Antonio Nicita
Matteo Rizzolli
Maria Alessandra Rossi

IP Law and Antitrust Law Complementarity
When Property Rights are Incomplete

n.509 - Luglio 2007
Abstract - This paper explores the interface between two important institutional pillars of market exchange – Intellectual Property (IP) law and Antitrust law – in light of a theory of property rights incompleteness. This theory interprets property as an incomplete bundle of both defined and undefined rights over actual and potential uses of given resources and defines externalities as joint claims over rival production uses of undefined entitlements, irrespective of whether the object of property rights has a tangible or intangible nature. The paper argues that traditional distinctions between physical property and IP based on attributes of tangibility, rivalry and excludability are misleading and bases on the substantial homogeneity of property rights and IPRs an argument supporting the complementarity between IP law and Antitrust law. Far from being an unjustified ex-post limitation to existing property rights, likely to undermine ex-ante incentives, Antitrust intervention represents one of the means by which incompletely specified property rights (both intellectual and tangible) might be redefined over time as externalities emerge.

Jel Classification: O34, L4

Antonio Nicita, University of Siena, Dept. of Economics, nicita@unisi.it
Matteo Rizzolli, University of Siena, Doctoral School in Law and Economics, mrizzolli@unisi.it
Maria Alessandra Rossi, University of Siena, Dept. of Economics, alessandra.rossi@unisi.it
I. Introduction

Rights in information resources have long been analogized to private property rights. This is for various reasons, including the intuitive appeal of the analogy. In the past few years, however, the strong parallels traced between real property and intellectual property have taken more the flavor of rhetoric than of thoughtful insight. The “rhetoric of property” may come in various forms, but tends to boil down to a few strongly held convictions. First of all, there is the notion that what intellectual property should be all about is the internalization of externalities: the production of information is plagued by free-riding, which drives a wedge between the social value of information and its privately appropriable value and therefore undermines incentives. The more such free-riding is curbed, the more intellectual property rights will achieve their purpose. Second, and strongly related, is the “Blackstonian” conviction that (intellectual) property rights should be interpreted as absolute rights – the “sole and despotic dominion” of the right-holder (W. Blackstone, 1766) – in that fuller control over resources directly translates into improved exploitation of such resources. This, in turn, goes hand in hand with the emphasis placed on the restrictive notion of property as a right to exclude.

The dissemination of this sort of convictions is apparent in the intellectual property realm. In the past few decades, IP law and IP-related court decisions have displayed a remarkable tendency towards increased standards of protection, extension of the proper subject matter of IP rights, extension of the terms of protection, increased likelihood for infringement claims to be upheld in court. To some extent, antitrust enforcement cannot be said to be immune from the “rhetoric of property” either. Some have dubbed the rise of ideas along the lines briefly recalled above as the rise of “appropriability arguments” in the antitrust discourse (R. Brunell, 2001). The concern with appropriability derives from a more general preoccupation for dynamic efficiency. Promotion of dynamic efficiency, in turn, is seen as inevitably intertwined to the provision of sufficient incentives to innovate. What is troubling about this approach is that it implies what we think is an undesirable corollary for antitrust decision-makers: antitrust intervention, for instance in the form of an obligation to provide competitors access to an IP-based essential facility, constitutes an undesirable ex-post limitation to existing property rights (whose integrity is indispensable to innovation and
dynamic efficiency) and therefore optimal policy calls for strict self-imposed limits to antitrust enforcement. In a sense, one might say that the now almost ubiquitous acknowledgement of the complementarity between IP law and antitrust law is, according to this view, interpreted to mean that both IP and antitrust should follow the same property logic.

In this paper, we aim to cast doubt on the appropriateness of the notion of (intellectual) property that is driving much legislation, jurisprudence and scholarly comment in both the IP and the antitrust domain. Our starting point is the conceptualization of property as an *incomplete bundle of both defined and undefined rights over actual and potential uses of given resources*. According to this view of property – that we expose more fully elsewhere (see A. Nicita et al., 2005) – property, be it of tangibles or of intangibles, is inherently undefined. Within any property bundle can be identified a *core* and a *periphery*. While the core comprises well-defined uses over which clear right-duty jural relationships (W.N. Hohfeld, 1913; Commons, 1924) are defined, the periphery groups undefined uses for which the right-duty relationship is turned into one of power-liability. Controversies in the form of rival claims over undefined uses may thus well arise (we term them reciprocal negative externalities) so that one might recognize the existence of an inverse relationship between the degree of completeness of property and the emergence of externalities. In such a framework, a continuous process of property redefinition implemented through a variety of means, including antitrust enforcement, becomes indispensable. This holds particularly for intellectual property rights, given the relatively higher degree of incompleteness that they tend to display.

Shifting the focus from the “right to exclude”-centered conceptualization of property to the “incompleteness”-centered view of property allows us to make two basic claims that stand in contrast with the ever-increasing propertization of both intellectual property and antitrust. The first claim is that the conceptual analogy between IP and real property should be interpreted to mean that the first should not be entitled to any special deference as compared to the latter. Thus, although we share with most commentators the analogy between IP and traditional property, we stress that this analogy implies that, just as we do not and should not consider conventional property as absolute, we should not do so for intellectual property.

The second claim is that antitrust intervention constitutes a legitimate means through which the ex-post redefinition of inherently undefined rights might take place. This entails, in turn, that there should be no a priori reason for antitrust authorities to refrain from
intervening in IP-related matters. In a world of incomplete IPRs, IP law and Antitrust Law are complementary in that they both define and protect rights so as to solve externalities arising from the intrinsic incompleteness of property bundles, to encourage efficiency-enhancing investments and to facilitate the efficient allocation of IPRs. While IP Law is aimed at solving problems of inefficient inclusion, Antitrust law intervenes to eliminate inefficient exclusion. IP Law aims at solving the ex-ante problem of free-riding, by inhibiting inefficient inclusion which would lead to a tragedy of commons. Using our terminology, it could be said that IP law is primarily concerned with the definition of the core of the property bundle. Antitrust Law intervenes to solve ex-post problems of inefficient exclusion due to the mere existence of protection to IP. Again, using our terminology, the domain of antitrust intervention is primarily, though not always of course, the periphery of the property bundle. In a world of incomplete property rights, externalities abound and the definition of ‘absolute rights’ would powerfully increase ex-ante incentives to invest by owners, but may inhibit ex-post Pareto-efficient improvements.

The paper is organized as follows. Section 2 explores the “right-of-exclusion”-centered or “Blackstonian” view of (intellectual) property that is increasingly pervading both the intellectual property and the antitrust discourse. Section 3 sets out a concise exposition of our conceptualization of property as an incomplete bundle of both defined and undefined rights over actual and potential uses of given resources. Section 4 explores the relationship between competition policy and both conventional and intellectual property rights from the special perspective of the essential facilities doctrine. Section 5 derives the main implications of our theory for the analogy between intellectual property and conventional property in tangibles and, more generally, for the determination of the appropriate intersection between intellectual property law and antitrust law. Section 6 concludes.

II. “Right-to-exclude”-centered views of property and antitrust

The conceptual analogy between real property and intellectual property has now become largely part of conventional wisdom. Perhaps the most thorough intellectual roots of the analogy can be traced to the works of Demsetz (1967) and Kitch (1977). The first explicitly referred to copyright and patents as examples of his more general theory on property stressing that, when copyrights and patents are involved, “all problems of externalities are
closely analogous to those which arise in the land ownership example” (Demsetz, 1967, p.369). The second based his “prospect theory” of patents on the analogy between intellectual property rights and mineral claims, highlighting the incentive effect that possession of broad claims over ideas and their future applications exerts on right-holders just as it is the case for holders of rights over mineral resources.


What it is important to note is that, with the passing of time, the IP-property analogy has become strictly intertwined with one particular view of property, which we may define as “Blackstonian” in nature. In other words, the view of property implicitly presupposed by most of those who equate IP to conventional property focuses on the “right to exclude” as the qualifying attribute of property and emphasizes the incentive effect that follows from ownership intended as “the sole and despotic dominion” over resources (1766). This view of property calls for the greatest possible degree of control over resources by right-holders and regards property as “absolute” to a large extent. Thus, according to this conceptualization of property, the fact that the rules that apply to real property should also be applied to intellectual property means that in both domains the primary policy objective should be the greatest possible degree of internalization of externalities.

This particular view of property combines insights from the work of early legal scholars such as Blackstone and the legal theorists of the French Revolution1 with the utilitarian foundations of economic analysis and has thus proved particularly appealing to most economists. Interestingly enough, legal scholars in both common law and civil law systems have rapidly come to recognize the unworkability of this notion of property, and

---

1 For thoughtful insights on the evolution of the notion of property in both common law and civil law countries see the contributions by Mattei (1999; 200??).
have for a long time struggled with the need to define the *internal* limits to the institution of property, those limits that arise from the interdependencies among human actions or, in other words, from the fact that society does not amount to an *aggregation of monads*\(^2\). Economists, however, have stuck to an old legal notion of property that better suits utilitarian reasoning, largely ignoring subsequent refinements in legal thinking.

The only relevant distinction usually traced by proponents of the IP-property analogy is based on the attribute of tangibility. Intellectual property differs from real property because of the characteristics of non-rivalry and non-excludability of the objects of IP entitlements. Taking these attributes into account does not, however, modify the very substance of property rights. Just as with conventional property in tangibles – the argument goes – protection of intellectual property rights is needed to impede unauthorized and uncompensated appropriation of properties and thus to ensure a sufficient amount of investment by right-holders (see, for instance F.H. Easterbrook, 1990, T.I. Hardy, 1996, F.S. Kieff, 2001, E.W. Kitch, 2002). To be sure, in this perspective, the attribute of intangibility even reinforces the rationale for granting owners absolute control over resources. In this regard, however, it should be noted that basing the distinction between intellectual property and property on tangibles on the non-excludable and non-rival nature of the object of property is no longer, and perhaps has never been, an appropriate approach. This is, on one side, because of the increased extent of technological control over the uses of intangibles, which is slowly eroding once clear-cut boundaries between excludable and non-excludable objects. On the other side, and most importantly, there is the fact that although information can be jointly used by as many as care making use of it without being depleted, some uses of information are necessarily rival from the point of view of its possessor (information may be, for instance, used to produce innovations competing in a downstream market). More generally, knowing that intangibility undermines appropriability and therefore incentives is an entirely different thing from knowing exactly what degree of appropriability should be ensured to restore appropriate incentives. Economists have long debated on this issue in the IP field, but no generally applicable conclusion can be drawn yet from their analyses. This

\(^2\) There are significant differences, in this regard, across the two sides of the Atlantic. As the famous judge Learned Hand has written, the American colonists of the seventeenth century established “a notion of society as an aggregation of monads” (cited in Ghidini, 2005; p.?) that implied a notion of property freed of any significant social duties. In civil law countries, by contrast, the social constraint imposed on the notion of property are easier to detect. Nevertheless, it still holds true that doctrines such as easements, adverse possession, nuisance, servitudes and imminent necessity, just to cite a few, acknowledge the need for American property law to deal with interdependent individuale rather than with isolated monades.
means, in other words, that there is no economically sound basis for stating that IP rights should grant absolute control to right-holders.

It might be argued that the “right-to-exclude”-centered notion of property that we have briefly described is at the origin of many policy developments in the IP domain. No controversy exists on the fact that in the past few decades intellectual property has significantly expanded along many dimensions (see, e.g. N.T. Gallini, 2002, W.M. Landes and R.A. Posner, 2004). Terms of protection have been lengthened in most industrialized countries through the harmonization process initiated by the TRIPs Agreement. The scope of patentable subject matter has expanded in the US as a consequence of a series of landmark Court decisions and elsewhere mainly through the legislative process. Most importantly, the likelihood that IP-related claims be upheld in court has significantly increased.

Conceptual developments similar to those we have described in the IP realm can be identified in the antitrust realm, and especially at the intersection between the two. As it has been recently argued (R. Brunell, 2001), the “appropriability logic” is increasingly pervading the antitrust discourse. In other words, the economic logic behind absolutist views of intellectual property and property more generally now tends to shape antitrust policy as well, especially in the US. While a certain degree of tension with property rights policy has always characterized antitrust policy (R.J.R. Peritz, 2000), this tension seems at present more and more frequently resolved in favor of a prevalence of appropriability arguments within antitrust itself\(^3\). This translates into an increasingly widespread tendency, by antitrust enforcers, to refrain as much as possible from intervening in IP-related matters, for fear of undermining appropriability and therefore incentives.

Perhaps the best example of the trend we are presently considering concerns the issue of IP-related refusals to deal. Most scholars and decision-makers are particularly sensitive to antitrust intervention in connection to refusal to deal cases primarily because it touches directly upon IP owners’ right to exclude. The same can be said of the subset of refusal to deal cases that involves the application of the “essential facilities” doctrine. In the United States, to our knowledge no case has so far involved a piece of intellectual property expressly identified as an essential facility and therefore subjected to licensing on reasonable and non-discriminatory terms (see, for instance H.J. Hovenkamp et al., 2005). In Europe, some notable cases have envisaged the application of the essential facilities doctrine to IP assets,

\[^3\] Brunell (2001) lists several aspects of antitrust enforcement whereby this statement holds true.
but it has been convincingly argued that “under current legal standards, refusal to deal/essential facilities cases involving intellectual property are subject to a higher legal standard than non-IP cases”, namely that, in other words, both the European Commission and the Courts ultimately tend to demonstrate special deference to IP with respect to tangible property (G. Ghidini, 2005; C. Ritter, 2005). We will come back on this issue in paragraph 4.

The success of the equation between conventional property and IP described above does not imply that its implications have never been put into question. Some authors have questioned the analogy itself. Others have focused the attention on the fact that, while the kind of externalities relevant for the economic analysis of tangible property are mostly negative externalities, those relevant for the analysis of intellectual property should be only positive externalities (M.A. Lemley, 2004, F. Leveque and Y. Ménière, 2004). Mark Lemley (2004), for instance, remarks that the IP/tangible property analogy has generally led commentators to apply to the IP domain the same insights offered by the “parable of the commons” in connection to tangibles and that this leads to an excessive preoccupation with free-riding, at the expense of a more accurate evaluation of the balancing of incentives.

In the following section, we propose a conceptualization of property that allows both to cast new light on the IP/tangible property analogy and to contrast the tendency to turn IP entitlements into absolute rights on grounds different from the assumption that information goods originate only positive externalities. This view will not refute the IP/real property analogy per se, but rather the sort of implications that have so far been drawn from the analogy and particularly from the “right to exclude”-centered view of property briefly recalled above.

III. The pervasive incompleteness of property

The notion of property is surely crucial to economic analysis, yet it cannot be said that an agreed-upon concept exists. In most analyses, property is described as a fully defined object

---

4 Other critiques of the trend we are presently considering rest on different grounds. See, for instance, Litman (1999), Lunney (1999) and Radin (2003).

5 This section draws heavily on a companion paper that constitutes an initial attempt to formulate a theory of incomplete property (A. Nicita, M. Rizzoli and M.A. Rossi, 2005).

6 The notion of ownership in economics is a rather elusive one (D.W. Bromley, 1988, 1991, G.D. Libecap, 2004a, 2004b, A. Ryan, 1998) and no universally accepted definition of the concept exists. In spite of its acknowledged importance to economic reasoning, the definition of ownership, property and property rights is
whose primary characteristics is that of securing full control over assets and resources, which in turn guarantees stability of expectations and alignment of incentives. When full control cannot be guaranteed, property is doomed to fail as an efficiency enhancing institution (D.C. North, 1992). Incompleteness, which is generally seldom mentioned in the context of property, is almost always considered from an ex-post perspective and mostly relates to issues of enforcement or weak partitioning of rights, as in the analysis of common pool resources (G.D. Libecap, 2004a, D. Lueck and T.J. Miceli, 2005, N. Schulz et al., 2002). In the literature one can find also some references to the imperfect knowledgability of the content of property. Demsetz (1988, pg. 188), for instance, points out that the notion of “full private ownership” over assets is “vague”, and that “[i]n one sense, it must always remain so, for there is an infinity of potential rights of actions that can be owned […]. It is impossible to describe the complete set of rights that are potentially ownable” (p. 19). The theory of property developed by Barzel (1989) and others also touches upon the idea that, as assets have multiple attributes many of which may not be specified, the very notion of ownership may remain vague. These insights, though, have gone largely unnoticed (Nicita, Rizzolli, Rossi, 2005). In our view, acknowledgement of the consequences of recognizing the intrinsic incompleteness of ownership is still far from sight.

A. The notion of Complete Property

The notion of “complete” property might be exemplified by the definition of (complete) property rights provided by Shavell (2004) as rights “to use things and to prevent others from using them”. According to this view, someone’s right is always coupled with a duty on all other members of the society not to interfere with the individual’s exercise of his right. Consequently, “a particular possessory right is a right to commit a particular act or a right to prevent others from committing a particular act.” In Shavell’s terms, “a completely specified act includes in its description the place, time, and the contingency under which it is committed – for example digging at a designated location, on Thursday at 4:00 p.m. if it is not raining (the contingency).”

The bundle of rights Shavell seems to have in mind specifies all the relevant attributes of each use and the contingencies that characterize them. There is no incompleteness in the definition of the use of the assets at stake. The definition of property is complete since it includes all the relevant attributes necessary to exercise the rights and to be sure that none in
society interferes (and in the case it does, that appropriate remedies are envisaged). This notion of “complete property” closely resembles the idea of complete markets in the Arrow-Debreu-McKenzie paradigm (K.J. Arrow and D. Gerard, 1955, L.W. McKenzie, 1981). As for any other economic good, property is defined in terms of all its attributes regarding space, time and contingencies; ownership provides exclusive access to all these uses under all possible circumstances; a well-defined right is associated to each of these uses and thus a corresponding duty is defined for each right. There is no empty core or missing property right in such a system. Rather, there is a sort of general equilibrium among legal positions both at the level of the bundle of rights (owners/nonowners) and at the level of each specific use embedded in ownership (rights/duties). The considerable amount of information concerning all the net of jural relations can be achieved, under this view, at little if no cost. In other words, the ex-ante transaction costs of defining all the uses bundled in property are assumed to be zero.

This view of property as a complete bundle can be stylized as follows: let us assume that $\Omega = \Delta \cup \Delta'$, where $\Delta = \{X,Y\}$, is the set of all actual and potential uses or actions over which a system of private rights is defined in $t=0$ in a society made of just two individuals A and B. $\Delta'$ is the set of uses complementary to $\Delta$, with $\Delta' = \Omega / \{\Delta\}$. In such a context, $X = \Delta / \{Y\} = \{x_1, x_2, x_3, ..., x_n\}$ is the bundle or well-defined rights held by A and $Y = \Delta / \{X\} = \{y_1, y_2, y_3, ..., y_n\}$ is the bundle of well-defined rights under B’s control. Since rights are well defined, the partition of $\Delta = \{X,Y\}$ is such that all the uses known in $t=0$ are exclusively assigned, so that A has a duty not to interfere with $Y$ and B has the duty not to interfere with $X$. Thus we have the following definition.

**Definition 1: (Ex-Ante) Complete Property**

If $\Delta' = \emptyset$ and $X \cap Y = \emptyset$ property rights are complete.

This definition depicts an ideal and static situation in which all uses are divided and grouped in different adjacent bundles. However we can also imagine that new uses emerge over time and still property remains complete. If we suppose, for instance, that the use $z$ emerges in $t=1$, and that rights over $z$ are effortlessly absorbed by some existing bundles then we have

**Definition 2: (Ex-Post) Complete Property**

$\text{See also Pagano (U. Pagano, 2000, 2005 - forthcoming)}$
If in $t=1$ $\Delta = \{X,Y,z\}$ with either $X = \Delta / \{Y,z\}$, $Y = \Delta / \{X\}$, $\Delta' = \emptyset$ and $X \cap Y = \emptyset$ or $X = \Delta / \{Y\}$, $Y = \Delta / \{X,z\}$, $\Delta' = \emptyset$ and $X \cap Y = \emptyset$, then property will be completed ex-post.

That is to say that, as soon as a new right is defined over $z$, it is assigned (by mean of an auction, a lottery, a court intervention etc.) either to A, with $X = \{x_1, x_2, x_3, ..., x_n, z\}$, or to B, with $Y = \{y_1, y_2, y_3, ..., y_n, z\}$, and a specular duty not to interfere is also assigned to the non-owner. One of the two bundles acquires the new use and no externality occurs since $X \cap Y = \emptyset$ still holds ex-post.

**B. Presumptive rights and externalities**

As mentioned at the beginning of this section, this ideal-type situation poorly describes the dynamics of the emergence and attribution of new undefined uses. In fact, some time usually elapses between the emergence of a use and its inclusion in somebody’s bundle. While this use is still up for grab different situations may occur.

Let us assume that in $t=1$, the new uses $z$ and $w$ emerge, respectively, from A’s access to $X$ and B’s access to $Y$, so that $\Delta' = \{z, w\}$.

*Definition 3: Presumptive Rights*

If, $X = \Delta / \{Y\} \cup z$, $Y = \Delta / \{X\} \cup w$, and $\{X \cup z\} \cap \{Y \cup w\} = \emptyset$, then $z$ and $w$ are defined as *presumptive rights* respectively of A and B.

These new uses are accessible through the two preexisting bundles, however, in $t=1$, they are not covered by a socially enforced system of rights, thus $\{z, w\} \notin \Delta$. If A’s access to the use $z$ does not interfere with B’s access to $w$, and vice-versa, a presumptive right is a *de facto* right as long as society does not define to which bundle, if any, $z$ and $w$ belong. However as long as no one interferes with the exercise of these new uses, presumptive rights are treated *as if* they were socially recognized rights.

When rival claims over these uses emerge, the conflict must be sorted out

*Definition 4: Externality*
If, under the above setting, \( X = \Delta / \{ Y \} \cup z \) and \( Y = \Delta / \{ X \} \cup w \), but \( \{ X \cup z \} \cap \{ Y \cup w \} = \{ z, w \} \), then presumptive rights generate an externality.

C. **Incomplete property as a bundle of core and peripheral rights**

As seen so far, incomplete property is a bundle of defined and presumptive rights, with the latter potentially exposed to an externality. Ex-ante defined rights constitute the core of the bundle of rights socially enforced by organized consent at any given time. Such rights imply mirror duties not to interfere from other members of society. This means that the core of the ownership bundle is made up of jural right-duty Hohfeldian (1913) relations. Violations of the rights belonging to the core constitute a taking. However, as seen in definition 2, by acceding to a property, new uses over which no clear right-duty relationship has been defined ex-ante may emerge. If owners of neighboring uses appropriate them they become presumptive rights, as we have defined them, or privileges (liberties), as in the Hohfeld-Commons paradigm. They do not initially belong to the core, even if they could be treated as de facto rights as long as no other agent exercises a rival presumptive right, privilege or liberty over the use, thus generating an externality. Presumptive rights are peripheral rights in the sense that no clear or definitive right-duty relationship over the use has been defined and an externality may emerge. As soon as the conflict of attribution is sorted out (for instance by a court), the presumptive right belonging to the periphery is turned into a right belonging to the core.

**Definition 5 – Incomplete Property**

A’s property \( \Delta_A = \{ X \cup Z \} \) is defined as a bundle of both (a) defined rights (the core \( X \)) and (b) presumptive rights (the periphery \( Z \)), where \( Z = \{ z_1, z_2, z_3, \ldots \} \).

Note that \( Z \subseteq \Delta' \), since by assumption no element of \( Z \) is already covered by an ex-ante defined right belonging to \( \Delta \). A similar notation could be derived for the bundle \( \Delta_B \) of B.

**Definition 4bis: Externality with Incomplete Property**

When \( \Delta_A \cap \Delta_B = Z \subseteq Z \), at least some of the presumptive rights in \( Z \) result to be ex-post rival uses between A and B and they will generate an externality.
What it is important to note is that the framework of property incompleteness casts new light on the relationship between externalities and property: in fact there seems to be an inverse relationship between the degree of completeness of property rights and the emergence of externalities. More then that, externalities are the other side of the property coin since standing incompleteness of the latter generates the former, and continuous redefinition of property contributes to the internalization of externalities. In other words, it is the emergence of externalities that gives rise to opportunities for courts to improve the definition of any given property bundle. The decision to “protect” a given property bundle through the application of either a property or a liability rule has the effect of determining the very content of it at any given point of time, as was first hinted at by Coleman and Kraus’ (1986) seminal contribution.

In our view, the incompleteness of property is pervasive and persistent in the sense that while conflicts over externalities are continuously resolved by courts, regulation and other means, new uses of given resources keep on being discovered and rival claims over presumptive rights create room for new conflicts to arise. In this cycle of continuous re-definition, it might happen that the definition of the bundle catches-up with all uses known at a given point in time (and thus we have complete property), however this result is little else than an instable and temporary definition doomed to be plagued by incompleteness, as soon as new uses emerge.

Thus, at any given point of time, the degree of incompleteness and the dimension of the core crucially depend on the extent to which rival uses are included in it, i.e. are covered by a right/duty relation. This, in turn, depends both on the ex-ante transaction costs in defining uses and rights over them in a clear and socially agreed fashion and on the ex-post activity of courts. What is important for our present purposes is that the degree of incompleteness, which can be thought of in terms of the defined-uses to undefined-uses ratio, varies across different property regimes, different institutional settings and according to the attributes of the assets. This implies that, while our conceptualization of property entails an analogy between property and IP, it nevertheless traces a distinction between the two based on the degree of incompleteness, rather than on the degree of tangibility. The practical importance of this difference with what we have called the right-to-exclude-based views of property will be apparent in what follows. Here it is sufficient to suggest the simple intuition that the higher degree of incompleteness characterizing IP might call for an enhanced role of
courts and legislatures in dealing with it, rather than for the non-interventionist approach called for by proponents of the tangibility-based distinction between property and IP.

As a final note, it is worth saying that, as we briefly mentioned in the introduction, the conception of property that we propose in this and the companion paper should sound as “old wine in new bottles” to law scholars who, in the past two centuries, have come to acknowledge the difficulties incurred in treating property as “absolute” for the purposes of applied legal reasoning (Mattei, 1999, 200??).

IV. Competition policy and property rights: a brief outline from the perspective of the essential facility doctrine

Competition policy is generally deemed a legal instrument aimed at enhancing consumers’ welfare by safeguarding the ‘institution of competition’8. In both the US and the EU competition laws, antitrust enforcement prevents competitors from conspiring to fix price or to restrain trade and individual firms from dominating markets. This action is extended also to mergers and other forms of horizontal property concentration that may create or enhance single or joint dominant positions in relevant markets. Since ‘property rights are central to the operation of any economy’, the way in which antitrust law deals with ownership and property rights is central to understanding how the institution of competition affects and is affected by property institutions. Not surprisingly, then, the way in which competition law approaches property rights has strictly paralleled the fundamental rhetorics that, from time to time, have accompanied antitrust action (R.J.R. Peritz, 2000).

One apt way to analyze how competition law deals with property rights is to look at the evolution of the so-called essential facility doctrine (EFD). The general principle of the EFD is the following: “the owner of a properly defined “essential facility” has a duty to share it with others, and […] a refusal to do so violates article 2 of the Sherman Act” (H. Hovenkamp, 1999 p. 273). The essential facility doctrine is thus intended to deal with a particular form of refusal to deal strategy enacted by a dominant firm, denoted as ‘bottleneck monopolist’, to exclude competitors from the market not only by refusing to deal but also by imposing conditions (such as pricing, tying and so on) which in fact constitute an insuperable barrier to entry for competitors.

8 See Hovenkamp (1994)
We may say, according to the Calabresi and Melamed (1972) framework, that the application of the essential facility doctrine in fact affects the way in which some of the proprietary assets possessed by a dominant firm are protected. When essential facilities are at stake, competitors have the right to access essential facilities even without the consent of the owner, provided an appropriate compensation is granted. Thus, assets identified as essential facilities are protected by a liability rule rather than by a property rule. The implementation of the EFD basically raises two main questions: (i) how to define the qualifying features of an essential facility; (ii) how to balance mandatory access to an essential facility with the efficient alignment of private incentives to invest and to innovate by dominant firms.

Of course, the crucial problem here is that the above questions are very difficult to assess and consequently there is a very high risk for an antitrust authority to take wrong decisions with the effect of increasing competition distortion rather than improving consumers’ welfare (R. Pitofsky et al., 2002).

A. The special liability of dominant firms

In both US and EU antitrust, dominant firms are charged with a ‘special responsibility’ pursuant to which they have the duty not to adopt decisions which may – directly or indirectly – affect the ‘normal’ competitive structure of the market in which the dominant position is held, or in markets which maintain a functional relationship with the dominant firm (such as downstream or derivative markets). There is a presumptive right, generally accorded to firms, to refuse to deal with competitors, but “such a right is not absolute; it exists only if there are legitimate competitive reasons for the refusal”.

The European Court of First Instance (CFI) declared that “under article [82] refusal to supply, even where it is total, is prohibited only if it constitutes an abuse”. Thus CFI recognizes “the importance of safe-guarding free enterprise when applying the competition rules”.

A refusal to supply oil to occasional customers, for instance, has been evaluated by the European Court of Justice as reasonable, due to the shortage imposed by the 1973 OPEC oil boycott. However, a corollary of the above principle is that the dominant firm that refuses

---

9 That is the problem related with liability rules once the ‘ex-ante view of the Cathedral’ is taken into account by Bebchuk (2001).


12 Ibidem.

to supply has the obligation to provide an objective justification for that. The two main principles emerging from the US approach are the following: “a monopolist does not have a general obligation to cooperate with rivals; but [...] some refusals to deal may have “evidentiary significance” and may produce liability in certain decisions” (Hovenkamp, 1994, p. 264). The first is also known as the Colgate\textsuperscript{14} principle and contains the corollary that the decision of refusing to deal should not, in any respect, be compatible with any purpose to create or maintain a monopoly.

\subsection*{B. \textit{The principles outlined in US and EU jurisprudence}}

In the US\textsuperscript{15}, the first case explicitly involving essential facilities is \textit{United States v. Terminal Railroad Association}\textsuperscript{16}. Other important cases were \textit{Associated Press}\textsuperscript{17}, \textit{Lorain}\textsuperscript{18}, \textit{Otter Tail Power}\textsuperscript{19}, \textit{Aspen skiing}\textsuperscript{20}. The Seventh Circuit attempted to define the conditions for the application of the essential facility doctrine in \textit{MCI}\textsuperscript{21} in the following way: (1) the essential facility is controlled by a monopolist; (2) there is a competitor’s inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility to competitors. A similar approach has been followed by the European Commission.

\textsuperscript{15} See also (A. Nicita and A. Castaldo, 2005)
\textsuperscript{16} \textit{United States v. Terminal Railroad Railroad Association}, 224 US, 383 (1912). The refusal to provide access to an ‘essential facility’ was not a case of abuse of dominant position, rather a case of a concerted collective boycott. In that case, the Court considered an association by a group of railroads controlling all the bridges and connections from and towards St. Louis as an illegal restraint of trade and as an attempt to monopolize against competing railroad services.
\textsuperscript{17} \textit{Associated Press v. United States}, 326 US 1 (1945). The limitation by an association to provide its copyrighted news service only to its members was interpreted as an anticompetitive refusal to deal.
\textsuperscript{18} \textit{Lorain Journal Co. v. United States}, 342 US, 143, 146-49, 156 (1951). A local dominant newspaper, which was the only collector of advertisement in newspapers, refused to accept advertising from firms, which were also placing advertisement in radio station.
\textsuperscript{19} \textit{Otter Tail Power Co. v. United States}, 410 US 366, 93 S. Ct 1022 (1073). The Supreme Court condemned the refusal by a public utility to distribute power for municipal utilities companies who were also acquiring power from other alternative sources.
\textsuperscript{20} \textit{Aspen skiing} 472 US. The refusal to agree with a competitor on continuing to provide customers with a comprehensive ticket that would have induced the right incentive to ski also in the competitor’s skiing plants has been deemed as anticompetitive without recurring to the essential facility doctrine, even if some scholars agreed on considering access to the integrated ticket an essential facility.
\textsuperscript{21} \textit{MCI Communications v. At&T Co.}, 768 F.2d 1081, 1132-33 (7th Cir. 1983). A monopolist telecommunications provider was forced to provide access to its local service network to competitors in long-distance calls.
The principal European cases involving an essential facility argument are: Telemarketing\textsuperscript{22}, Commercial Solvents\textsuperscript{23}, British Midland/Aer Lingus\textsuperscript{24}, Sealink/B&I Hollehead\textsuperscript{25}, Sea Containers ltd/Stena Sealink\textsuperscript{26}, Port of Rodby\textsuperscript{27}, Port of Roscoff\textsuperscript{28}, Magill\textsuperscript{29}, European Night Services\textsuperscript{30}, Oscar Bronner\textsuperscript{31}, GVG/FS\textsuperscript{32}, IMS\textsuperscript{33}.

In Commercial solvents there is also the first statement of the Commission involving the epithet ‘essential facility’: “a dominant undertaking which both owns or controls and itself uses an essential facility, i.e. a facility or infrastructure without access to which competitors cannot provide services to their customers, and which refuses its competitors access to that facility or grants access to competitors only on terms less favourable than those which it gives its own services, thereby placing the competitors at a competitive disadvantage, infringes Article [82]”. In particular, the Commission added that in cases in which the competitor is already subject to a certain level of disruption from the dominant undertaking’s activities “there is a duty on the dominant undertaking not to take any action which will result in further disruption. That is so even if the latter’s action make, or are primarily intended to make, its operations more efficient.”

The European cases that deeply innovated in the field are Magill\textsuperscript{34}, Oscar Bronner\textsuperscript{35} and IMS\textsuperscript{36}; of those cases, the first and the last directly involve intellectual property. In Magill\textsuperscript{37},

\textsuperscript{22} Case 311/84 Centre Belge d’Etudes du Marché-Telemarketing v. Compagnie Luxembourgeoise de Telediffusion Sa and Information Publicité Benelux Sa (1985) ECR 3261, (1986) 2 CMLR 558. The Luxembourg television stopped to accept advertisement for telemarketing unless the phone number used was that of its own subsidiary.

\textsuperscript{23} Cases 6, 7/73 Istituto Chemioterapico Italiano Spa and Commercial Solvents Corp. v. Commission (1974) ECR 223, (1974) 1 CMLR 309. A firm (CSC) supplying aminobutanol, through its Italian subsidiary to a company Zoja which used that as raw material to obtain ethambutol, further used as a basic component of pharmaceutical products. For a while Zoja, finding cheaper supplier, suspended its orders. When Zoja decided to turn back to its original supplier, CSC opposed a refusal to deal, having decided to supply only an upgraded product, from which it was possible to obtain ethambutol as its Italian subsidiary did, in direct competition with Zoja. The Commission and the Court of Justice declared that this behaviour was an abuse of dominant position.

\textsuperscript{24} [1992] OJ L96/34.

\textsuperscript{25} [1992] 5 CMLR 255

\textsuperscript{26} [1994] OJ L15/8

\textsuperscript{27} [1994] OJ L55/52

\textsuperscript{28} [1995] 5 CMLR 177

\textsuperscript{29} RTE&ITP v. Commission [1995] ECR I-743

\textsuperscript{30} European Night Services v. Commission [1998] ECRII-3141

\textsuperscript{31} Case C-7/97 Oscar Bronner GMBH & CO. KG V. Mediaprint [1998] ECR I-7791

\textsuperscript{32} GVG/FS (COMP/37.685 - Antitrust) [2003] ECComm 64 (27 August 2003)

\textsuperscript{33} NDC Health/IMS Health: Interim measures (COMP D3/38.044 - Antitrust) [2003] ECComm 61 (13 August 2003)

\textsuperscript{34} For an analytical comment on the Magill decision see Anderman (1998).

\textsuperscript{35} Case C-7/97 Oscar Bronner GMBH & CO. KG V. Mediaprint [1998] ECR I-7791

\textsuperscript{36} NDC Health/IMS Health: Interim measures (COMP D3/38.044 - Antitrust) [2003] ECComm 61 (13 August 2003)

\textsuperscript{37} For an analytical comment on the Magill decision see Anderman (1998).
the European Court of Justice held that the refusal by television stations to grant Magill access to their programme schedules constituted a misuse of market power since it both prevented the emergence of a new product and it blocked access to a secondary market. The Court ruled that television broadcasters had abused their dominant position on the market for their television programme listings by invoking their copyright over such listings in order to prevent third parties from publishing complete weekly guides to the programmes of the various broadcasters. The copyright-protected listings were indispensable raw material for compiling a weekly television guide as it was in Magill’s intentions. The Court ruled that preventing the creation of a new product, a comprehensive weekly guide to television programmes, for which there was a potential consumer market was abusive.

In *Oscar Bronner* the European Court of Justice argued that mandatory access can be required, and enforced, only “where access to a facility is a precondition for competition on a related market for goods or services for which there is a limited degree of interchangeability” or “where duplication of the facility is impossible or extremely difficult owing to physical, geographical or legal constraints”. Thus, according to the Court, in order to investigate whether we are in presence of an essential facility, we should not focus solely on the market power of the owner of the facility in the upstream market, so as to conclude that the conduct of the facility owner of “reserving to itself the downstream market is automatically an abuse”.

In *IMS*, the Court of First Instance concluded against the application of the EFD by the European Commission and outlined three exceptional circumstances that must all be present for the enforcement of copyright to be an abuse of a dominant position: (i) a distinct market for a new product separate from the market for the copyright products of the copyright owners; (ii) no justification for the refusal to license, and (iii) the conduct of the copyright owners should produce the effect of reserving to themselves the secondary market.

**C. Property rules, Liability rules and Rules of Reason in applying EFD**

---

38 Mediaprint, a dominant publisher of newspapers in Austria, which established a nationwide system for newspapers home-delivery, refused to distribute also the newspaper published by Bronner, actually a newspaper with only local diffusion and minor audience. Mediaprint was actually distributing not only its own newspapers but also an independent newspaper for which however it was also providing the whole service of printing, distribution and home-delivery.

39 The Commission found that the refusal by IMS to provide access to a particular copyrighted work (the “brick structure” of a regional sales data service in Germany) would have eliminated competition since, without that access, it was not possible for a competitor to enter the market. The Commission ordered interim measures requiring IMS to license its competitors, but that decision of the Commission was overruled by the European Court of First Instance.
Several lessons could be drawn from the US and EU application of the essential facility doctrine (A. Nicita and A. Castaldo, 2005).

First, the imposition of mandatory access to dominant firms’ assets does never result, either in the US or in the EU, from the application of a *per se* rule; rather, it results from consideration of specific and isolated circumstances under a rule of reason approach. The general rule to be followed is that competition policy preserves the integrity of property rights, which amounts to saying that firms’ assets should be generally protected through the application of property rules. This conclusion, in turn, is motivated by the rather uncontroversial assumption that property rules preserve owners’ incentives to invest and to enhance competitive dynamics.

Second, when compulsory access to an essential facility is enforced, property rights are in fact protected by a liability rule. Moreover, the protection of an asset that constitutes an essential facility through liability rules is allowed only under the circumstance that competitors’ access does not impair owners’ ability to serve final consumers or, in other words, that access is feasible and does not result in a regulatory taking.

Third, intellectual property rights do not deserve, in this respect, any particular favor: when they identify an essential and not duplicable asset owned by a dominant firm eventually vertically integrated in the downstream market and when the access to it is necessary in order to start a new business or to create a new product for which there is an actual or potential demand, then the essential facility doctrine applies also to IPRs, as in *Magill* and *IMS*.

The last point surely deserves some comment. Indeed, it should be remarked that some difference in approach exists between the EU and the US in regard to the application of the essential facilities doctrine to intellectual property assets. As mentioned in the second paragraph, although the allegation that intellectual property constitutes an essential facility has been made in some US antitrust cases (see, e.g., *Intergraph Corp. vs. Intel Corp.* and *Aldridge v. Microsoft Corp.*), we are not aware of any clear statement by a US Court identifying an intellectual property right itself with an essential facility. The previous discussion highlights that this has occurred, by contrast, in the EU in some notable cases. However, it might be argued that the “new product requirement” in IP-related cases points to the existence of a higher legal standard for compulsory licensing of IP than for compulsory access to tangible property (C. Ritter, 2005). Thus, while IPRs are not in principle exempted from the
application of the essential facilities doctrine in the US and in the EU, in practice more caution seems to be applied in IP-related essential facilities cases than in non-IP-related cases.

V. Understanding the complementarity between IP law and Antitrust Law

IP-related essential facilities cases have raised more than one eyebrow among scholars and practitioners. Indeed, most commentators in Europe tend to interpret very narrowly both the scope of application and the implications of the IMS and Magill cases. Similarly, in the US, the view that intellectual property rights themselves should not constitute an essential facility is widespread (see, e.g., H.J. Hovenkamp, M.D. Janis and M.A. Lemley, 2005). The two primary concerns generally raised in this connection are the following. First, the application of the essential facilities doctrine to IP assets and antitrust intervention more generally affects the very essence of intellectual property rights, namely the right to exclude, and can be considered akin to a regulatory taking. Second, given these premises, antitrust undermines appropriability of innovations and therefore the incentives needed to stimulate the creation of intangible resources. The corollary of these two concerns is that antitrust should refrain from interfering with IP rights as much as possible. In other words, the complementarity between IP law and antitrust law is interpreted to mean, in this perspective, that they should both follow the same property logic.

In this section, we submit that the incompleteness-centered notion of (intellectual) property introduced in the third paragraph allows us to cast doubt on the appropriateness of these concerns and to reach very different conclusions. Let us start from considering the first concern, namely that antitrust intervention should be equated to a regulatory taking. The theory of incomplete property suggests that this would be the case in a world in which property was a complete bundle of rights over well-defined uses coupled with a system of socially enforced duties upon non-owners not to interfere. In such a world, any modification of existing bundles constitutes a taking and is susceptible to undermine the very substance of the property-control nexus. In a world of incomplete property, by contrast, some of the presumptive rights belonging to the periphery of the property bundle are exposed to the emergence of negative externalities (as we have defined them in section 3) and antitrust law constitutes a legitimate means through which redefinition of inherently incomplete (intellectual) property rights takes place. This might occur at least in two sorts of
circumstances. In one case, that may be well exemplified by the IMS and Magill cases mentioned above, an externality emerges involving a new use of the intellectual resource that constitutes the object of property. In this case, antitrust intervention serves the purpose of solving the externality by attributing the rights over the previously undefined use to one of the rival claimants. This process is unlikely to decrease ex-ante incentives, if anything because the uses over which rights become defined as a consequence of antitrust action were not previously known. An alternative case may occur independently of the existence of a new use for a given resource and involves the emergence of an externality in circumstances in which specific contingencies obtain. The dominance of the firm owning an essential facility is one of these contingencies. In this case, competition law specifies ex-ante that, under specific circumstances, the rights over some of the uses embedded in dominant firms’ property turn into presumptive rights at the periphery of the bundle. Competition law reshapes the boundaries of ownership by clearly identifying the contingencies that redefine property. For instance, it establishes under what circumstances the ‘special responsibility’ of dominant firms obliges them to abstain from exercising those rights bundled in property which may produce externalities, i.e. from exercising those presumptive rights on uses which turn to be rival in some respect to non-owners. Of course, what is established ex-ante by competition law is ex-post implemented through antitrust enforcement.

To turn now to the second concern – that antitrust policy necessarily damages incentives if it intervenes in IP-related matters – consider the implications of our theory for a conceptualization of IP rights. The intrinsic incompleteness of (intellectual) property reflects the ex-ante transaction costs to be sustained to clearly define all the uses associated to the exercise of a given (intellectual) property right. Incompleteness is, however, not only the result of the objective impossibility to foresee ex-ante all the possible uses of given assets; in a sense, it also serves an efficiency purpose: it allows to economize on the ex-ante costs of rights definition by attributing right-holders the right to freely exercise all the uses bundled in her property as long as an externality over undefined uses does emerge. In other words, conceived of this way, intellectual property allows to incur some costs of definition only when (and if) an externality emerges and therefore to partially save on these costs. Thus, (intellectual) property confers to the owner a residual right to control bundled undefined uses. However this right is not to be considered absolute, as in the case of rights on well-defined uses; rather it is a presumptive right subject to the emergence of a potential conflict raised by rival claimants. What the owner can do with his (intellectual) property is only partially clear and well-defined at any
point of time. It also depends on the emergence of externalities and on the way in which controversies are solved. The scope of uses (defined and undefined) bundled in (intellectual) property is always greater than that delineable in a word of complete property rights.

It is important to note that this implies at the same time that intellectual property is a powerful device for incentives alignment and that there should be no presumption on the optimality of conferring to the right-holder full control over all the uses bundled in property. When an externality emerges, a Demsetzian process of right re-definition through bundling and unbundling of rights is set in motion. As mentioned above, sometimes this process takes place through antitrust intervention. More precisely, antitrust law deals with those externalities that have the power to distort the mechanism of competition and to reduce consumer welfare.

The previous observations cast an entirely new light on the widely held notion of the complementarity between IP law and antitrust policy. Far from implying that both instruments should concur to ensure the greatest possible degree of control over assets, and especially intangible assets, the perspective we introduce in this paper clearly carves out the respective roles of IP and antitrust. While the former is aimed at defining ex-ante the core of rights bundled in ownership that exclude non-owners from access, the latter is devoted to absorb ex-post externalities by (re)defining presumptive rights at the periphery of the property bundle that generate negative externalities. As mentioned, we think this interpretation applies equally to tangible and intangible property. In the case of intellectual property, however, it might be argued that antitrust intervention in the form of a redefinition of the property bundle should more frequently be called for because of the higher degree of incompleteness of IPRs as compared to physical properties. Thus, while the focus on the attribute of intangibility provides an argument against antitrust intervention in IP-related matters, the focus on the degree of incompleteness even reinforces the argument in support of an active role of antitrust in such matters. The key difference between the two perspectives relates to the fact that, while the standard argument in support of full control over information goods is related to the risk of appropriation of positive externalities by non owners (which is the risk of takings with respect to rights which belong to the core of the bundle), the argument here suggested is related to the risk of imposition of negative externalities by owners on non owners (which is the exercise of presumptive rights over rival uses belonging to the periphery of ownership bundles).
One aspect of the complementarity that it is important to stress is that the redefinition of IP that takes place through antitrust intervention has not only the above-mentioned merit of allowing to save on some ex-ante costs of definition, but it may also have the merit of realizing a fine-tuning of incentives that cannot be realized ex-ante through IP legislation. IP law is, for the most part, not designed to be technology-specific. In other words, it does not reflect the characteristics of the underlying markets in which it is meant to provide incentives and thus can achieve a very limited degree of fine-tuning of incentives to specific conditions on the market. If one bears in mind that the objective of the multiple policies affecting innovation, including IP and antitrust, should not be to provide the maximum possible incentive, but just the incentives needed to ensure an optimal amount of innovative effort, it becomes apparent that there should be no self-imposed limitation to antitrust intervention in IP-related matters. Antitrust application of a rule of reason criterion, which generally implies a careful scrutiny of relevant markets, barriers to entry, dynamics of competition and consumers’ welfare may be considered a useful instrument to achieve the tailoring of incentives to the characteristics of given markets that IP is not able (and not meant) to achieve.

As a final note, consider that the nature of the complementarity between IP and antitrust generally varies across different institutional settings. One important difference in this regard concerns the crafting of IP law. Some IP statutes recur relatively more intensely than others to liability rules in the protection of IP entitlements. This is the case, for instance, in the EU as compared to the US, especially if one considers the discipline governing improvements over existing inventions in patent law. In the US, the “blocking patent” rule constitutes an instance of the application of a property rule to the protection of IP entitlements. In the EU, as well as in many other countries around the world, the legal treatment of dependent inventions involves the protection of patent entitlements through liability rules if specific circumstances obtain (see art. 31 TRIPs). Though the details differ across national legislations, most European countries (among which Austria, Belgium, France, Italy and the UK) envisage the possibility of compulsory licensing of the original invention to the holder of rights over an improvement judged significant according to a relevant metric, clearly affecting the public interest and/or applicable in a field different from that of the original patent. The holder of the original patent is compensated by an amount that might be determined by the parties themselves or by courts and, sometimes, by the right to use the
improvement (see the World Intellectual Property Organization – Industrial Property Laws and Treaties).

The opportunity for increasing the recourse to liability rules in the protection of IP entitlements is the object of an interesting current debate (I. Ayres, 2005, I. Ayres and P. Klemperer, 1999), but it is outside the scope of this paper. Here, we would only like to stress two points. The first is that both the application of liability rules in IP legislation and the application of liability rules through antitrust intervention have their own merits in that they both constitute legitimate means through which redefinition of inherently incomplete intellectual property rights takes place. The second is that the sparse references to US antitrust and IP law made in this paper suggest that, in the US, (intellectual) property tends more often than elsewhere to be completed by assuming that any presumptive right belongs to the core of the property bundle even if it gives rise to the emergence of externalities. If this is the case and, of course, if there is some merit to the views we present in this paper, it might be an opportune time for a substantial rethinking of the current notion of the complementarity between IP and antitrust in the US, as others have already suggested (see, e.g. R.J.R. Peritz, 2000).

VI. Conclusive Remarks

Present-day economies depend crucially on the ability to deliver new products and technologies to the market. Both intellectual property laws and competition policy undoubtedly exert a deep effect on this ability. It has been historically less clear, however, how the interface between these two policy instruments should be crafted. Indeed, for a long time scholars and policy-makers have highlighted the existence of a tension between a policy whose primary goal is to stimulate innovation through the creation of legal monopolies and a policy aimed at promoting competition. This view has now been substantially refuted, and most would agree that IP law and antitrust law are in a complementary relationship.

In this paper, we argue that the reconciliation between IP and antitrust as it has so far been interpreted by most commentators logically presupposes the acceptance of an analogy between IP and private property and a restrictive notion of property interpreted merely as the right to exclude from access to the object of property. This leads, in turn, to strict self-imposed limits to antitrust intervention in IP-related matters and to interpret antitrust and IP as complementary in the sense that they should both follow the same
property/appropriability logic. The main aim of this paper is to cast doubt on this wisdom and to shed new light on the complementarity between IP and antitrust. Our starting point is a conceptualization of property as an inherently incomplete bundle of both defined and undefined rights over actual and potential uses of given resources, that we expose more fully elsewhere (A. Nicita, M. Rizzolli and M.A. Rossi, 2005). Interpreting property as an inherently incomplete bundle composed of a core of well-defined right-duty Hohfeldian jural relations and a periphery of presumptive rights to which do not correspond well-defined duties not to interfere leads us to carve out clear complementary roles for IP and antitrust. While the former is aimed at defining ex-ante the core of rights bundled in ownership that exclude non-owners from access, the latter is devoted to absorb ex-post externalities by (re)defining presumptive rights at the periphery of the property bundle that generate negative externalities. This view calls for a role of antitrust in redefining ex-post inherently incomplete rights that should involve equally tangible and intangible properties. The key distinction in this regard does not relate to the attribute of tangibility but rather to the degree of incompleteness of assets, so that IP should be seen as requiring more intense intervention of this sort relative to physical property if, as it seems to be the case, it enjoys a higher degree of incompleteness. Most importantly, following the perspective that we propose in this paper, antitrust intervention does not necessarily entail a reduction of ex-ante incentives to create intangible assets.

VII. References


