsholders are not able to cooperate in order to make full use of the resource, as the costs of transacting are too high.

C) The Anticommons scenario in relation to patent law

The patenting of a new idea or technology involves the issuance of a new right in respect of that idea. So as technology advances and more patents are registered, new rights are continually being issued without the possibility of knowing how these rights will impact further innovation.

Innovation relies on a foundation of cumulated research. In order for any new technology to be developed, scientists and inventors must build on the ideas of predecessors and use their own findings to advance these ideas further. However, in legal systems where patenting new technology is the norm, commercialising innovative ideas is becoming more difficult. Where areas of innovation are particularly complex, requirements to pay royalties and taxes to those who have contributed to the industry have significant practical implications and could possibly be stifling progress. The last twenty years has seen an explosive development of new technology, and there has been a sharp rise in the number of patents granted in respect of this. It is not always clear to what extent rights are enforceable. When rights are challengeable, they may be subject to costly litigation, and this deters inventors.

The growing number of patents has led to a noticeable increase in strategic patenting behaviour.¹⁵ Firms may engage in intensive patent registration in order to gain industry bargaining power and obstruct competitive innovation, resulting in an overlapping web of patent rights that forces those who wish to bring new technology to the market to navigate the

¹⁵ Mark Lemley and Douglas Melamed "Missing the Forest for the Trolls" (2013) 113(8) Colum.L.Rev 2117 at 2119.

rights of a multitude of other patentees.¹⁶ Shapiro and other academics call these obstructive webs of intellectual property rights ‘patent thickets’.¹⁷ They are effectively an example of an anticommons situation, as they drastically increase the transaction costs of proceeding with innovation and disincentivise commercialisation of new technology. Thickets are especially detrimental when made up of strategically registered patents, the holders of which may be financially motivated with no intention of continuing to develop the innovative resource.

The following example will illustrate the issues inventors are likely to encounter within the current system where there is overuse of property rules.

An inventor creates a groundbreaking product, for example a robotic limb, which he would like to begin manufacturing and selling. It has huge social utility and is also anticipated to be hugely profitable. The product is highly technical, and the inventor has created every aspect of it himself without knowingly incorporating any other existing technology. However, as development continues, the inventor realises the design of a particular hinging mechanism key to the function of the limb has been patented by another person. The inventor will then be faced with four options:

1. He may attempt to make an agreement with the patent holder to buy or licence the rights to the patent. This will be costly.
2. He can avoid the patented product entirely, by using an inferior substitute or omitting it from the design. This will likely decrease the functionality, quality, profitability, and social utility of his product.

¹⁶ Johnathan Barnett “The Anticommons Revisited” (2015) 29(1) Harv.J.L.& Tech 128 at 128-129.

¹⁷ Carl Shapiro "Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting" (2001) 1 Innovation Policy and the Economy 119 at 121.

3. He can go ahead with the potentially infringing design, and face the likelihood of litigation further down the track. This will also be costly.
4. He may also simply give up on his invention, which will yield nothing.

In the situation that only one patent is potentially infringed, continuing the infringement may be a reasonable risk to take, as the extent of the rights of the patentee will not be certain until litigation takes place. The patent only provides the patentee with the right to sue the inventor in the aim of having an injunction awarded. There is thus a possibility that the court will determine the patent does *not* cover the invention, and the inventor will be able to continue their infringement with no costs aside from any litigation fees. But if the court decides that the new invention has infringed the existing patent, an injunction is likely to be awarded, meaning the inventor will have to refrain from using the patented idea. He may also have to pay account of profits or damages. This amounts to a considerable cost risk but may not be enough to deter the inventor from infringing.

However, there may be more than a single patent in the way of an invention, especially in complex areas of technology. The inventor will have to navigate around a web of overlapping rights to create their technology, which may require “numerous contracts with multiple, independent rightsholders”.¹⁸ This may be coincidental in the markets for certain products but may also be purposefully orchestrated by companies wanting to obstruct competition. For a single inventor, it will be extremely expensive to buy the rights to a multitude of patents, and risk of extensive litigation and damages may be so high that it becomes a complete deterrent. It makes innovation inefficient.

¹⁸ Robert Merges “Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organisations”(1996) 84(5) CLR 1293 at 1295.

The existence of these kinds of issues in our modern technological climate explains why it has become important to examine the way patents are enforced. If patented ideas are to continue to be developed, the law surrounding patent infringement and the protection of patent rights needs to be efficient, and it should not award more rights to exclude than are necessary. Otherwise, we will be faced with an anticommons situation, and technological development will stagnate.

II) Entitlement Theory

Calabresi and Melamed's theory of entitlement is one theoretical lens through which the patent system of rights can be examined.¹⁹ The theory establishes a framework that unifies the legal relationships given rise to by the laws of Torts and Property, and distinguishes between the entitlements underlying these relationships based on whether they are protected by a property rule, a liability rule, or inalienability. It articulates more clearly the nature of exclusive patent rights. Initially applied to the field of tort law, the framework identifies two main issues that any legal system must grapple with. These are the problems of *allocation* and *enforcement* of property rights.

In regards to entitlements (or rights), Calabresi and Melamed note "whenever a state is presented with conflicting interests, it must decide... which of the conflicting parties is entitled to prevail".²⁰ Thus, the role of the law is primarily to determine when one person's interests should be held higher than the interests of another. This entitlement conflict must be

¹⁹ Guido Calabresi and A. Douglas Melamed "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral" (1972) 85 Harv.L.Rev. 1089.

²⁰ At 1090.

addressed by the state in order to uphold the social contract and avoid the ‘might makes right’ situation where a party’s strength determines their access to goods, services, and life itself.²¹

The question that follows the allocation of an entitlement is how exactly that allocation should be *enforced* by the state. Calabresi & Melamed identify three possible ways to protect entitlements: through the use of property rules, liability rules, or inalienability.²² Categorisation of entitlement protection according to these three categories is useful as it captures the reasoning that lies behind protecting different entitlements in different ways. But it should be noted that entitlements to most goods are mixed, and a single entitlement can be protected by property rules in some circumstances and liability rules in others.²³ Inalienable entitlements may never be separated from their owner, so there can be no buying or selling other form of transfer. Unlike patents, they are non-negotiable. Inalienable entitlements therefore will not be discussed further as they bear no relevance to the field of patent law.

A) Property Rule theory

An entitlement that is protected by a property rule may only be removed or relinquished *voluntarily*.²⁴ That means that anyone wishing to remove the entitlement from its holder must buy it from that person in a voluntary transaction, in which the value of the entitlement is negotiated with the buyer and agreed upon by the seller.²⁵ It is therefore generally understood that this means the holder of the entitlement may exclude others from using it, i.e. it awards an *exclusive* right. Theoretically, protecting an entitlement with a property rule requires the lowest possible level of state intervention, because once the entitlement has been decided on,

²¹ At 1090.

²² At 1090.

²³ At 1093.

²⁴ At 1092.

²⁵ At 1092.

the state does not try to decide its value.²⁶ The prospective seller of the entitlement may retain it if the buyer does not offer enough.

B) Liability Rule Theory

An entitlement that is protected by a liability rule can be removed *involuntarily*. This means that anyone who wishes to “may destroy the initial entitlement if (they) are willing to pay an objectively determined value for it”.²⁷ This value is usually set by the state based on market prices. Protection by a liability rule therefore creates a liability from any person who takes the entitlement to the person who had it originally, but the entitlement may be infringed upon involuntarily. This will be manifested in court where the holder of the entitlement protected by the liability rule will receive some compensation, but the ‘infringer’ of the entitlement will be allowed to continue their infringement.

C) The Four Rule framework

The courts therefore essentially operate within a framework that will entitle one party or the other, and protect the entitlement with property or liability rules. It is generally described as a ‘four-rule’ framework because the courts must decide whether to place the initial entitlement with *either* party A or party B, and then decide whether to protect the entitlement with *either* property or liability rules.²⁸ It is a framework made up of firstly *allocation* of the patent, and secondly its *enforcement*. The discussion in this paper largely revolves around the second part of this framework, namely whether property rights in patents should be protected by property or liability rules. This is because patents, unlike other property rights, are rights allocated at the level of the state, issued as a licence by following the patent application process. Presently the role of the courts is only to enforce the patent, not allocate it. But in my

²⁶ At 1092.

²⁷ At 1092.

²⁸ Daniel Krauspenhaar *Liability Rules in Patent Law: A Legal and Economic Analysis* (Springer, Berlin Heidelberg, 2015) at 15.

argument for a liability rule framework, I will additionally address the first part of the framework and explain why it should be part of the role of the court to also consider the way patents are allocated.

D) Critiques

It is important also to note that naturally, there are critiques of Calabresi and Melamed's model. These largely discern that the framework should include more rules than the four identified, or that it should be more dynamic. Krier and Schwab propose the addition of a fifth rule, a liability rule with damages reversed so that objectively determined compensation would be available for entitlements given away by choice.²⁹ Levmore observes even further variation and derived 16 rules from Calabresi and Melamed's original three.³⁰ He focuses particularly on the possible differentiation between past and future compensation, and wilful versus negligent conduct. Finally, Bell and Parchomovsky suggest a more dynamic element be added to the framework in the form of 'pliability rules', containing a combination of property and liability rules.³¹ The nature of these rules would be changeable and depend on the timing or circumstances in which the rules were to be used.

These critiques are valuable for academic purposes but they certainly make analysis more complex.³² While insightful, their focus on what may be only marginal differences could make the new rules or categories unhelpful from a practical standpoint. It should also be pointed out that Calabresi and Melamed acknowledge that most entitlements to most goods are mixed. Therefore, they choose to omit overly detailed distinctions in order to keep their model simple and workable. Krauspenhaar accordingly suggests that a middle-of-the-road

²⁹ James Krier and Stewart Schwab "Property Rules and Liability Rules: The Cathedral in Another Light" (1995) 70 N.Y.U.L.Rev. 440.

³⁰ Saul Levmore "Unifying Remedies: Property Rules, Liability Rules, and Startling Rules," (1997) 106 Yale L.J. 2149.

³¹ Abraham Bell and Gideon Parchomovsky "Pliability Rules" (2002) 101 Mich.L.Rev.1.

³² Krauspenhaar, above n 28, at 16.

approach be taken when applying the framework to a “concrete area of law”.³³ Unless extending the model will prevent drastically different cases from falling into the same category or provide new practical options, Calabresi & Melamed’s original framework should be followed. Accordingly, it is adopted for this discussion. Krauspenhaar highlights the framework’s wide applicability, as well as the relative novelty of its application to patent law, as its key advantages. He argues that notwithstanding the simplicity of the model, it will provide beneficial insights into the challenge of remedying patent breach in an economically efficient manner.³⁴

III) The current state of patent infringement law

In most jurisdictions, patent law involves a decision from the legislature to entitle inventors to have their ideas protected from use by others within that jurisdiction. As stated above, a patent in NZ entitles its holder to stop others from making, using, or selling their invention for up to 20 years.³⁵ This amounts to an exclusionary right awarded to the holder for duration of the patent, although it may take time to acquire (up to 6 months in NZ) and involve application costs (about \$250).³⁶ After the lifespan of the patent has elapsed, the entitlement is removed from its owner and is no longer able to be enforced. It essentially expires.

New Zealand patent law largely follows other jurisdictions. The 2013 Patents Act definitively brought New Zealand patent legislation into line with international legislation, borrowing heavily from the European Patent Convention.³⁷ It was stated in the Patents Bill 2008 “patent rights granted in New Zealand can be broader than patent rights granted in other countries”

³³ At 16.

³⁴ At 17.

³⁵ Sumpter, above n 1, at 501.

³⁶ At 501.

³⁷ Convention on the Grant of European Patents of 5 October 1973.

and therefore the criteria for granting a patent needed to be strengthened.³⁸ This was implemented in the 2013 Act, and inventions must now satisfy a standard of ‘absolute novelty’.³⁹ The Act also notably excludes computer programs ‘as such’ from patentability where the ‘actual contribution made by the alleged invention lies solely in it being a computer program’.⁴⁰ This follows European Union law and indicates that the NZ legislature is aware of the problems that come with increasingly complex networks of intertwined patent rights, as there are in software industries. However, in following the patent law of other jurisdictions, it has also adopted a system based largely on property rules, meaning injunctive relief is the predominant outcome of successful infringement litigation. It is therefore possible that the existing system of rights contains more rules allowing *exclusion* (property rules) than *non-exclusion* (liability rules) than necessary. If that is the case, efficiency could likely be improved by altering the ratio of these rules.

IV) Efficiency implications of property and liability rules in patent law

Being part of Intellectual Property (IP) law suggests that patents have some commonalities with property rights in tangible goods.⁴¹ This has given rise to the pervasive association of patented ideas with personal property. It is this rationale that lends authority to the application of Calabresi and Melamed’s theory to patent law.

A) Property rules

A right protected by a property rule is typically categorised by infringements being met with an injunction. In the case that a patent holder has had their patent infringed, and the infringer is not willing to pay the amount that the holder would accept for use of the patent, the patent

³⁸ Patents Bill 2008 (235-1) (explanatory note) at 2-3.

³⁹ Patents Act 2013 s 14(b)(i).

⁴⁰ Section 11.

⁴¹ Mark Lemley “Property, Intellectual Property and Free Riding” (2005) 83(8) Tex L Rev 1031 at 1035.

holder will want the infringing conduct to cease immediately. This is the principal remedy available for enforcing patent rights in New Zealand.⁴² Preliminary and primary injunctions are important elements of a property rule system to make sure that the holder of a patent is able to exclude others and make use of their monopoly right. They are also relatively easy to obtain, given that the only condition required to qualify for injunctive relief is a proven infringement. Strict exclusivity in any property rule system is usually difficult to achieve without criminal sanctions, but in reflection of the exclusive nature of a property rule entitlement, failure to comply with court directions will often lead to administrative fines in non-criminal areas of law.

B) Liability Rules

Patents are rarely enforced using liability rules. Liability rule protection would see the courts condone the infringement upon the monopoly rights of patent holders, in exchange for a set value of monetary remuneration to be paid to the original holder. This would run contrary to the traditionally held notions of patents as being completely exclusionary. There is, however, one codified example of liability rule operation in patent law presently, and that is compulsory licensing. A compulsory licence is the rare exception to the overwhelming use of property rules in patent law. This is provided for in New Zealand by s 169 of the Patents Act 2013, which is a compulsory licensing provision.⁴³ It states that a challenger of a patent may be granted a compulsory licence if a lack of supply to a particular market can be proven,⁴⁴ but this must be at least 3 years after the patent was granted⁴⁵ and an attempt to gain a private licence has been made.⁴⁶ Remuneration will then be payable to the patentee. The inclusion of such a provision in the Act means that it follows the recommendations of a World Health

⁴² Patents Act 2013 s 152(a).

⁴³ Section 169.

⁴⁴ Section 169(2).

⁴⁵ Section 169(1)(a).

⁴⁶ Section 176

Organisation guide to the public health consequences of the 1994 TRIPs agreement.⁴⁷ This is an international agreement, which governs intellectual property rights in the context of international trade. It has been subject to criticism regarding the ability of developing countries to access patented medicines, and as a response to this, many jurisdictions now have compulsory licensing legislation to minimize the effects of pharmaceutical patents which can limit the availability of essential drugs.⁴⁸ While these provisions are essential, there are no known instances in New Zealand of their use. This could indicate that parties are able to use the *threat* of compulsory licensing to induce patentees into agreeing to licence voluntarily, but it also suggests that it is not considered a practical way to enforce patents generally.

In 2015, David Krauspenhaar published an extensive book on liability rules in patent law.⁴⁹ He has included in depth examination of the way liability rules could potentially operate, and how they could be used to make patent infringement more efficient. I will use parts of his economic analysis on the operation of property rules and liability rules, as he has considered much of the most significant literature. However, this paper argues that the concept of ‘private liability rules’, on which his arguments in favour of liability rules are heavily based, are not true liability rules. This will be explained below.

1) Types of liability rules:

Krauspenhaar identifies different types of liability rules. He argues that having three sub-categories is helpful in understanding the way that patent rights could operate within a liability rule framework. He differentiates between:⁵⁰

⁴⁷ Laurence R Helfer “Regime shifting: The TRIPs Agreement and New Dynamics of International Intellectual Property Lawmaking” (2004) 29 Yale J.Int'l L 1 at 43.

⁴⁸ Above n 47.

⁴⁹ Krauspenhaar, above n 28.

⁵⁰ At 23-32.

1. Compulsory liability rules: where the legislature decides that a liability rule should apply, for example in compulsory licensing;
2. Private liability rules: where the legislature allows the patent owner to decide if they would prefer protection by a property or a liability rule, and may incentivise patentees to choose either one; and
3. Default liability rules: where a liability rule applies “independently of the acts of the parties”⁵¹

2) Private liability rules

Krauspenhaar then posits the second category, private liability rules, as offering the most practical efficiency benefits to patent enforcement. He appears to derive much of this reasoning from Merges article on contracting around inefficient property rules.⁵²

Krauspenhaar discusses three different forms of private liability rules, beginning with (1) ‘licence of right’. This is essentially where a patent owner declares their willingness to licence to the relevant patents authority, allowing anyone to use their invention in exchange for reasonable payment. If the patent owner and prospective licensee cannot agree on a price, the parties can request that the patents authority decide a price for them. This process may be incentivised e.g. by a reduction in annual patent fees.⁵³

The next type of private liability rule mentioned is (2) ‘patent pools’.⁵⁴ There is no precise legal definition of a patent pool, but it is thought to be “an agreement between two or more patent owners to license one or more of their patents to one another, or to license them as a package to third parties who are willing to pay the royalties that are associated with the

⁵¹ At 23.

⁵² Merges, above n 18.

⁵³ Patent Act 2013 (Germany) s 23.

⁵⁴ Krauspenhaar, above n 28, at 27.

licence”.⁵⁵ A committee or board values the individual patents, and from this valuation the committee may determine royalties and divide them accordingly among original patentees.⁵⁶ It will likely involve a central entity that has the patent rights assigned or licensed to them, in order to exploit the collective rights by further licensing, manufacturing or both.⁵⁷ This kind of arrangement will be at risk of competition law intervention if it manages too many patents that are substitutes for each other and begins to dominate a market.

Finally (3) Royalty collection clearinghouses are put forward as a similar arrangement where patents are contracted to a third party.⁵⁸ They operate as a “mechanism by which providers and users of goods, services, and/or information are matched.”⁵⁹ There are different types of clearinghouse, but within the private liability rule framework they involve the patent owner deliberately giving up their exclusionary right and the clearinghouse then objectively determining the amount of remuneration they receive according to a set formula.⁶⁰ This is essentially the operation of a liability rule between patent owner and clearinghouse.

Merges suggests that Collective Rights Organisations (CROs) such as those mentioned above are an efficient way to “break the transactional bottleneck”⁶¹ that can occur when multiple patents obstruct a single new innovation.⁶² This is because they allow “knowledgeable industry participants” to assess and licence patents collectively, rather than having licences set by inexperienced government authorities and courts.⁶³ Amongst the different kinds of CROs that exemplify the operation of ‘private liability rules’, most involve a third party

⁵⁵ Geertrui van Overwalle et al. “Models for Facilitating Access to Patents on Genetic Inventions” (2006) 7 Nature Reviews Genetics 143 at 144.

⁵⁶ Merges, above n 18, at 1342.

⁵⁷ At 1340.

⁵⁸ Krauspenhaar, above n 28, at 29.

⁵⁹ van Overwalle et al., above n 55, at 146.

⁶⁰ Krauspenhaar, above n 28, at 29-30.

⁶¹ Merges, above n 18, at 1295.

⁶² At 1295.

⁶³ At 1295.

contractual intermediary between patent holders and those needing to licence particular sets of patents for a new invention.⁶⁴ It is thought that increasing use of these organisations will lead to more efficient systems of infringement. Krauspenhaar argues that compared to compulsory liability rules (which are highly unpopular among patentees), private liability rules require less state intervention, and offer greater ease of coordination because of this third party presence.⁶⁵ Furthermore, patent owners are in a better position than a governing body to decide if they would like to switch to private liability rules, especially if it reduces transaction costs. It theoretically creates a lower maintenance way for patentholders to make money from their patents without having to develop or invest in them. They also may be able to reach more would-be licensees without having difficult negotiations and will likely avoid having to go through the court process to enforce their rights.

3) True liability rules

All of this may be true. However, in my opinion, private liability rules do not change the fundamental nature of the patent entitlement. It remains a property rule entitlement. If this is the case, the method of licensing Krauspenhaar describes as the operation of ‘private liability rules’ is in fact an argument in support of property rules. Merges alludes to this in his article, where he uses the examples of CROs to support his argument *against* compulsory licensing, a true liability rule regime.⁶⁶ The stated advantage of CRO formations is that they “significantly reduce state involvement in the creation of efficient entitlements”, hence why “property rule entitlements may be superior”.⁶⁷ The property rule and its associated bargaining power allows patentholders to come together and licence their patents collectively. The protection of the patent by a property rule enables voluntary licensing to occur, and the patent is able to be withdrawn from the licensing agreement and remain as a property rule entitlement insofar as

⁶⁴ At 1296.

⁶⁵ Krauspenhaar, above n 18, at 32.

⁶⁶ Merges, above n 18, at 1295.

⁶⁷ Merges, above n 18, at 1297.

permitted by the contractual arrangement. At most, CROs have an “intermediate nature somewhere between pure individual property rights and pure government-determined liability rules”.⁶⁸

It is not in dispute that the pooling of patents into such a licensing structure is likely more economically efficient than standard individualised property rule entitlements, but it does not support the argument for liability rules, which this paper posits. Lemley addresses this to an extent in a response to Merges paper.⁶⁹ Merges’ article suggests property rule systems are superior to liability rule systems, on the basis that parties will never be stuck with an inefficiently allocated property rule. They can simply contract around it. He describes pooling and CROs as offering a way to negotiate around the inefficiencies of a property rule system, allowing patent holders to forgo their right to an injunction when it is efficient or financially viable for them to do so. Lemley argues that Merges’ theory is based on the misconception that an inefficient liability rule (say where the court values a patent incorrectly) is unable to be avoided. He proposes that in fact, inefficient liability rules can also be contracted around. This undermines the major premise in Merges paper “that has been used to support the claim that IP rights must be protected by property rules”.⁷⁰

This begins the true argument for liability rules. Lemley illustrates that parties are just as willing and able to contract around liability rule frameworks in patent law as they are around property rules, meaning that patentholders will not be ‘stuck’ with inefficient liability rules if these are encountered in such a system.⁷¹ In cases that involve the operation of a liability rule, plaintiffs are only entitled to damages (not injunctions, as with property rules), and it is shown that there is an equal rate of settlement across a whole range of these cases as there are

⁶⁸ At 1392.

⁶⁹ Mark Lemley “Contracting Around Liability Rules” (2012) 100(2) CLR 463.

⁷⁰ Lemley, above n 67, at 463.

⁷¹ At 464.

with property rule cases.⁷² This proves that “parties to patent cases bargain around liability rules at least as often as, if not more than, they contract around property rules”.⁷³

This is important, because cases will only need to be decided when parties to litigation cannot come to an agreement. When this occurs, liability rules permit greater accuracy than property rules because they allow tailored decisions to be made. Property rules on the other hand generate “all or nothing results” with injunctions that ignore factors external or additional to the immediate infringement, and Lemley argues “even random errors in setting liability rules are likely to produce more accuracy than actually enforcing a property rule without bargaining”.⁷⁴ He also reminds us of the primary reason why liability rules might be an efficient addition to patent law, and that is in relation to transaction costs. “Where the cost of transacting is high, either because there are many parties who must agree or because it is difficult for the parties to find each other... we may be better served by taking our chances with a court allocation of damages than having the law lock in an inefficient ownership regime.”⁷⁵

C) Efficiency theory and transaction costs

Economic efficiency means getting the most out of the resources available.⁷⁶ Different factors influence the assessment of efficiency, including transaction costs, enforcement costs, deadweight loss, effects of externalities, and consequences for investment in the entitlement itself. Transaction costs are the costs incurred during market activity, on top of the price of whatever it is that is the object of the transaction. It can be described as a kind of economic

⁷² At 472-476.

⁷³ At 476.

⁷⁴ At 484.

⁷⁵ At 466. See also Richard A. Posner *Economic Analysis of Law* (4th ed, Little Brown and Company, 1973) for a more detailed discussion.

⁷⁶ Matthew Bishop *Essential Economics* (1st ed, Bloomberg Press, London, 2004) at 83.

friction.⁷⁷ Enforcement costs, on the other hand, are costs incurred from enforcing entitlements (i.e. court costs). They are essentially all costs that result from the enforcement of a property or liability rule. Deadweight loss is the loss that occurs when the market cannot reach equilibrium due to imperfect competition or efficiency.

1) Pareto Optimality

Calabresi and Melamed take a general approach to efficiency, which can be applied to patent law. They use Pareto's definition of efficiency, which describes a situation in which resources are so fully utilised that nobody can be better off without making somebody else worse off.⁷⁸ This means, if the economy's resources are being used inefficiently, it will be possible to change the allocation of entitlements in such a way that some benefit will be created that comes at no detriment to anyone else. Calabresi and Melamed refer to Coase and his theory of externalities, which concludes that where there are no transaction costs, economic efficiency will occur regardless of the type of initial entitlement.⁷⁹ It is not assumed that there would ever be *no* transaction costs, but the analysis illustrates that distribution of wealth and economic efficiency may affect a society's choice of entitlements.

Krier and Schwab explain that property rules are preferable if transaction costs are low, if only a few parties are involved, and the parties are readily identifiable.⁸⁰ Under these conditions, state intervention to determine the amount of compensation and achieve efficient resource allocation should not be necessary. Liability rules, on the other hand, should take precedence if transaction costs are high, and there are many parties or they are difficult to

⁷⁷ Oliver Williamson *The Economic Institutions of Capitalism – Firms, Markets, Relational Contracting* (1st ed, Free Press, New York, 1987) at 19-20

⁷⁸ Bishop, above n 74, at 196. See also Calabresi and Melamed, above n 19, at 1094.

⁷⁹ Calabresi and Melamed, above n 19, at 1094.

⁸⁰ Krier and Schwab, above n 29, at 454.

identify.⁸¹ Essentially liability rules are better where bargaining is not possible. They also add that if both transaction costs and the number of parties are low, both property and liability rules will be equally efficient, and if both are high then neither will be efficient.⁸² This analysis of Calabresi and Melamed's framework goes to show that transaction costs are not the only cost to consider; assessment and enforcement costs must also be taken into account.

2) Dynamic Efficiency

Dynamic efficiency is an important dimension of efficiency that relates particularly to patent law.⁸³ Statically efficient economies are concerned only with short-term resource optimisation, whereas dynamically efficient economies focus on long-term optimisation and specifically encourage research, development, and innovation.⁸⁴ These efficiency goals are the reason why patent law exists in the first place – to encourage long-term optimisation and development of the intellectual property of inventors. Because IP is considered to be a type of 'property', it is often assumed that property rules promote the most dynamically efficient use of innovative ideas.⁸⁵ But tangible property is used best if only one person is allowed ownership, and this is not the case with IP. This is therefore a relatively large assumption, which should be challenged as the patent landscape grows denser.

3) Efficiency arguments for property rules

Concern is often expressed at the risk of under-compensation under liability rules.⁸⁶ This stems from the fact that the courts determine the value of a patent and any ensuing damages. Incentives are very important to motivate the patent owner to invest in the entitlement and commercialise their invention, and it is often assumed that infringements under liability rules

⁸¹ At 454.

⁸² At 454.

⁸³ Krauspenhaar, above n 28, at 44

⁸⁴ At 44.

⁸⁵ Lemley, above n 41, at 1031.

⁸⁶ Krauspenhaar, above n 28, at 45

encourage freeriding and discourage investment into research and development, which can be risky.⁸⁷ If inventors cannot be certain that the court will protect their monopoly, they may not invest in or develop their patent.⁸⁸ There is also a public interest in having inventions disclosed.⁸⁹ The inventor may decide to keep their invention a secret if they don't believe that society can protect them from the 'free rider' or they think they are likely to be undercompensated.⁹⁰ It is also assumed that holder of a patent has the greatest bargaining power for settlement purposes under property rule regime, because they can use the likelihood of an injunction as leverage against an infringer to settle for more than they could under a liability rule regime.⁹¹

V) *Strategic behaviour and overclaiming*

A) Strategic Behaviour

However, property rules leave room for misuse and abuse of the exclusivity patents award. Holders of 'blocking patents' that are essential for developing particular product or process may motivated to use these strategically to acquire settlement damages by threat of injunction.⁹² Additionally, if holders of blocking patents do not consent to any infringement for strategic licensing reasons (i.e. they 'hold out'), society cannot benefit from any improvement upon the patented invention.⁹³ This may be profitable to the patent holder in the short term, but the lack of development of the patented invention and the risk of market dominance will be dynamically inefficient in the long run.⁹⁴ This kind of abuse of property rule entitlements can also lead to situations where the patent owner does not even want or

⁸⁷ At 45

⁸⁸ Sumpster, above n 1, at 501.

⁸⁹ At 501.

⁹⁰ Lemley, above n 41.

⁹¹ Krauspenhaar, above n 28, at 46.

⁹² Robert Merges "Intellectual property rights and bargaining breakdown: The case of blocking patents." (1994) 62 Tenn. L. Rev 75 at 77.

⁹³ Krauspenhaar, above n 28, at 51.

⁹⁴ At 51.

intend to work the patent, but holds the patent merely to continue demanding licensing fees.⁹⁵

There are a variety of these kinds of situations, e.g.:

- **Patent thickets:** where it becomes almost impossible to produce anything new in a particular industry without infringing on multiple patents, and the presence of transaction costs hinders the ability of the market to naturally avoid infringement litigation;⁹⁶
- **Patent ambush:** where patents are intentionally concealed from market standard setting bodies so that requirements are set involving the patented technology, and patentholders can subsequently claim licensing fees from market participants.⁹⁷ This is what happened in the *Rambus v FTC* case,⁹⁸ where Rambus was alleged to have engaged in intentionally deceptive conduct by not disclosing their patents of a particular computer part which they later claimed was relevant to standards set for the microelectronics industry;⁹⁹
- **Patent trolls:** a term used to describe patent holders whose primary business is collecting money from others that allegedly infringe their patents. They are often non-practicing entities who attempt to enforce patent rights far beyond their actual value, hindering development and the ability of others to improve upon the patented idea.¹⁰⁰

B) Over claiming

To add to the issues of strategic behaviour, transaction costs are rising in association with the growing number of patents and overlapping rights, making it more difficult to form practical agreements. This is especially true in areas of complex technological development where

⁹⁵ At 51-52.

⁹⁶ Shapiro, above n 17, at 121.

⁹⁷ Krauspenhaar, above n 28, at 52.

⁹⁸ *Rambus, Inc. v. F.T.C.* (2008) 522 F.3d 456

⁹⁹ Joel Wallace "Rambus v. F. T.C." in the Context of Standard-Setting Organizations, Antitrust, and the Patent Hold-up Problem" (2009) 24(1) Berkeley Tech.L.J 661 at 663.

¹⁰⁰ Lemley and Melamed, above n 15, at 2117 – 2120.

innovative processes are fragmented into many patentable subparts. The result is an increase in both the number of infringement allegations and the likelihood that they will reach the litigation stage.¹⁰¹ The operation of property rules in this situation creates a risk of overcompensation, due to the process the court must follow in defining the scope of the patent.

The full extent of any rights awarded by a patent is not known until it is legally enforced. The courts must apply the ‘claims’ within the patent to the potentially infringing activity, and determine whether or not that activity comes within what the patent holder has established as their invention. This is particularly applicable to New Zealand, as the Patents Act 1953 does not contain a definition of ‘infringement’.¹⁰² The court will take a purposive construction¹⁰³ of the claims and determine whether the allegedly infringing product falls within the scope of the monopoly held by the original patent holder.¹⁰⁴ The issue is that the claims the patent makes of its subject matter consist of descriptions only, leaving numerous opportunities for “clever lawyering” to produce claims that cover “more technological ground than is truly warranted by the underlying invention”.¹⁰⁵ The patentee can stretch the application so their patent covers more than what they had originally anticipated it to, and can thus exclude others from practicing technology that improves but still infringes on the original patent.¹⁰⁶ Injunctions often also cover *more* than just the scope of the right, e.g. only a small part of a new product may infringe a patent right, but an injunction may prevent the entire invention from being sold. So it over serves.¹⁰⁷ It extends *further* than what is necessary to incentivise

¹⁰¹ Krauspenhaar, above n 28, at 54.

¹⁰² New Zealand Forms and Precedents (online looseleaf ed, LexisNexis NZ) at 27235.

¹⁰³ *Catnic Components Ltd v Hill & Smith Ltd* [1982] RPC 183.

¹⁰⁴ Above n 100.

¹⁰⁵ Robert Merges “The Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform” (2010) 24 *Berkeley Technology Law Journal* 1583 at 1603.

¹⁰⁶ Lee, above n 7, at 183.

¹⁰⁷ Mark Lemley and Philip Weiser “Should Property or Liability Rules Govern Information” (2006) 85 *Tex. L. Rev.* 783 at 793.

the creation and manufacture of inventions,¹⁰⁸ and society cannot benefit from improvements to the innovation from other market participants. This is inefficient.

VI Liability rules and Improvements

Theoretically, the patent system already accommodates patent improvements. Lemley suggests that it is useful to think of the current approach in a three-part structure, with ‘minor’, ‘significant’, and ‘radical’ improvements to patented inventions all treated differently by the courts.¹⁰⁹ Minor improvements that do not satisfy the criteria for independent patentability will be subject to a lawsuit from the original patent holder, who will likely be granted an injunction or damages. The original patentee will essentially capture the value of the improver’s efforts.¹¹⁰ Significant improvements, by contrast, are those that incorporate the earlier patented invention but satisfy the statutory novelty requirements for independent patentability, even though the improvement still infringes the original patent. This reflects the situation that occurs with blocking patents, where the holder of the blocking patent may disallow the improver from practicing the invention entirely, but the improver may prevent the original patent holder from practicing the improvement.¹¹¹ This gridlock is theoretically supposed to encourage licensing agreements, so that both parties may practice the patented invention without financial loss.

Radical improvements, on the other hand, have been known to completely dodge infringement liability through the doctrine of reverse equivalents.¹¹² The doctrine allows the court to declare that even though a patentee has proven infringement, the infringer will not be

¹⁰⁸ Krauspenhaar, above n 28, at 48.

¹⁰⁹ Mark Lemley “Economics of Improvement in Intellectual Property Law” (1996) 75 Tex. L. Rev. 989 at 1007-13.

¹¹⁰ At 1008.

¹¹¹ Merges, above n 90, at 80.

¹¹² Lemley, above n 105, at 1010-1013.

held liable.¹¹³ However, this has been nullified by the Federal Circuit in the US and declared superfluous to the scope constraints already imposed in theory by patent claiming requirements.¹¹⁴ This is despite the variability in judicial interpretation of these claims.¹¹⁵

VII The New Direction

A) The ruling in *eBay v MercExchange*¹¹⁶

Courts in the US used to routinely award injunctions to all successful plaintiffs in patent infringement cases. But the ruling in *EBay* represents a step away from this idea and possibly indicates the direction in which patent law should develop. In *eBay*, the Supreme Court of the United States unanimously determined that an injunction should not be automatically issued for patent infringements. The court implicitly acknowledged that protecting the property right in a patent did not necessarily require a property rule, which is classified by injunctive relief.¹¹⁷ Instead of a per-se rule favouring injunctions, the court established a multifactor, equitable framework for determining the appropriateness of injunctive relief following a finding of patent infringement. The court declared that to be awarded an injunction, a plaintiff alleging infringement 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.¹¹⁸

¹¹³ Merges, above n 90, at 75.

¹¹⁴ Lee, above n 7, at 189

¹¹⁵ At 189.

¹¹⁶ *eBay Inc. v. MercExchange, L.L.C* (2006) 547 U.S. 388 (*eBay*).

¹¹⁷ Lee, above n 7, at 178

¹¹⁸ *eBay*, above n 114, at 391.

Denying injunctive relief provides the opportunity for ongoing royalties to be used as an alternative remedy to the infringement, which converts the protection of the patent from a property rule into a liability rule.¹¹⁹ Accordingly in *eBay*, instead of awarding an injunction by default as under a property rule framework, it was held that courts should use the same equitable criteria when deciding whether to issue an injunction as they do for other cases.¹²⁰ The case raised the bar for issuance of injunctions for both practicing entities and for trolls. Given that the court must now consider the balance of hardships, this bar will be significantly higher for non-practicing entities. As a result of this ruling, trolls will now rarely be able to use threat of injunction as leverage for settlement, because they will be unlikely to satisfy the *eBay* criteria.

Lemley and Melamed¹²¹ therefore conclude that to combat the overstatement of patent damages, injunctions and exclusions should only be used to exclude those who majorly infringe. They should not be used to exclude products based on infringement of a minor component only, or to give patent holders leverage to extract exorbitant royalties and fees from those who wish to use the patents. Courts should consider whether the party seeking injunction would suffer ‘irreparable injury’ without one, or whether monetary damages would be an adequate as an alternative. This would be in addition to assessing the balance of hardships between the parties and the public interest. If the law develops in this direction, the policy considerations of the court will result in the routine denial of injunctions to practicing entities where the patent covers only a minor part of the defendant’s product, and importantly, to trolls.

B) The Accession Insight

¹¹⁹ Lee, above n 7, at 195 citing Calabresi and Melamed, above n 19, at 1092-1093.

¹²⁰ *eBay*, above n 114, at 391.

¹²¹ Above n 15, at 2174.

Peter Lee supports the addition of liability rules to patent law but under the reasoning of accession, a physical property doctrine with roots in Roman civil law.¹²² A subset of this doctrine focuses specifically on the situation where one party materially improves the property of another.¹²³ While Lee acknowledges imperfections in the analogy between patents and physical property, he suggests the doctrine of accession is nonetheless equally applicable to patent law. He argues, “where substantially improved technology infringes a patent, courts should protect that patent with a liability rule rather than a property rule”.¹²⁴ A more equitable and efficient approach to patent infringement could thus be established using the accession principle in furtherance of the decision in *eBay v MercExchange*.¹²⁵

The principle of first possession is one of the ways to justify establishing ownership in private property.¹²⁶ This stems from fundamental Lockean notions of property as resources that once existed in common ownership, but progressively came under the private ownership of whomever was first to exert particular control or labour over the resource. Under the doctrine of accession, a person who has made a substantial improvement to what is unknowingly another’s personal property may be able to have title to that property *transferred* to them, subject to adequate compensation of the original owner.¹²⁷ It follows the structure of a liability rule framework, with equitable principles used by the court to determine its enforcement.¹²⁸ It allows for fair allocation of property rights and compensation when two parties may both have reasonable claims to an improved item.

In the context of patents, Lee proposes that “a meaningful degree of ownership should shift when one party makes substantial, value-enhancing improvements to the property of

¹²² Lee, above n 7.

¹²³ At 195.

¹²⁴ At 179.

¹²⁵ At 178.

¹²⁶ Thomas Merrill “Accession and original ownership” (2009) 1(2) *Journal of Legal Analysis* 459 at 462.

¹²⁷ Lee, above n 7, at 179.

¹²⁸ At 179.

another.”¹²⁹ This is a radical suggestion. It proposes the courts consider not only the enforcement of patent, but also its allocation, which seems to run contrary to the concept of a fixed monopoly that a patent theoretically awards. Krauspenhaar argues that this would be impractical.¹³⁰ But this kind of liability rule regime may go some way to remedying the deficiencies of the present property rule system and the pervasiveness of blocking patents.¹³¹

1) Accession in practice using the eBay framework:

Lee suggests that courts apply accession analysis within the *eBay* framework to deny injunctive relief in cases where one party has substantially improved the patented invention of another.¹³² The court would then direct the parties to negotiate a royalty that would compensate for transfer of the patent, or impose a royalty itself if the parties cannot agree.¹³³ The result is that the improver then owns the patent, but the original patentee receives ongoing remuneration as an equitable remedy for any loss in potential earnings. To maintain fairness, this approach would apply only to substantial, separately patentable improvements where the improver’s contribution dominates the value of the improved technology.¹³⁴ For the vast majority of improvement cases involving only ‘incremental’ improvement, accession would not apply and the court would still award injunctions.¹³⁵ To determine the meaning of ‘substantial improvement’, the four-factor test from *eBay*¹³⁶ would act as a starting point. The courts may then refine this test as necessary for novel cases. By having the standard for ‘substantial’ improvement set high, any risk that strategic infringers may try to use threat of liability-rule transfer as leverage in settlement negotiations will be minimised. This standard

¹²⁹ At 207.

¹³⁰ Krauspenhaar, above n 28, at 22.

¹³¹ Lee, above n 7, at 241.

¹³² At 202.

¹³³ At 203.

¹³⁴ At 179.

¹³⁵ At 179.

¹³⁶ *eBay*, above n 114, at 391.

would also reduce the risk that patentees are undercompensated for loss of a patent when improvement is only minor.¹³⁷

The ‘good faith improvement’ aspect of the accession doctrine remains central to its application to patent infringement, but Lee argues that it should not be a strict requirement in denying injunctive relief.¹³⁸ The courts would certainly look upon an unknowing infringer more favourably, but for policy reasons would not make knowledge of the patent a bar to its transfer. As was the case in *eBay*¹³⁹ and subsequent courts applying the *eBay* framework, injunctive relief may be denied even if the patent has been knowingly infringed.¹⁴⁰ This is because considerations such as adequacy of legal remedies, balance of hardships, and public benefits of access to improved technology also have a significant bearing on the decision.¹⁴¹ Furthermore, it is expensive to make mental state inquiries, particularly in an arena such as IP law where rights are not nearly as obvious as they are in the realm of physical property.¹⁴² Adequate ‘knowledge’ would be difficult to establish. Additionally, a study of US patent infringement litigation between 2000 and 2007 found that outright copying was only alleged in roughly 10% of all cases, and was proven in less than 2%.¹⁴³ Having to satisfy a ‘good faith’ requirement before the court could award a transfer of patent rights would likely encumber the efficiency of the liability rule modification.

2) Benefits of the accession approach

There are several benefits to the accession approach to patent improvement. Merrill argues that it is almost certainly more efficient than the ‘first possession’ approach in areas of law

¹³⁷ Lee, above n 7, at 204.

¹³⁸ At 209.

¹³⁹ Also *Techs Inc v Microsoft Corp* (2006) 434 F Supp 2d 437.

¹⁴⁰ Lee, above n 7, at 210.

¹⁴¹ At 210.

¹⁴² At 210.

¹⁴³ Christopher Cotropia and Mark Lemley “Copying in Patent Law” (2008) 87 NCL Rev. 1421.

that are dense with property rights.¹⁴⁴ It is extremely applicable to patent law, given that rights are numerous, and first possession is somewhat arbitrarily based on who is granted a patent first. It also responds directly to the fact that most innovation is *cumulative* in nature, which a property rule system for patents is at odds with. At the stage of litigation, the doctrine compels the court to equitably examine the contribution each party has made to the improved item, and award title to the person who has contributed the greater part of its value.¹⁴⁵ It provides an intuitive method for allocating rights in an area of law where information costs are significant. This means that efficiency of resource production, i.e. the continual improvement of existing ideas and inventions, is not deterred by the cost of figuring out exactly how to avoid infringement liability.¹⁴⁶ Yet along with all the aforementioned economic benefits, it favours good faith from the improving party, and remains subject to overarching notions of social fairness.¹⁴⁷

3) Appropriate compensation

If a liability rule framework for patent infringement were imposed, parties denied injunctive relief would need to be adequately compensated. Having the court assess the value of a patent presents difficulties, as has been discussed. Patents often cover very complex inventions and the value of unprecedented and highly specialised technology would be difficult for any non-expert to quantify accurately. In fact, this is frequently seen as the primary defect of a liability rule framework, as it creates risks of under-compensation.¹⁴⁸ But this is why the court would prioritise parties negotiating royalties between themselves.¹⁴⁹ Successful negotiation would simultaneously reduce the workload faced by courts, and increase the likelihood that patents subject to litigation are given an accurate value. Courts should only step in to assess

¹⁴⁴ Merrill, above n 124, at 504.

¹⁴⁵ Lee, above n 7, at 199.

¹⁴⁶ At 199.

¹⁴⁷ At 199.

¹⁴⁸ At 225.

¹⁴⁹ At 215.

and impose royalties when the parties fail to agree. Despite what is argued by liability rule sceptics, this may additionally encourage pre-litigation settlement, in order for parties to avoid having a less desirable royalty agreement imposed upon them by the courts.¹⁵⁰

Conclusion

The accession argument undoubtedly confirms that there is a strong case for the inclusion of liability rules in patent law. As has been discussed, the sheer number of entitlements in the realm of IP is raising transaction costs, and property rules are becoming difficult to negotiate around efficiently, which impedes technological development. This also enables the perpetration of inefficient strategic behaviour. Liability rules such as those used under the *eBay* framework may go some way towards ameliorating these issues with the property rule entitlement system. Through the use of equitable principles under the *eBay* approach, the bargaining power of non-practicing entities would be reduced, as they would be unlikely to satisfy the hardship or public interest standards for an injunction. This would help alleviate the symptoms of strategic behaviour.

Additionally, in cases of improvement, courts would be able to promote efficiency by allocating patents to the party who has demonstrated that they will make the most efficient use of them. Instead of punishing those who improve on the inventions of others, liability rules employed by the court in this way would encourage both patent holders *and* potential infringers to improve on inventions. This would facilitate innovative development and hugely benefit the public. Furthermore, it would not act to deter inventors from registering patents, because until another party ‘significantly’ improves on the invention, injunctive relief would remain. The courts ability to deny an injunction would also reduce the effects of overclaiming

¹⁵⁰ At 224.

under the current system, as significant improvements will not be barred simply because a patent claim has been extended too far.

Ultimately, the possible course that patent law could take under an *eBay* liability rule framework would not be as radical as property rule advocates would suggest. Lemley¹⁵¹ and Lee¹⁵² both illustrate the potential for such a framework to “encourage greater negotiations between pioneer patentees and improvers,”¹⁵³ retaining the efficiency benefits of private settlement that are supposedly the advantage of a property rule system. This means that previous concerns about courts incorrectly valuing patents under liability rule frameworks have likely been overstated, as liability rules are not proven to increase the incidence of court ordered licensing agreements. Adopting the accession approach to liability rule protection of patents in any jurisdiction would therefore be likely to nudge patent infringement in a more efficient direction.

¹⁵¹ Lemley, above n 67.

¹⁵² Lee, above n 7.

¹⁵³ At 223.