Property, liability and market power: The antitrust side of copyright

Antonio Nicita and Giovanni B. Ramello
This paper investigates the interplay between copyright law and antitrust law in two distinct respects. We first argue that the origin of copyright seems to be rooted not only in the need to foster the production and the spread of knowledge but also in the necessity of limiting market power on the side of distributors. We then show the potential impact on market competition of the evolution of copyright as a property rule. While property rules reduce transaction costs in the standard case of bilateral monopoly over the exchange of information goods, they might increase transaction costs. When coupled with market power, a property rule enables the right holder to control uses and prices so as to implement entry deterrence strategies against potential competitors. Conversely, we argue that reversing property rules in favor of competitors or switching to liability rules for copyright may restore competitive outcomes. This conclusion brings new insights on the application of the essential facility doctrine to copyrighted works.

1. INTRODUCTION

This article outlines the interplay between copyright law and antitrust law in two distinct respects. We first argue that the origin of copyright seems to be rooted not only in the need to foster technological change and the spread of knowledge but also in the necessity of counterbalancing emerging monopolistic and oligopolistic.

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power on the side of distributors. We then show the consequences, in terms of market competition, of the evolution of copyright as a property rule.

In the very simple setting of the seventeenth- and eighteenth-century book industry, the Statute of Anne—the world’s first copyright law—was a complex legal measure aimed at breaking up the powerful Stationers’ cartel and increasing competition for printed books. In this respect, copyright law and competition indeed shared the “common purpose of promoting innovation and enhancing consumer welfare.”

Nonetheless, two different processes have significantly shaped current copyright laws. On the one hand is the legal framework, originally conceived for literary texts, but where the related market has been extended to phonograms, computer programs and, most recently, databases. On the other are new economic interests that have led to repeated amendments of the law, which have tended to favor the interests of distributors rather than authors, sometimes creating a market structure very similar to that of the Stationers at the time of the Statute of Anne.

In this paper we argue that one of the forces now pushing back toward a monopolization or “cartelization” of information goods—in several industrial sectors—is the progressive shifting of copyright towards a property rule. Current copyright laws give holders the exclusive right to copy, reproduce, distribute, adapt, perform or display their works, which secures extensive control over dissemination. Consequently, those who wish to gain access to an entitlement protected by copyright (for production, distribution or consumption) need to obtain preliminary consent from the right holder, thus asserting the nature of copyright as a property rule in the tradition of Calabresi & Melamed’s work (1972).

Property rules inhibit access without the owner’s consent, while liability rules require infringers to compensate the owners for infringement. Property rules can provide powerful incentives to right holders when: (i) the entitlement to be protected is an information good, (ii) there are high costs for monitoring and detecting unauthorized access, and (iii) the degree of uncertainty is such that at least some of the uses embedded in information goods are non-contractible (Bebchuk, 2001). In all these cases, property rules provide authors with the right to residual income and with the residual right to control uses over the entitlement. However, we argue that in at least two circumstances, even when the entitlement to be protected is represented by an information good, there is an economic rationale for moving toward reversed property rules (assigning to the counterpart the right to access the entitlement and protecting this right with a property rule) or liability rules. This is the case when there is market power on the right holder’s

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2 U.S. Federal Trade Commission and Department of Justice (1995), Antitrust Guidelines for the Licensing of Intellectual Property, par. 1. Note that this convergence between the Statute of Anne and competition does not necessarily still hold (see Ramello, 2003).
side, and/or a technological innovation that dramatically reduces the costs of detecting unauthorized access to proprietary information goods. When property rules are backed by market power in the market for the entitlement, the owner may have a strong incentive not to deal with competitors. In this case a property rule acts as a defensive leveraging device on the owner’s side to preserve market power. Here, unbundling property rights and reversing property rules towards competitors or switching to liability rules for copyrighted works may enhance competition and consumer welfare. In particular, we show how this is the case—according to the practice of antitrust law followed for instance in the European cases *Magill* and *IMS*—when the essential facility doctrine is applied to copyrighted works the access to which is essential in order to enter markets. We conclude that the case of copyrighted works provides another argument, in addition to those already advanced in the literature (Kaplow & Shavell, 1996; Ayres & Talley, 1995), for the superiority of liability rules over property rules. In particular, we contend that traditional literature on “the Cathedral” has generally neglected to note that the choice of property versus liability rules affects parties’ ex-post bargaining power over the entitlement and that this circumstance is crucial when one of the parties has market power in the market for the entitlement. The paper proceeds as follows. In section two, we briefly recall the evolution of copyright law and outline the antitrust aspect of the Statute of Anne. In section three we argue how in the case of copyrighted works, we can outline a reversal of Calabresi and Melamed’s legal thinking regarding the choice of liability versus property rules. In sections four and five by means of antitrust jurisprudence and a model we discuss two circumstances calling for an efficient switch from property to liability rules in copyrighted works: (a) when technological innovation dramatically reduces the cost of protecting copyrighted entitlements, and (b) when the owner of an entitlement protected by a property rule exerts significant market power over the market for entitlement and when the copyrighted entitlement is an essential facility. We conclude in section 6 that when these two conditions hold for a copyrighted work, assigning a property rule might provide a monopolization device to the owner and therefore facilitate defensive leveraging strategies on the owner’s side, which would inhibit efficient access to the entitlement.

2. COPYRIGHT AS AN ANTI-TRUST DEVICE? A BRIEF HISTORY

If we look at copyright from its earliest origins, we discover something interesting and somewhat counterintuitive: the first copyright law, the Statute of Anne, seems to have aimed more at disciplining the monopoly power of the printers and distributors grouped together in the Stationers’ Company than at providing authors with appropriate remuneration and incentives to create copyrighted works.
This is a puzzling perspective that casts serious doubt on the view of original copyright as a legal device based solely on the need to provide appropriate rewards/incentives to creators of information goods and to encourage the dissemination of knowledge (Patterson, 1968; Landes & Posner, 2003; Ramello, 2005). Moreover, this genesis offers a clearcut interpretable tool for evaluating legislative changes and amendments that affect competition and market structure. A brief account of the history of copyright law shows how support for innovation was an important reason for instituting copyright-like measures, but the primary concern leading to the drafting of copyright law was the need to establish—upstream for copyright holders and downstream for final consumers—a countervailing power against the monopoly of the Stationers’ Company.

The debate over nurturing and disseminating innovation dates at least to the Middle Ages, when major efforts and resources were devoted by various parties (the Catholic Church among them, through its support of the work of amanuenses) to preserving and transmitting literature inherited from the past, using specific rules and incentives for copyists (Patterson, 1968). The Rule of Saint Benedict, for example, provided “supernatural incentives” by requiring monks to spend a certain amount of time each day on painful labor in the scriptorium, explicitly in return for some benefit to their soul. A similar purpose led King Louis IX in France to support the work of copyists instead of buying existing books, “because in this way the mass of books available for the community was increased” (Yu, 2006). The need to foster technological change and the spread of knowledge was also recognized by authorities who granted privilegii and patent letters (Bettig, 1996; Burke, 2000). In 1469, for instance, the Venetian Senate gave German printer Johannes de Spira (von Speyer) a five-year exclusive right to print the letters of Cicero and Pliny. In 1486, a similar privilege was granted to Marcantonio Cocci, known as Sabellicus, to “print and sell” copies of his work Rerum Venetarum ab urbe condita ad Marcum Barbaticum libri XXXII. In case of infringement, the fine was set at 500 ducats (Patry, 1994). Again, as early as 1476, the English Crown granted a privilege to William Caxton for having introduced Gutenberg’s movable type technology to England in the precincts of Westminster Abbey (Patry, 1994; Bettig, 1996).

Note that the incentive argument is clearly expressed in several laws and sources. The Statute of Anne itself was intended as “[a]n act for the encouragement of learning, by vesting the copies of printed books in the authors or purchasers of such copies, during the times therein mentioned.” The U.S. Constitution (Article 1, Section 8) asserts that the Congress shall have the power “to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” Adam Smith, who was against all monopolies, nonetheless upheld legal measures producing some reward “as an encouragement to the labors of learned men” (Smith, 1762, Lectures on Jurisprudence, in Goldstein, 1994, p.173).
It might be logical, then, to conclude that the promulgation of copyright laws was a way to extend existing policy within a more comprehensive legal system. As we have seen, however, the first copyright law was drafted in order to weaken the monopoly in the book market. This market originated in Paris in the 12th century and then spread to other university towns through the work of “stationers,” who initially secularized books by hand reproduction and later became printers (Bettig, 1996).

In general, the work of stationers was still “under observation” by public authorities for purposes of censorship and political control, but also for the prevention of excessively high prices and significant restrictions on access to books. The regulation exerted by public authorities in continental Europe was mainly directed towards universities, the major centers of knowledge production and reproduction, whereas in England it affected commercial enterprises organized into a guild: the Stationers’ Company. In 1557, the Stationers’ Company was granted a charter by Philip and Mary Tudor, essentially giving it a monopoly for nearly 150 years on printing and publishing books in England. According to the charter, the total number of printers was regulated by law and only members of the Stationers’ Company could operate a printing press. Anyone running a press without a license from the Stationers was fined five pounds (split equally with the Crown) and imprisoned, without trial, for three months. Also, the Stationers soon acquired the duty/right to monitor and provide remedies against subversive or heretical books, thus obtaining nearly absolute control over the English book market (Patterson, 1968; Bettig, 1996; Burke, 2000; Khong, 2006). Control, it should be noted, concerned the distribution of books as well as their production.

Clearly, from a competition policy standpoint, the perfect collective monopoly or “cartel” was thus born. No conspiracy was needed in order to set up the collusive agreement since it was provided directly and automatically by the charter; the members of the Stationers’ Company had the right to establish the number of firms, and most importantly, had powerful recourse against cheating. The quiet life of the cartel was secured by a number of decrees that essentially renewed the original charter: the first renewal dates to 1586, the second to 1662 when the Printing Licensing Act was ratified. The effect of this extended monopoly was nearly a century and a half of higher prices and restricted supply, to the detriment and dismay of consumers. Complaints about the Stationers’ monopoly reached a critical mass around 1695, when the 1662 act was nearing expiration. The philosopher John Locke, a prominent supporter of property rights, has left us a summary in a memorandum he wrote in 1694 to Member of Parliament Edward Clarke (Hughes, 2006).
Locke’s memorandum spells out two separate grievances against the Stationers: their censorship power on behalf of the Crown, as several commentators stress, and the perpetual monopoly held over the English book trade by the “lazy, ignorant Company of Stationers, to say no worse of them.” With these and other strong words, Locke was explicitly criticizing the high prices of classic works and the poor quality of books in England.

Locke called it “absurd and ridiculous” that someone could own rights to ancient authors’ works and patently supported the idea of breaking down the Stationers’ monopoly both horizontally (i.e., on the catalog of authors) and vertically (in perpetuity). His suggested remedies involved giving authors exclusive rights over their works for a limited amount of time (Chartrand, 2000; Hughes, 2006). These remedies were adopted and enforced—although it took several years and further struggles before they were truly put into practice⁴—by the Statute of Queen Anne issued by the English Crown in 1710. The statute, universally recognized as the first modern copyright law, was explicitly intended to prevent any future monopoly in the book trade (Bettig, 1996). Accordingly, it contained a number of measures to reduce the risk of monopolization.

The first was to introduce authorship (but only technically speaking), in order to provide individual persons—authors—with copyright entitlements and thus break the Stationers’ hold on the catalog. The Stationers thought this change would not affect their ability to control the catalog, and thus endorsed authors’ entitlement to an exclusive right. The idea was to secure individuals, who happened to be authors, with a strong exclusive right that would later be transferred to a Stationer in accordance with the usual custom (Bettig, 1996). However, the Stationers soon discovered how the new rules subverted previous bargaining powers and market equilibria. Since authors could access the market without assistance from a bookseller (Khong, 2006), it was more difficult to detect cheating among printers. Thus, authorship was a way of allowing authors to counterbalance the Stationers’ power.

The second change concerned the vertical dimension of the monopoly, i.e., the length of its entitlements. Under the Statute of Anne, new works were protected for 14 years, extendable for a further 14, while the works already registered as Stationers’ titles were protected for 21 years. These first legal changes had two crucial rationales: to restore the competitive structure of the market and the public domain within a reasonable period of time,

⁴ For about half a century the Stationers fought the “battle of the booksellers,” arguing that the statute extended their rights and trying to obtain favorable interpretations of the new law—sometimes successfully. For a closer look at these events, see for example Patry (1994) and Chartrand (2000).
and to transform a de facto perpetual monopoly over the Stationers’ catalog of
titles into a sum of smaller, limited monopolies.
But the Statute of Anne contained a third and crucial provision: the right of “any
person,” including consumers, to complain to the board of books against “too high
and unreasonable” prices. This is actually a sort of ante-litteram antitrust measure.
If the complaint were upheld, the board had “the full power and the authority to
reform and redress the same, and to limit and settle the price of every such printed
book and books, […] according to the best of their Judgment, and as to them shall
seem just and reasonable […]” (Statute of Anne, Section IV).
To today’s competition and regulation scholars, this practice sounds very much
like a violation of Section 1 of the U.S. Sherman Act (illegal monopolization of
the market) or Article 82 of Europe’s Treaty of Rome (abuse of dominant
position), which, among other things, deals explicitly with excessive prices
towards competitors, clients or final customers.

3. COPYRIGHT AS A PROPERTY RULE: THE “CATHEDRAL” REVERSED?

From the outset, copyright “has steadily burgeoned and never retrenched” (Radin,
2006, p. 982), thus expanding its boundaries in term of scope, duration and subject
matters. Today the most common interpretation of copyright law, strongly
supported by stakeholders, is that of a system of information propertization with
accepted holes that many have tried and are trying to plug. According to Calabresi
and Melamed’s “Cathedral” framework (1972), the strong legal protection
afforded by copyright is in fact a property rule. A property rule is backed by a
“policy of prohibition” which simply does not tolerate “certain acts or types of
conduct to any degree” (Hylton, 2006), such as taking or damaging someone else’s
entitlement without first gaining the owner’s consent. Conversely, a liability rule
does not provide the security of a property rule, and protects the entitlement only
by requiring ex-post the party taking or damaging the entitlement to pay a price—
generally determined by the courts—that reflects the losses incurred by the owner.
Since it is illegal in almost all developed countries (with the well-known exception
of fair use doctrine5) to copy any copyrighted work without the preliminary
consent of the owner, it seems inarguable that copyright is generally backed by a
property rule.

5 The fair use doctrine is the main incursion into liability of copyright law, designed to promote
efficiency where there is a failure in the copyright market because of transaction costs. The current
trend, however, is to reduce fair use through the law and/or technology (Gordon 1982; Depoorter
& Parisi, 2002; Radin, 2006).
However, looking at the legislative side of the Cathedral, and at the endless debate thus far, we face an apparent puzzle: in Calabresi and Melamed’s world, property rules are comparatively efficient as legal protection when the transaction costs for bargaining over and/or protecting the entitlement are low or negligible. Thus, when transaction costs are high, protecting entitlements through liability rules is actually more efficient. The idea is that a liability rule sets an upper limit for damages that can be transferred to the right-holder, thus inhibiting the ‘inefficient’ veto power attributed to the owner under a property rule regime. Recently, a fierce debate raised by Ayres & Talley (1995) and Kaplow & Shavell (1996) showed how liability rules should always be considered the most efficient way of protecting entitlements, in case of negative reciprocal externalities between the victim and the injurer, regardless of the transaction costs dimension. When transaction costs are low, property and liability rules are always perfect substitutes for one another, since parties can bargain easily in an ideal Coasean world (Coase, 1960). In Kaplow and Shavell’s view, when transaction costs increase, liability rules are superior to property rules, not only because they eliminate owner’s veto power, but also because they minimize information costs to the courts. Indeed, allocating an entitlement through a property rule requires the court to know both the damage to the victim and the opportunity cost to the injurer of non-infringement, whereas when using a liability rule, the court needs to know only the damage to the victim. With high transaction costs, argue Kaplow and Shavell, liability rules are less costly and thus more efficient for the courts to enforce. When it comes to copyrighted works, there are at least two reasons for high transaction costs: (i) uncertainty over the private value of an information good, which may raise bargaining costs; and (ii) the high cost of detecting and preventing the distribution of or illegal access to an information good. The question is more complex if we consider that some endogeneity between (i) and (ii) could exist, as the private willingness to pay for an information good may depend on the owner’s ability to maintain it as a private (rival and excludable) good. Thus, if we apply Calabresi and Melamed’s framework to copyrighted works, the high transaction costs for exchanging the entitlement should call for a liability rule rather than a property rule. It seems, therefore, that copyright represents a reversal of the Cathedral concept. However, as Bebchuk (2001) first emphasized, when we consider positive externalities generated by information goods, we should take into account not only the ex-post gains from trade, and the capacity of liability rules to facilitate bargaining (as Ayres & Talley maintain), but also the ex-ante impact of the legal rules of entitlement protection on owners’ incentives to invest in the creation of

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7 For a critical comment on Kaplow and Shavell’s argument see K. Hylton (2006).
information goods. Since liability rules impose on injurers a “price” equal to the amount of damages recognized by the courts, when the expected value that owners attribute to court-determined damages is lower than the owner’s ex-ante private expected value, liability rules could undermine efficient investments. This is enough for Bebchuk to refute the superiority of liability rules, at least in settings where positive externalities are associated with the entitlement, as in the case of information good. In fact, court’s assessment of damages may result in an ex-post ‘hold-up’ against investors, so as to undermine their ex-ante incentives to invest (Nicita, 2006). As a consequence, liability rules lead to under-investments when there is ex-post un-verifiability (and ex-ante non-contractibility) of the potential uses and/or of the prices associated with ex-post access to the entitlement. Bebchuk argues that these “enforcement costs” stemming from the risk of hold-up call for property rules when the entitlement is the result of ex-ante investments, as in the case of intellectual property over information goods. A property rule thus gives the owner all of the bargaining power in exchange of the entitlement. In particular, a property rule conveys all bargaining power over the exchange of a given property right to its holder, who can even refuse to deal unless an acceptable price is agreed. This veto power on owner’s side performs two distinct functions of property rights (Hart, 1995): it gives the owner the right to the residual income generated by the uses bundled in property, and also entitles the owner to control non-contractible uses bundled in a property right.

On the one hand, the right to residual income coupled with the bargaining power to set prices for access to property gives the owner an appropriate stream of income in order to compensate the owner’s ex-ante efforts at invention and innovation; on the other, the right to control the uses of proprietary assets empowers the owner to fully exploit all of the economic opportunities associated with the asset owned and/or to deny non-owners any access to non-contractible uses.

For copyrighted material, this consideration reverses the normative aspect of the “Cathedral”: a high level of transaction (monitoring and detection) costs calls for a property rule instead of a liability rule. Clearly, this conclusion depends on the level of transaction costs associated with monitoring and detection. As Picker (2002) has described, technological innovation could in principle lead to high monitoring costs (when it allows free access and reproduction of copyrighted works) and to reduced monitoring costs (when it allows full control over access). When the costs of detection are low enough, the risk of unauthorized access is also minimized. As a consequence, the choice of property versus liability rules for copyrighted works should not be deemed as absolute, but should be made each time according to monitoring costs and available technology. Moreover, beside

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8 Furthermore, the application of a property rule offers an “expressive” value against infringers, by signalling as illegal any access obtained without prior consent.
the actual level of detection costs, another crucial issue should be taken into account in order to select the appropriate rule by which to protect ownership: the emergence of market power on owner’s side. The next section outlines this point.

4. PROPERTY RULE, MARKET POWER AND DEFENSIVE LEVERAGING

Thus far, we have provided some arguments reversing the “Cathedral” paradigm for copyrighted works by suggesting the efficiency of property rules when there are high transaction costs for enforcement (when prices are non-contractible ex-ante) and detection (when unauthorized access is difficult to inhibit). We have, in particular, assumed that under a property rule regime, right holders have strong incentives to exchange an entitlement whenever it is efficient to do so, i.e. when there are gains from trade. We have not investigated the case of endogenous transaction costs due to strategic bargaining. The risk of bargaining failure, as we discussed, was explicitly taken into account by Calabresi and Melamed (1972) as a case calling for liability rules and thus forcing exchange when Pareto-relevant configurations are inhibited by high bargaining costs. In other words, given a positive bargaining area over the potential exchange of an entitlement⁹, property and liability rules could also be interpreted as alternative assignments of default options and thus of bargaining power over the area of negotiation. A property rule therefore gives all of the bargaining power to the owner, who ultimately decides whether or not to provide access. Conversely, with a liability rule the owner has no veto power against “the buyer,” provided the buyer makes a payment equal to the “damage,” i.e. to the opportunity costs of waiving the entitlement.

In a world of zero transaction costs, the choice of a property instead of a liability rule would not affect the final price of the entitlement: all else being equal, the contracting parties would agree on a price that generates for both parties positive gains from trade. When there are transaction costs, however, the mere existence of potential gains from trade does not guarantee that a Pareto-relevant exchange will take place. Contracting costs or strategic bargaining related to market power may well prevent efficient exchange from occurring, inhibiting “efficient access” to the entitlement. For example, if an owner indefinitely delayed the bargaining process in order to extract the maximum surplus from counterpart, the veto power associated with a property rule over the entitlement would be itself one of the (endogenous) sources of transaction costs. In this and in the following section we investigate bargaining failure under a property rule regime. However, while standard analysis (since Spengler [1950]) traditionally focuses on the bilateral monopoly between right-holder and injurer, we explicitly consider the case in

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⁹ That is, assuming there are positive gains from trading the entitlement between the owner and the nonowner interested in gaining access.
which bargaining parties are potential competitors who must necessarily have access to the entitlement in order to enter a specific market. From a competition policy perspective, under certain conditions, the refusal by a dominant firm to provide access to a copyrighted entitlement, representing an essential facility for entering downstream markets, may be considered an abuse of dominant position, thus sanctioned by antitrust law, in the form of a ‘defensive leveraging’ strategy aimed at preserving dominant firm’s market power (Cooper Feldman, 1999).

In recent years, a growing number of antitrust decisions in the U.S.\textsuperscript{10} and Europe\textsuperscript{11} have addressed the issue of potential ex-post monopolization or abuse of dominant position in industrial sectors characterized by intellectual property right based essential facilities (Ramello, 2003, 2005; Heimler & Nicita, 2004; Nicita, Ramello & Scherer, 2005). These decisions show that the overlap between antitrust and intellectual property laws is far from resolved, and some boundaries need to be drawn between various provisions.

Whenever we have an intellectual property product, especially a copyrighted work, we face a possible ex-post monopolistic configuration in the product’s market. As this represents a premium for the ex-ante risk, however, it should be viewed as necessary for inducing investment. At the same time, when the copyright has already been developed there is no (short-term) harm in reducing ex-post profits. The access to a copyrighted entitlement becomes an antitrust concern when the industrial uses of the entitlement generate a “stable,” distinct and relevant product market and when access is a pre-condition to enter this downstream market. When the above conditions are satisfied the entitlement might be considered as an essential facility. In particular, a copyrighted work is an essential facility, when it is (i) not replaceable; (ii) not temporarily duplicable (given its legal protection);

\textsuperscript{10} Among others see Ad&M Records, Inc. v. Napster, Inc., 239 F.3d 1004, 1026-27 & n.8 (9th Cir. 2001), asserting the principle that unilateral refusal to license copyright may give rise to misuse claims; Blonder Tongue Labs. v. Univ. Illinois Found., 402 U.S. 313, 344 (1971), arguing that a patent holder’s right to refuse a license does not allow the patent holder to expand monopoly power by establishing specific licensing conditions; Data General Corp. v. Grumman Systems Support, 36 F.3d 1147, 1187 (1st Cir. 1994), arguing that “exclusionary conduct can include a monopolist’s unilateral refusal to license a copyright”; Image Technical Services, Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1218 (9th Cir. 1997), stressing how “exclusionary conduct can include a monopolist’s unilateral refusal to license a [patent or] copyright.”

and (iii) not rival in consumption (the invention could be used by different operators to enter distinct markets)\(^\text{12}\).

When a downstream dominant firm is also the owner of an essential facility, setting an excessive price or refusing to deal with competitors may constitute an abuse of dominance under US and EU antitrust practice (Castaldo & Nicita, 2006). Two recent European antitrust cases briefly illustrate this point. The first concerns *Magill\(^\text{13}\)*, an Irish publisher of a weekly TV guide. The three TV networks (RTE, BBC and ITP), each of which was publishing its own TV guide, sought an injunction from the Irish High Court to prevent Magill from publishing on the grounds that the information printed qualified as “literary works” covered by copyright. The Irish High Court ruled in favour of the plaintiffs, while Magill complained to the European Commission that the broadcasters’ refusal to deal was an abuse of dominance in violation of Art. 86 (now Art. 82) of the EC Treaty. The Commission, applying the essential facility concept to intellectual property rights under particular circumstances, ruled that each of the networks dominated the market for their weekly listings and that their opposition to Magill’s publication of a comprehensive TV guide was an abuse of dominance because (i) it prevented the introduction of a new product for which there was a significant consumer demand; (ii) dominant firms were using their power—through a litigation strategy based on the presumptive infringement of a copyright—to retain the derivative market for weekly guides, thus “limiting production or markets to the prejudice of consumers”; and (iii) the mere existence of a legal protection such as copyright was not sufficient to circumvent Art. 82 of the Treaty, as the intellectual property right constituted an essential facility for entering the TV guide market and was used to stop a rival from introducing a new and improved product in that market. Consequently, the European Commission ordered RTE, BBC and ITP to cease the infringement of antitrust law by providing TV listing information to interested third parties for publication, on request and on a non-discriminatory basis. Both the Court of First Instance (CFI) and the Court of Justice confirmed the Commission’s decision. In an appeal to the Court of Justice, Advocate General Gulman argued that the rulings would generate a strong contrast between antitrust and intellectual property laws, the aim of a copyright being “to give the proprietor the possibility of restricting competition [which] must also be afforded to a dominant undertaking”\(^\text{14}\). Interestingly, Gulman argued that an abuse would have occurred if the refusal had prevented the entry of a new product not in direct competition with those marketed by the dominant firms. The European Court of Justice upheld the

\(^{12}\) See Castaldo & Nicita (2006) for an economic explanation of the above conditions.

\(^{13}\) See footnote 11 above.

Commission’s and the CFI’s decisions, maintaining that “the exercise of an exclusive right by the proprietor may, in exceptional circumstances, involve abusive conduct.” In the case at hand there were six such circumstances: (i) there was no actual or potential substitutes for a weekly television guide; (ii) there was a “specific, constant, and regular potential demand on the part of customers”; (iii) RTE, BBC and ITP were “the only source of the basic information on programme scheduling” which was the “indispensable raw material for compiling a weekly television guide”; (iv) the networks’ refusal “to provide basic information by relying on national copyright provisions prevented the appearance of a new product”; (v) “there was no justification for such a refusal either in the activity of television broadcasting or in that of publishing television magazines”; and (vi) RTE, BBC and ITP “by their conduct reserved to themselves the secondary market of weekly television guides by excluding competition on that market since they denied access to the basic information which is the raw material indispensable for the compilation of such a guide.”

The second European antitrust case involves IMS, a German company with copyright over a specific data format (1860 brick structure) used as a standard in the pharmaceutical market. IMS refused to license the format to a competitor, which therefore began to produce a database using a slightly modified format. IMS successfully sued its competitor, NDCHealth, in Frankfurt District Court (Landgericht) for copyright infringement. NDC Health then brought the case to the European Commission. The Commission ruled against IMS, citing “exceptional circumstances” and ordering interim measures such as the licensing of competitors to use the 1860 brick structure format in order to prevent market foreclosure. Meanwhile, a related case before the Frankfurt Court led to the referral of questions to the European Court of Justice on the application of Article 82. In this case, the Court of Justice ultimately pushed the Commission to overrule the decision.

The opinion delivered by Advocate General Tizzano and the court’s final ruling further elaborates on the Magill ruling and brings some valuable insights to our discussion. First, the court argued that network effects and switching costs from the demand side (“the degree of participation by users in the development of [the brick] structure” and “the outlay, particularly in terms of costs, on the part of potential users”) matter when defining the license as indispensable for entering the market, in terms of the alternative available to competitors from the supply side. Second, the court outlined four conditions—on top of the pre-condition that the asset or the licence be indispensable—for construing IMS’s refusal to grant a licence as an abuse of dominance in violation of Art. 82: (1) the undertaking that requested the licence intended to offer on the downstream market new products or

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15 See note 11 above.
services not offered by the (copy)right owner; (2) there was potential consumer demand for this new product; (3) the refusal was not justified by objective considerations; and (4) the refusal was such as to reserve the downstream market to the (copy)right owner by eliminating all competition in that market.

On the whole, we believe that the complexity of the Magill and IMS decisions coupled with the emphasis on the novelty of the entrant’s product derive from the misleading idea that when ownership of a facility is covered by an intellectual property right, it deserves a sort of supplementary protection with respect to standard property rights. This supplementary protection is reflected in the idea that since the exclusive right granted by the intellectual property will likely have a restrictive effect on competition, mandatory access to the facility would destroy the special incentive system set by law. This was actually the approach Advocate General Gulman followed in Magill, in recommending that the ECJ annul the Commission’s decision. In Gulman’s opinion, the right to refuse a license should be regarded as necessary for rewarding the owner’s creative effort, and a refusal would be abusive only if the new product offered by the entrant did not compete with the product of the copyright holder. In our view, Gulman was implicitly stating that the only way to reward a sunk investment is to maintain a monopolistic position in the downstream market. Eliminating downstream competition is considered vital to compensating the owner’s creative effort, so the application of the facility doctrine to a case generating downstream competition would generate serious conflict between antitrust and intellectual property laws.

The ECJ upheld the Commission’s approach, clarifying that even in the case of a new product not yet on the market, if the effect of the refusal to deal was to eliminate downstream competition (on the grounds that the demand for the new product in that market would have likely been increased by consumers of the dominant firms’ products) then the refusal would qualify as an abuse. In our opinion, Gulman’s view—which seems to have re-flourished in the IMS decision—ignores the fact that other forms of liability rules rewarding owners of intellectual property rights are still available, in addition to property rules (e.g. veto power over third party access rights) that can produce a monopolistic configuration in the downstream market (Nicita, Ramello & Scherer, 2005).

In other words, since the application of the essential facility access principle forces the creation of a wholesale market, in order to reward innovative effort it is sufficient to define a wholesale price that fully compensates owners while eliminating all discrimination in the downstream market between the incumbent and new entrants.

The Bronner decision16, under European antitrust law, is very clear on this point. In his opinion, Advocate General Jacobs writes that in case of forced access “the

undertaking must however […] be fully compensated by allowing it to allocate an appropriate portion of its investment costs to the supply and to make an appropriate return on its investment having regard to the level of risk involved.” In this respect, there is no need to resort to the “new product” condition, or to demonstrate any difference between standard property rights and intellectual property rights: the access (wholesale) price should reflect the costs sustained by the owner and should not be confused with the level of profits associated with a downstream monopolistic position.

In consequence, the idea that a copyright may be viewed as an essential facility, imposing an access obligation on the owners when they operate in complementary markets, should not eliminate the market power associated with its exploitation. To control for supranormal profits, other instruments (regulatory or antitrust) are required. In this respect, the essential facility doctrine should not be deemed as a tool for eliminating monopoly profits, but as a way of impeding further monopolization of potentially competitive markets. The model outlined in the next section elaborates on this point.

5. A SIMPLE MODEL OF DEFENSIVE LEVERAGING FOR COPYRIGHTED WORKS

Before the Statute of Anne, the absolute monopoly enjoyed by the Stationers—as discussed in Section 2—was based on two distinct elements: entitlement to the whole catalog (by means of property rules), and exclusive control over distribution. Under the technological conditions of the times, that was all that was needed to monopolize the market, and the Statute was able to restore competition by unbundling the catalog owned by the Stationers and effectively granting distribution rights to the individual author or his or her licensee.

Looking at today’s copyright market, we observe that concentration is often very high and a few players are able to control a large number of copyrights (Silva & Ramello, 2000; Ramello, 2003 and 2005; Nicita & Ramello, 2005). Considering that every copyright grants the owner or the licensee a bundle of rights (Patry, 1994; Goldstein, 1994), control over a large number of copyrights would appear to translate into control over several catalogs in distinct markets. However, the line dividing markets is increasingly blurring as digital convergence takes place, which may mean that in the near future, today’s distinct markets will no longer be so and will become competitive. If this is the case, then excluding potential producers on a specific market today means barring the entrance of competitors tomorrow. Thus, refusing access to an entitlement can be viewed as a way to exclude potential competitors and thus preserve or even increase market power.
In the following simple model based on Ramello’s framework (2003), we illustrate how a property rule protection of copyright coupled with market power could support a right holders’ defensive leveraging strategy against competitors, and how a shift towards liability rule or a reverse property rule on competitors, under certain conditions regarding endogenous sunk costs, may enhance competition.

The stylized facts paint a scenario in which an incumbent (INC) and a newcomer (NC) contend for a portfolio of \( n \) copyrights (e.g., a catalog of music titles) sold in a distinct (downstream) market to consumers and protected by a property rule. INC, according to copyright law, owns all the “uses” bundled into every \( n^{th} \) copyrighted works part of its portfolio. Considering use as relating to real or potential distinct markets, the catalog of copyrights can be intended as an entitlement \( X \) over several catalogues, each of size \( n \).

For simplicity’s sake, let us assume that for both contenders the production costs are zero, and that there are sunk entrance costs in any market which are positive and constant \((SC>0)\), i.e. which do not depend on the number of products placed on every downstream market. The simplest way to understand this hypothesis is to imagine the creation of a new distribution channel. This is a sort of “admission ticket” to a market whose price does not vary significantly as a function of the number of copyrights produced, while the ability to create a distribution network is crucial for entering the market\(^{17} \).

Let us also assume that INC and NC are neutral to risk and that they will seek to maximize the expected profits. Moreover, all \( n+1 \) titles have the same probability of success, defined as \( P(S)=1-p \), or of failure, defined as \( P(F)=p \), with \( 0<p<1 \). The success (and hence the failure) events for each \( n^{th} \) title are assumed to be statistically independent, that is, the success of a title—even one newly produced by NC—does not depend on the success or failure of the others \(^{18} \). We therefore assume that each intellectual work is not in direct competition with the others in the same market, and thus faces its own demand curve\(^{19} \).

\(^{17} \) The fact that \( SC \) does not change as a function of \( n \) can be intended as an extreme instance of subadditivity of the cost function, attributable for example to economies of scale. Many information goods sectors exhibit characteristics compatible with this hypothesis, with high distribution and set-up costs that do not strictly depend on the number of products, or that in any case are subject to strong economies of scale/scope (Ramello, 2003).

\(^{18} \) The debate over a product’s likelihood of success in an information goods market is complex and rife with conflicting views. Over time, however, and in different industrial sectors, many authors have concurred that at least products in the same market segment face a substantially equal degree of uncertainty, but that the individual products are not easily interchangeable (Silva & Ramello, 2000).

\(^{19} \) This hypothesis is very favorable to NC, whose success cannot be pre-empted by INC. It is also consistent with the factual evidence, with firms offering catalogs of many titles. Such variety would not be rational if the different titles were interchangeable, because this would mean the firms wished to engage in internal competition (Ramello, 2005).
According to the standard economic theory of copyright, the profit of the $n^{th}$ item in case of success will give the owner or the licensee significant market power, and can be represented in the extreme case—maximal success—by monopoly profit. We define then as $\Pi_M$ the gross monopoly profit (where gross means inclusive of costs $SC$) and, for simplicity, assume it to be equal for each successful product in every market.

Accordingly, in a given market the net expected profit for competitors distributing a single $n^{th}$ title will be given by

$$E_{n=1}(\Pi_M) = (1 - p)\Pi_M - SC$$

with the usual participation constraint $E_n(\Pi_M) \geq \Pi_0$ where $\Pi_0$ is the non-negative profit obtained from the best alternative activity.

The next factor to consider is the asymmetry between $INC$ and $NC$. Generally speaking, given NC’s limited capability of producing new copyright, on its own NC will face a higher risk of failure than INC in any market. Because it produces only one item, its probability of failure, and hence of losing $SC$, will be as defined above: $P_{INC}(F) = p$. Conversely, the probability of failure for INC or a firm gaining access to $X$ will be given by the joint probability of failure of the $n$ items contained in its catalog, expressed as

$$P_{INC}(F) = \prod_{i=1}^{n} P(F) = p^n$$

which measures the probability that all $n$ items will simultaneously fail. Because the probability of failure of one use is $p<1$, the order of probability will be $P_{NC}(F) > P_{INC}(F)$, and the effective risk of loss for an NC that markets just one title is always greater than that faced by INC, unless it accesses the entitlement $X$.

The proposition is validated by the fact that INC’s risk of failing to cover the costs $SC$ decreases as the number of copyrights goes up, with the limit case being an infinite number of titles$^{20}$, as shown below:

$$P_{INC}(F) = \lim_{n \to \infty} \prod_{i=1}^{n} P_n(F) = 0$$

Note also, from this standpoint, that the production of or access to a high number of copyrights—the entitlement $X$—satisfies the need to minimize risks. In other

$^{20}$ The statement is consistent with the findings of several information industries. For a discussion and examples see Ramello (2003) note 47.
words, the strategy of distributing a large number of titles increases the likelihood of success of at least one item, which represents the minimum probability of success.

In the borderline case where a competitor, normally INC, has an infinite number of products, the minimum probability of success will be

\[
P_{INC}(S) = 1 - \prod_{i=1}^{n-1} P_i(F) = 1 - p^{n-1} \quad \text{with} \quad \lim_{n \to +\infty} P_{INC}(S) = 1
\]

This means that at least one title in \( X \) will be successful. Hence there is a lower boundary on the expected profit, given of course by the profit of exactly one successful title minus the entry costs \( SC \). For INC the expected profit can thus represented as follows:

\[
E_{INC}(\Pi_M) \geq \Pi_M - SC
\]

Equation (5) satisfies the participation constraint, assures coverage of entry costs. It is valid for any market, real or potential, where the entitlement is a portfolio of copyrights. In addition, by comparing equations (1) and (5) it is easy to see that because \( E_{INC}(\Pi_M) > E_{n-1}(\Pi_M) \), INC has a competitive advantage over NC thanks to its control over \( X \) even if \( E_{n-1}(\Pi_M) > \Pi_0 \geq 0 \).

Generally speaking, of course, this implies a lower incentive for NC to enter the market when it produces only one title. Consequently, it will be willing to access \( X \) by paying INC a price \( A_X \) as long as

\[
A_X \leq p\Pi_M
\]

On the other hand, INC will be interested in licensing \( X \) to NC in a specific market if its profits will benefit from this; thus INC will extract a fraction the quasi-rent, being the upper value \( E_{INC}(\Pi_M) = A_X \).

However, this solution only holds if INC is able to sell the entitlement \( X \) for a well circumscribed market, while retaining control over all other real or potential uses, and eventually selling these again to distinct new markets. This in turn depends on the strength of legal protection over \( X \): it is the property rule over the entitlement à

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21 In a different setting, NC would be able to bargain with INC to extract some quasi-rent. Interestingly, this condition implies that \( (1 - p)\Pi_M \leq SC \), which seems to support the idea that for INC licensing is more valuable if NC cannot access the market even by producing a single item on its own.
la Calabresi/Melamed that allows INC to control all uses of the copyrighted work and thus to fix an access price.

Nonetheless, the final choice hinges on INC’s ability to discriminate among different markets and, crucially, on the consistency of this strategy with respect to technological change. In general, technological change is not easy to predict, especially in the age of digital convergence, where apparently distinct markets can suddenly merge into a single one and steal original demand from INC\textsuperscript{22}. Moreover, discrimination in information markets has always been a puzzling issue for the holders of copyright and intellectual property rights\textsuperscript{23}.

In order to avoid future risks and still enjoy monopoly profits—as the Stationers did prior to the Statute of Anne—INC can thus decide to adopt defensive leveraging and exclude NC. As we shall see below, this is possible if INC has a property rule on $X$ and further can endogenously determine $SC$, at least within a certain range.

If INC has a property rule over $X$, according to equation (6) it can set a price such that NC will be excluded, given that the maximum case is $A_X = \infty$. It is worth noting that the price does not reflect the opportunity cost of production, but it entails a strategy aimed at preserving market power. By contrast, a liability rule would have produced an upper bound on the access price in general determined by the court to within $0 \leq A_X \leq p\Pi_M$, permitting entry and paying the opportunity cost of INC.

In theory, the quasi-property rule granted by copyright is now a strong enough device to apply defensive leveraging, as it grants an exclusive right and thus enables the policy of prohibition (Hylton, 2006). But not all the holes of propertization have been plugged yet (Radin, 2006), and as mentioned above, the antitrust authorities have increasingly adopted measures against refusal to deal when copyright is concerned. This weakens the property rule. Therefore, an additional device can make defensive leveraging safer.

This is obtained by relaxing the initial assumption on which $SC$ is exogenously determined: if INC can define endogenously the level of $SC$ such that $(1-p)\Pi_M < SC < \Pi_M$, profits will be ordered as follows

\begin{equation}
E_{INC}(\Pi_M) > \Pi_0 > 0 > E_{n+1}(\Pi_M)
\end{equation}

\textsuperscript{22} This is the case, for instance, of sales of online music versus CDs, or of the so-called secondary market for movies, ‘windowed’ in the distinct, once non-competitive but now converging markets of cable/satellite television, home video and pay-per-view (see for example Nicita & Ramello, 2005).

\textsuperscript{23} Regarding copyright see Liebowitz (1985) and Takeyama (1997). For lack of discrimination in the patent domain applied to pharmaceuticals see Scherer (2004).
and NC will be excluded from the market, even if it decides to produce just one title. In such a case, however, even if a liability rule exists, there are levels of SC for which NC will not enter the market. The expected profit for NC will be given by

\[ E_{NC}(c\Pi_M) = c\Pi_M - A_X - SC \]

where \( 0 < c \leq 1 \) is a parameter measuring the appropriation of INC’s gross profit should NC enter the market, by virtue of the liability rule. Clearly, when \( c\Pi_M - A_X < SC \) the entry will be deterred despite the presence of a liability rule. Accordingly, one could argue that the willingness to make copyright a property rule and the removal of liability rule spaces such as the erosion of fair use is inconsistent with the picture drawn, since INC can already use defensive leverage by endogenously defining SC.

Full control of SC is only theoretical, but the impact of this factor depends on competitors’ lack of financial resources or access to loans. If NC can borrow money or is part of a group operating in different industries, as frequently happens, there is room to subsidize the entry and INC’s defensive strategy by way of SC is no longer credible or rational, as strategic entry literature has stressed since Dixit (1980).

Indeed, complementary control of X by means of a property rule strengthens defensive leveraging and makes it more credible and effective in the real world. But the ultimate outcome is to bring the world back to the Stationers’ monopoly. This is in line with Cooper Feldman’s argument (1999) that defensive leveraging helps a monopolist extend the life of its primary monopoly by preventing splintering and next-generation replacement by a competitor.

It is important to note that the incentive for the incumbent to preserve market power and inhibit entry is correlated with the rate by which current customers substitute old uses with new ones. The defensive leveraging strategy then aims to keep customers under the incumbent’s control in an uncertain world where competition can emerge among different markets subject to technological change. When there is positive demand for the new uses provided by the entrant, inhibiting entry by refusing to deal and/or by increasing the cost of access SC up to a point that deters entry is clearly inefficient, since new potential Paretian exchanges are abandoned.

On this ground an authority can apply a “reverse property rule”—defined as a right of NC to access X at a “fair price”—or define a liability rule that requires NC to charge an SC equal to effective damages (i.e. the opportunity costs of not directly serving customers). This is precisely the economic rationale behind the essential facility doctrine, as defined in Europe, for instance, in the Magill and IMS
copyright cases footnoted in the previous section. When a property rule is coupled with market power, a shift towards liability rule or reversing a property rule in favor of the incumbent’s counterparty, given that other strategic devices are not working—i.e., $SC$ are bounded—may increase competition in the affected market and improve consumers’ welfare.

In all, we believe that the choice of property versus liability rule should follow a “rule of reason” approach depending on the level of detection costs and the right holder’s market power. Table 1 presents the rule of reason paradigm for enhancing welfare by coupling Calabresi and Melamed’s framework with findings from this section, expressly taking account of market power and defensive leverage.

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<th>Right holder’s market power</th>
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<td>High</td>
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<tr>
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<tr>
<td>No</td>
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Table 1. Property vs liability rule in the copyright domain

6. CONCLUDING REMARKS

This article describes how the ancient *privilegii* were aimed at enabling individuals to earn income from the introduction of technological change and the dissemination of knowledge. With the Statute of Anne, the first copyright law, an additional goal was to limit monopolistic power in the production and distribution of books, and to keep the market as competitive as possible. Since then, copyright law has evolved and we can now observe highly concentrated industries in which a few firms hold significant market power, just as in the Stationers’ times.

We have therefore investigated whether the evolution of copyright somehow conflicts with the principles of the Statute of Anne. In particular, we have considered whether the strong protection accorded to right holders via a property rule, coupled with other means of strictly controlling copyright catalogs and the use of strategic costs, may actually produce a self-enforcing mechanism designed to preserve market power for copyright incumbents.

We have further illustrated how, when a property rule is granted to a right holder with power in a specific market, and when access to that entitlement is essential for competitors to enter a new market, the owner has a strong incentive for refusing to deal in order to safeguard market power. In this case a property rule makes the owner better able to control access to distinct markets and the potential development of competitive markets for new uses associated with the entitlement.
Hence, when the owner of this entitlement has market power, property rule may act as an anti-competitive device by preserving that power. This conclusion reverses the argument in favor of the superiority of property rules when the entitlement to be protected is based on information goods: in this case, a shift towards a liability rule or an inversion of the property rule towards competitors may encourage efficient access. This is compatible with the essential facility doctrine, suggesting for antitrust practices that when defensive leveraging strategies are used by refusing to provide access to a copyrighted essential facility, a reversed property rule in favor of competitors (right to gain access over the entitlement) or a liability rule could restore competition dynamics to the benefit of final consumers.

This conclusion calls for prudence in interpreting copyright as property rule regardless of the market structure relating to the uses of the copyrighted entitlement.

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