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Antitrust and Intellectual Property: A Brief Introduction

Keith N. Hylton*

Forthcoming in, Cambridge Handbook of Antitrust, Intellectual Property and High Tech (Roger D. Blair & D. Daniel Sokol eds., 2017)

Abstract: Intellectual property law and antitrust have been described as conflicting bodies of law, and the reason is easy to see. Antitrust law aims to protect consumers from the consequences of monopolization. Intellectual property law seeks to enhance incentives to innovate by granting monopolies in ideas or expressions of ideas. The purpose of this chapter is to explore the purported conflict between antitrust and intellectual property. The chapter is largely descriptive, and focuses on current or developing litigation rather than historical controversies. Many of the modern examples of conflict can be attributed to problems of classification.

Keywords: antitrust, intellectual property, patent-antitrust, monopolization, reverse payment settlement, product hopping, predatory innovation

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1. Introduction

Intellectual property law and antitrust have been described as conflicting bodies of law (Carrier, 2002; Bowman, 1973; Baxter, 1966; Kaplow 1984; Cheng, 2013), and the reason for such a characterization is easy to see. Antitrust law, described simply, aims to protect consumers from the consequences of monopolization. Intellectual property law, in contrast, seeks to enhance incentives to innovate by granting monopolies in ideas or expressions of ideas. This is an overly simplistic description of both types of law, and the apparent tension I have described is due in part to simplistic framing.

More subtle descriptions of the law have suggested that the conflict between antitrust and intellectual property is mostly superficial. Perhaps the most prominent of these more sophisticated descriptions argues that the conflict between antitrust and intellectual property is just a short run phenomenon. Antitrust and intellectual property are in conflict in the short run, under this view, but not in the long run. In the long run, both areas of the law attempt to maximize the set of choices available to consumers.

Another effort to reconcile antitrust and intellectual property rejects the short-run versus long-run distinction and holds that the tensions result mostly from misapplications of the law, even in the short run (Cass & Hylton, 2013). Under this view, there should be no conflict in an ideal legal system. Both types of law strive toward optimal tradeoffs between the maintenance of innovation incentives and the protection of consumers. If those tradeoffs are managed correctly in each case, in a manner that maximizes society's welfare, the same results should be achieved under both types of law. Since law is far from perfect in application, however, conflicts arise.

The purpose of this chapter is to explore the purported conflict between antitrust and intellectual property. The chapter is largely descriptive, and focuses on current or developing litigation rather than historical controversies. Many of the modern examples of conflict can be attributed to problems of classification. The general trend has been to reclassify issues that were once considered solely within the province of patent law as antitrust issues.

In Part 2 below, I present a straightforward discussion of the economics of intellectual property and antitrust law. I show that the tension between antitrust and intellectual property law can be viewed within a common economic framework. Part 3 presents modern examples of the patent-antitrust conflict.

2. Economics

I will start with an exploration of the basic economics of antitrust and intellectual property, separately. My hope is to use economics to offer a simple and reasonably rigorous account of the potential scope of conflict between antitrust and intellectual property.

2.1 Antitrust

To simplify matters, I will treat monopolization as the same whether it occurs through unilateral action or through cartel activity. When a single firm monopolizes, it excludes competitors and takes the market to itself, raising price to the monopolistic price level and cutting output back to the monopolistic quantity. When a group of firms forms a cartel, the effect is the same. The cartel raises price and cuts output to the monopolistic price-output combination.

Figure 1 shows the familiar welfare consequences of monopolization. The downward sloping line represents the demand for the good, with quantity measured along the horizontal axis and price measured along the vertical axis. The marginal cost of production is shown by the flat line – for simplicity, I assume constant marginal cost. In a competitive market, price would equal marginal cost. The diagram shows that the monopolizing firm exploits its monopoly power by cutting output and increasing price from the competitive level, p_1 , to the monopoly level, p_2 . As a result, society loses the surplus from goods that are no longer sold to consumers, represented by the area labeled Social Loss. Also, some of the surplus that had been enjoyed by consumers under competition is transferred to the monopolist, shown by the area labeled Transfer.

In view of the welfare consequences of monopolization, antitrust laws have been justified by two arguments. One, the most important, holds that antitrust is necessary to prevent the waste of resources that monopoly generates (Posner, 2001). In terms of the diagram (Figure 1), then, the purpose of antitrust is to prevent the area labeled Social Loss from arising. Under this view, antitrust is justifiable because it enhances society's welfare (or wealth), if employed judiciously. An alternative justification for antitrust emphasizes the distribution of wealth. Since the monopolizing entity transfers part of the surplus that would have gone to consumers to itself, monopolization transfers wealth between groups in society. Assuming consumers to be more numerous than the owners of the firm, the transfer of surplus enriches a relatively small class (owners) at the expense of a larger class (consumers). There is no clear theoretical basis for preferring one distribution of resources to another, as long as the total amount of resources is the same. However, a simple Benthamite approach to utility, assuming everyone has the same marginal utility of income, suggests that welfare would be enhanced by shifting the money back from owners to consumers.

I will adhere to the generally accepted approach and treat total resources, rather than the distribution of resources, as the major concern of antitrust law. Thus, monopolization is undesirable because it reduces society's total wealth, not because of its distributional impact.

Figure 1: Welfare consequences of monopolization.

2.2 Intellectual Property

Figure 1 can be used to set out the economic basis for intellectual property laws. Consider a product that has been patented. The patent allows the patentee to exclude competition. Since competition is excluded by the patent, the patentee can raise price above the competitive level. If the competitive level would be p_1 , the patentee may raise the price to p_2 . The result is the same as in the monopolization scenario described earlier. Some of the welfare of consumers is transferred to the patentee (Transfer). Some of the welfare is forfeited (Social Loss).

Of course, the immediate question this generates is: why ever award a patent given the harmful effects just described? The answer is that the patent, under the appropriate conditions, incentivizes the producer to introduce the product into the market. In other words, without the patent grant, the good would not exist on the market. If this is valid, then how does society gain from the patent grant? Society's *potential* gain from the patent grant is the whole surplus triangle shown in Figure 1, which is the sum of the Social Loss, Transfer, and Residual Surplus. Once the patent is granted and the firm responds by raising its price, the amount society actually gains is the sum of the Transfer and the Residual Surplus. The patentee takes the entire transfer as his own, and consumers receive the residual surplus.

Note that under this theory, the Social Loss identified as the key justification for enforcing the antitrust laws does not exist as a practical matter in the patent setting. The reason is that in the absence of the patent, the surplus would not have been available to consumers at all. Hence the real gain to society from the patent is the sum of the transfer and the residual surplus. Society has not suffered a loss as a result of patent monopolization because the additional surplus represented by the Social Loss triangle would not have been available to consumers in the absence of the patent grant.

One might object to this argument by noting that it might be possible to have the patent grant without the patent-induced price rise. Supposing that it is possible to have the patent without the price increase – that is, the patentee might be awarded a patent and forgo the increase in price from p_1 to p_2 – then it would seem to follow that the entire loss in welfare resulting from the price rise should be counted as a loss to society. Under this assumption, the analysis of welfare under intellectual property is the same as that under antitrust. But this view ignores the underlying premise that the patent is necessary to generate the innovation. If the patent is necessary to generate the innovation, then in the absence of the prospect of a patent-induced price rise, the incentive to patent would not have existed. The patent and the resultant increase from p_1 to p_2 cannot be separated under the starting premise of this analysis.

A compromise between these conflicting views – one viewing intellectual property as entirely beneficial and the other viewing intellectual property as a harmful form of monopolization – might be reached by modifying the premise of this discussion slightly and assuming that a particular price increase was necessary to bring the innovation to market, but that the increase from p_1 to p_2 is greater than that necessary price increase. Under this view, part of the area labeled social loss could then be described as a waste of society's resources. The patent was too generous. The patentee would have brought innovation to market with a smaller reward. The

loss in welfare resulting from the differential between p_2 and the necessary price (or minimum necessary innovation-inducing price) would then represent a genuine loss to society's welfare. Under this view, one can argue that there is a tradeoff between consumer welfare protection and incentivizing innovation – and indeed a conflict between antitrust and patent law.

Many scholars have addressed the tradeoff between consumer welfare protection and incentivizing innovation, mostly in connection with the patent-antitrust conflict. Carrier provides a useful survey (Carrier, 2002), and groups the arguments into three general categories. One is the position taken by Ward Bowman (1973), which is that legal policy should aim to maximize the reward generated by the competitive advantage provided by the patent. This view is consistent, very generally, with permitting the patentee to obtain the entire transfer, and perhaps the entire potential surplus in a system of perfect price discrimination. A second view, attributed to Baxter (1966), seeks to minimize the social loss due to patent protection. Thus, as long as the reward is sufficient to bring the innovation to market, the goal should be to minimize the social loss resulting from the patent-induced price increase. The third position, attributed to Kaplow (1984), holds that policy should aim to vary the extent of antitrust regulation of patentee conduct as the ratio of the reward from the patent (that is, the transfer) to the social loss changes. Thus, as the reward increases relative to the social loss, patent protection should be given more weight as a policy goal relative to the consumer protection goal. Carrier noted, interestingly, that patent protection should also vary with the responsiveness of innovation to such protection – which implies an industry-specific approach to trading off patent and antitrust law.¹

3. Applications

In the abstract, it seems that the conflict between patent and antitrust law should be pervasive. Under the general theory outlined above, the controversy potentially exists as long as the patentee receives a reward that is greater than the minimum necessary for the patentee to bring the innovation into existence. However, this condition is likely to hold for many if not all patents. The ideas that do not come to market as patents fail because the patent reward was less than the cost of creation. The ideas that succeed, by becoming valuable patents, are those for which the patent reward exceeds the cost of creation. It should be the rare instance where the reward was just sufficient to cover the cost of creation. Given this, it would appear that almost every patent represents a potential instance of a patent-antitrust conflict, because the reward probably could have been reduced at least slightly while maintaining the incentive to bring the innovation to market (Ayres & Klemperer, 1999).

Although this view appears to be well received, it is somewhat static and backward looking. Suppose, for example, the reward is fixed at \$100, and the cost of innovation is random (Hylton & Lin, 2014). Innovation occurs whenever the realized innovation cost is less than the fixed reward. Under this simple model of innovation, any reduction in the reward will generate less

¹ Carrier (2002) at 790 (noting that there should be “differentiated analysis between industries in which patents are essentials for innovation (e.g. chemicals) and industries in which competition (and not patents) is essential for innovation (e.g. software)”).

innovation. Although some innovations would have occurred with a smaller reward – for example, the cost of innovation was only \$50 – there would always exist innovation that occurs on the innovation-incentivizing frontier – that is, where the cost of innovation is \$99.99. If one could identify the innovations that would have occurred with a smaller reward and force a price reduction for those patents only, consumer welfare could be enhanced. But the difficulty is identifying the subset of innovations that fall in this category. An error in identifying this subset of cases would generate a general reduction in the incentive to innovate.

Still, accepting this theory of tradeoff as the fundamental basis for the using antitrust law to control the conduct of patentees, there are major concepts in antitrust law that limit the scope of antitrust law's application to the conduct of a patentee. For unilateral conduct, there are two general antitrust "constraints" of this sort. The first is the general idea of market power, and the second is the distinction between exclusion of competition and exploitation of monopoly power. For collusive conduct, antitrust requires proof of agreement.

The concepts of market power and exploitation are most important in this context. In general, for unilateral conduct to be unlawful under Section 2 of the Sherman Act, the defendant firm must have monopoly power (*U.S. v. Grinnell Corp.*, 570 ("The offense of monopoly under s 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power . . .").² Moreover, it is lawful for a monopolist to exploit its monopoly by charging the monopoly price and producing the monopolistic quantity. The monopolist violates antitrust law only by excluding competitors.

Market power is a rather elusive concept in antitrust. Generally, it is considered the power to raise price significantly above the competitive level (Hylton, 2003). The definition implies that competition is too weak to prevent the firm from imposing its desired price increase on consumers. Market power, in short, is the power to raise price above the competitive level without having to worry too much about the constraints imposed by competition. A monopolist can raise price at will, but will restrain himself to some degree by the loss in sales that results as fewer consumers prefer to purchase the product. A firm in a perfectly competitive market can raise price, but will lose all of its sales to rivals. Monopoly power is the intermediate status, reached before full monopolization, where the firm that raises its price anticipates losing consumers mostly because of their willingness to pay and not because of their ease of switching to a rival with a reasonable substitute.

The market power requirement clearly should constrain the extent to which antitrust law applies to intellectual property. Most patents exclude competition within the scope of the patent without creating monopoly power. The reason is that, for such patents, there are substitute technologies that a potential implementer or consumer could turn to if the patentee tries to raise the price. These substitutes constrain the patentee's ability to profitably impose a price increase on implementers or consumers.

The Supreme Court in *Illinois Tool Works Inc. v. Independent Ink, Inc.*, held that in the tying context no violation of the antitrust laws could be shown in the absence of proof of market power

² See generally, Hylton (2003) at 186-202.

in the patented product. The opinion rejects the pre-existing presumption that a patent confers market power on the patentee. The reasoning of *Independent Ink* implies more generally that market power is a necessary condition for a monopolization claim to be successful based on a theory that the patentee leveraged the exclusionary power of the patent.

The Supreme Court's abandonment of the patent-market-power presumption in *Independent Ink* implies that unilateral conduct claims founded on the theory that the patentee leveraged the exclusivity of the patent to exclude a rival or to constrain competition in some other market would be unsuccessful under the Sherman Act. In spite of this, at least one special rule originally based on the leverage theory, though falling under the label "patent misuse," was recently upheld by the Court. In *Kimble v. Marvel Entertainment*, the Court reaffirmed the rule of *Brulotte v. Thys* (31, patentee's use of a royalty agreement that projects beyond the expiration date of the patent is unlawful per se), under which a patentee cannot charge royalties that extend beyond the term of the patent. *Kimble* argued that the *Brulotte* rule reflected a settled judicial interpretation of the Patent Act, and that such an interpretation should remain in force unless strong reasons could be marshalled for overturning it. The majority in *Kimble* believed that strong reasons had not been provided for overturning *Brulotte*. The error in *Kimble* was the Court's failure to see that the leveraging theory upon which *Brulotte* had been based had been firmly rejected in *Independent Ink*.

The more significant issue generated by *Kimble* is one of categorization. Although *Independent Ink* limits the scope of antitrust theories based on leveraging the exclusionary power of the patent, courts may fail to notice or explicitly acknowledge when such a theory is brought before them. The majority in *Kimble* had been persuaded that the core issue of the case was one of statutory interpretation, and viewed Congress's failure to explicitly overturn *Brulotte* as an implicit legislative enactment of the *Brulotte* rule. Such categorization gamesmanship can always be played by litigants. This leaves open the question of how far courts will go in applying *Independent Ink* to theories of leverage directed toward patentees. The Court may continue to claim fidelity to *Independent Ink* while at the same time opting to avoid the leveraging question in particular patent cases and to focus on some tangential legal issue (such as statutory interpretation).

A more direct antitrust attack on patenting activity is represented by the developing law on "product hopping" (Hovenkamp, Janis & Lemley, 2010; Carrier, 2010; Cheng, 2008). The product hopping charge is asserted against a pharmaceutical firm with a patented drug on the theory that the firm sought or obtained a new patent based on a minor reformulation of the drug for the purpose of eliminating generic competition. The monopoly power of the pharmaceutical drug is likely to be easily established, so the rule of *Independent Ink* would not present an obstacle to such a claim.³ Moreover, unlike the leveraging cases, which are based on the theory that the monopolist seeks to extend monopoly power into a related market, the product hopping

³ Of course, the monopoly power of the drug may not be easily proven in some cases. For example, if the particular drug faces competition from substitutes that may be nearly as effective for the particular treatment required, then a defendant pharmaceutical firm may be able to present sufficient evidence of competition to avoid a finding of monopoly power. On the analysis of monopoly power, see Hylton (2003) at 232-239.

claims assert that the pharmaceutical firm has violated the antitrust law by abusing its monopoly power, within the monopolized market, by enforcing its new patent.

At present, the most important court decision on product hopping is *New York v. Actavis*. *New York v. Actavis* applies the balancing framework for monopolization claims established in *U.S. v. Microsoft (Microsoft III)*. Under the *Microsoft III* balancing test, the Court must compare the anticompetitive effects of the defendant's conduct to the procompetitive or efficiency benefits resulting from it. Using this reasoning, the Second Circuit held that a "hard switch" – that is, a change in the formulation of the drug which accompanies a termination of sales of the original formulation – violates the antitrust laws if the change in the formulation appears to offer little that was not provided by the original formulation. The Second Circuit rejected the alternative approach of the Ninth Circuit in *Allied Orthopedic Appliances Inc. v. Tyco Health Care Group LP.*, which refuses to balance competitive effects in the context of a predatory innovation claim. Under *Tyco*, which rejects the *Microsoft III* balancing approach, any significant enhancement of utility to consumers would be sufficient to defeat an antitrust claim based on a theory of predatory innovation.

Although the product hopping case law is still in development, and the issue has not yet reached the Supreme Court, it represents the most direct conflict one could imagine between the patent and the antitrust laws. Under the balancing test adopted in *New York v. Actavis*, courts are, in effect, directed to balance the interests of the patent laws against the interests of the antitrust laws. One could argue that the proper forum for striking such a balance would be within a claim for patent infringement. The defendant in such a case would typically argue that the patent is invalid. One reason a court might find a patent invalid is that it fails the novelty or nonobviousness requirements.⁴ If a reformulation of a drug is a trivial alteration of the original formulation, then the new patent should be found invalid because of its obviousness. In this sense, patent law has always incorporated a direct mechanism for examining antitrust-based theories (Cass & Hylton, 2013). However, *New York v. Actavis* essentially gives the infringing party an alternative route to challenge the patent and to seek a treble damages award from the patentee.

One can view *New York v. Actavis* as raising a similar categorization question to that generated by *Kimble*. A decision by a patentee to abandon exploitation of a previous patent and to put his entire resources into the exploitation of a new patent would seem to be well within the rights protected by the patent laws. Indeed, the patent-as-property theory adopted by the Supreme Court in *Bement v. National Harrow* would seem to provide sufficient legal basis for such a decision. However, the product hopping cases view the decision to abandon old patent and shift resources to a new one as simply a competitive stratagem falling well within the scope of the antitrust laws.

Apart from unilateral conduct antitrust theories, antitrust law has also been used to attack settlements of patent infringement litigation on the ground that the settlements amounted to collusive market sharing agreements. The most important area of case law on this matter today

⁴ See Cass and Hylton (2013) at 49-75.

consists of reverse payment settlement cases. In the typical case, a pharmaceutical firm (pioneer firm) sues a generic for infringement. The two firms enter into a settlement agreement in which the pioneer pays the generic to stay off of the market until some date before the expiration of the patent.

The Supreme Court held in *FTC v. Actavis* that such agreements may violate the antitrust laws and should therefore be analyzed under the rule of reason. While this may seem to be unexceptional at first glance, it was a substantial change of the pre-existing law. The rule in effect before *Actavis*, the so-called “scope of the patent test,” immunized settlement agreements from antitrust attack as long as the terms of the agreement did not effectively extend the duration or scope of the patent.⁵ The typical reverse payment settlement agreement, which generally permit generic entry before expiration of the patent, would be lawful under the scope of the patent test. Under *Actavis*, such an agreement would be upheld only if a court concluded that the rule of reason balancing test indicated that the anticompetitive effects of the settlement were outweighed by procompetitive benefits.

At present, the precise contours of *Actavis*’s rule of reason test are unclear. The most important question in litigation currently is whether *Actavis* requires that the reverse payment be in cash for its restrictions to apply.⁶ If courts ultimately conclude that *Actavis* does not require a cash transfer, then the rule’s scope will extend to a large set of patent infringement dispute settlements, and perhaps nearly all. Few cash payments have been observed since the Supreme Court’s decision in *Actavis*, reflecting the general awareness that antitrust litigation could easily follow any cash settlement. However, patent infringement lawsuits continue to be settled, many involving complicated deals. Still, since each of these deals arguably involves some transfer of resources from the patentee to the generic (*See Asahi Glass Co. v. Pentech Pharm., Inc.*, 994 (“But *any* settlement agreement can be characterized as involving ‘compensation’ to the defendant, who would not settle unless he had something to show for the settlement. If any settlement agreement is thus to be classified as involving a forbidden ‘reverse payment,’ we shall have no more patent settlements.”) (emphasis in original)), each arguably falls under the restrictions of *Actavis*. And since each settlement is arguably subject to scrutiny under *Actavis*, each settlement could give rise to a challenge from a third party (or a federal enforcement agency) based on *Actavis*.

In addition to the general possibility of an *Actavis*-based challenge to *any* settlement of a patent infringement lawsuit in the pharmaceutical sector, the potential costs of such challenges are advanced further by the unusual incentives of challengers. The patentee and generic, having settled, have no interest in continuing litigation. The third-party challenger, by contrast, has no interest in terminating litigation as long as (1) the potential payoff, in the form of a damages or

⁵ See, e.g., Cass and Hylton (2013) at 199.

⁶ Compare *In re Lamictal Direct Purchaser Antitrust Litigation*, 18 F. Supp. 3d 560, 569 (D. N.J. 2014) (refusing to extend *Actavis* to include non-monetary payments) with *In re Niaspan Antitrust Litigation*, 42 F. Supp. 3d 735, 751 (E.D. Penn. 2014) (holding that “reverse payment” is not limited to a cash payment (citing Black’s Law Dictionary 1309 (10th ed. 2014))) and *In re Lipitor Antitrust Litigation*, 46 F. Supp. 3d 523, 543 (D. N.J. 2014) (holding that non-monetary payments may trigger antitrust review but must be converted to a reliable estimate of its monetary value in order to survive a motion to dismiss).

settlement payment from the patentee and generic firms, is high (which is often true in pharmaceutical patent litigation), and (2) a possibility exists that a court might find an antitrust violation under the *Actavis* balancing test.

The characterization question that plagues so many of the recent decisions on the patent-antitrust conflict is very much in evidence in *Actavis*. Viewing a patent as a monopoly, traditional antitrust doctrine presumably would hold that the monopolist may exploit the patent in full without violating the antitrust laws.⁷ The decision to settle a patent infringement lawsuit along terms that are consistent with the scope of the original patent is arguably just one of many ways of exploiting the monopoly power of the patent. The decision to pay to settle a patent infringement lawsuit is a decision to pay to eliminate a challenge to the title. It is, in effect, a sale of a limited right in the patent itself to the challenger, which is a view that provides support to the traditional scope-of-the patent test (overturned by *Actavis*). However, under the theory of *Actavis*, a settlement is not properly viewed as a decision to sell a limited right in the patent, but an agreement between two potential competitors to divide the market within the patent.

The characterization problem becomes obvious in the extreme scenarios. The view adopted by *Actavis* would imply that any decision to sell a right in a patent to a potential competitor might violate the antitrust laws. Indeed, the decision to sell the patent in full to a potential competitor might violate the antitrust laws. Under this reasoning, any sale of a patent could be subjected to antitrust scrutiny.

4. Conclusion

The aim of this short chapter is to explain the basic economics of the patent-antitrust conflict and to illustrate its implications for antitrust law. This is a fertile source of litigation. The antitrust laws are relatively clear, and patent rights have been clear for a long time. The conflicts arise where courts have difficulty deciding which rights should dominate. The general trend over time has been one of courts finding more ways in which antitrust laws control the rights of patentees.

⁷ See, e.g., Cass and Hylton (2013) at 188-192.

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