INTELLECTUAL PROPERTY RIGHTS AND MARKET POWER IN THE EUROPEAN UNION: THE *FIL ROUGE* OF CONSUMER WELFARE [1]

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1. Intellectual property rights are commonly defined as exclusive rights in the sense that they vest only some people, usually creators or inventors, with the exclusive right to dispose of their intellectual works.

Such a definition, however, is often misunderstood and IPRs are intended as a sort of guarantee towards the recoupment of the expenses incurred in the inventive or creative activity.

On the contrary, intellectual property rights come with intrinsic limitations. First of all, their duration is limited.

Secondly, the faculties granted to inventors or creators bear limitations and they do not confer an absolute control over their intangible creations.

In fact, several tradeoffs exist within intellectual property paradigms, which make the protection conditional on the fact that the intangible knowledge comes immediately to the enrichment of society at large.

For instance, the patentee's exclusive right does not grant him the right to impede the creation of competing products aimed at resolving the same technical problem.

The patentee cannot impede others to try to supply the same utility provided by his invention through a different and independent process.

Similarly, copyright law lies on the idea-expression dichotomy principle, whereby protection is only confined to the specific forms of expression and not the ideas embedded therein.

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As for patent law, even under copyright law the specific result of the author's creativity will enter the public domain only after legal protection expires. Nonetheless, the ideas expressed therein immediately come to enrich society.
Because commentators, generally economists, use to refer to intellectual property rights as monopolies, there is a widespread misleading belief that patents and copyrights entitle the author to obtain a monopoly in the economic sense. This is very far from reality.
As a general principle, the exclusive power to economically dispose of a certain product vests the author with a degree of market power which is inversely proportioned to the number of existing substitutes for such product.
In the case of copyright law, for instance, usually many substitute products will exist: think about the market for books, music, movies, software; therefore, it is very unlikely that the IPR alone confers substantial market power.
The case of patents could be a little different. In the case of a blockbuster drug, for example, where no other medicines exist to cure a certain disease, the patent vests the IP owner with a good degree of market power, maybe even with a substantial market power; this, even more in the case where patents are improperly granted too far upstream.
However, it is nowhere guaranteed that such power will last along the twenty years protection granted by the patent.
A better drug, or gene-therapy, might be found a little later and the more the new product is effective, the more it will steel consumers away from the first drug.
In fact, in a great part of the pharmaceutical sector, companies invest in new molecules and drugs to find better treatments for diseases which have already some sort of cure.
The same goes for other industrial sectors, like engineering or computing, inventions often take the form of improvement products or improved processes and methods of production; so, they always come about in a market that is already there and has some players.
Therefore, while the word "monopoly" does not seem appropriate for IPRs, we can affirm that intellectual property laws give a "micro-monopoly" over a specific technical solution for a certain problem, or over a certain form of expression.
IPRs' function is to protect inventors and authors from free riding against competition by imitation, but not competition by substitution.
The degree of market power associated with these micro-monopolies will often be quite low in normal market circumstances. Indeed, a likely attempt to increase the price of the product will be profitable only when no substitutes are present in the relevant market, or when other specific circumstances exist that favour distortion of competitive market structures.

2. Exclusionary conduct concerning an intellectual property right usually involves an improper attempt to use the protection beyond what has been granted by the statutory norms.
This may happen because IP-owners try to stretch the protection in a way to cover mere ideas, whereas both copyright and patent law limit the exclusive right to the form of expression and to the technical embedment of the inventive concept.
Hence, they try to strategically employ their exclusive right in an attempt to monopolize or preserve dominance in a certain market.
This often occurs when the intellectual property right covers a certain raw material or input indispensable to compete in a certain market.
Alternatively, it may also happen that IP-owners employ the intellectual (micro)monopoly in a way to obtain market power in a separate but connected market segment.
Antitrust law does not condemn such behaviours tout court. An exclusionary conduct operating through IP exclusive faculties is likely to attract antitrust scrutiny only insofar as the company holds monopoly power, or there is a dangerous probability that it will acquire it as result of the conduct; or, in European antitrust law, if the company is first found to be dominant on a certain market.
Among the several factors that an undertaking can successfully employ to achieve dominance, network effects, or "economies of scale in consumption", have attracted a good deal of attention.
The term "network effect" describes the phenomenon whereby the utility a consumer obtains from a given good grows proportionally to the number of other consumers using the same product.
This phenomenon acts as a powerful "catalyst" of consumer demand, in the sense that the more consumers buy the product, the more other consumers will desire the same product.
The classical example is given by mobile phone networks. Because users know that they will get special tariffs to call users of the same network, they will choose the network mostly used by their friends. The greater the number of friends using a certain network, the more profitable will be for them to join that specific network.
This mechanism is generally called direct network effect.
Conversely, it also happens that the increase in number of buyers of a certain product causes a consequent boost in the launch of compatible products, as other companies will find it profitable to invest in products capable of use in connection with the first one.
This is the so called indirect network effect, which eventually will make the basic product even more appealing to consumers.

The phenomenon of network effects can prove to be particularly troublesome in markets with a tendency towards "tipping", generally high tech sectors.
The concept of a tipping market can be explained as a form of de facto standardization.
Standards are usually imposed by governmental units or by so called standard setting organizations. Other times, instead, the standard is not set and it will emerge as a result of consumers' preferences.
The phenomenon of tipping regards a market situation where two or more competing technologies or products cannot live together because consumers do not want to bear the cost of getting them all for the same use (the winner takes it all).
Indeed, tipping normally happens either for technologies used to communicate in a broad sense or where compatibility is essential.
For instance, if each telephone network company would provide a service that only allows users to talk with members of the same network, consumers should subscribe to two, three or maybe four telephone networks in order to be able to contact all people they know.
Because subscription to many networks is expensive, at the end of the day, consumers would all move to one single network which would naturally emerge as the standard.
Tipping and network effects are strictly related. When network effects exist in a certain market, they will have a pivotal role in determining the emergence of a product as de facto standard, so that network effects will tilt the overall demand towards such a product.
Anyway, the emergence of a certain product as market standard over a competing one as a result of consumers' choice does not guarantee that the selection mechanism will sort out the best technology, nor the most efficient one.
Such a choice might well be the result of a sapient evaluation and comparison made by consumers, but it might also be attributed at random factors, like a successful advertising campaign or the launch of the product at a negligible price, for instance whenever the firm knows that consumers are going to be trapped by it.

3. Consumers are said to be "locked-in" a certain technology or product whenever for different circumstances they feel that changing towards an alternative one would not be profitable for them in terms of either price or time or both.
For instance, where the product at issue is particularly expensive, consumers will not incur a second expense for a similar item and will rather prefer to update it.
Similarly, once users get acquainted with a product embedding a complex technology they will be reluctant to turn to a substitute product – although more advanced – because they are reluctant to incur learning costs again.

Lock-in effects and switching costs are often found together with network effects, but they can also exist separately from the latter.
Moreover, while both set of effects often take place in high tech markets, they are possible also in more traditional ones.
To recap, we have seen that while IPRs alone are rarely sufficient to vest companies with a degree of market power likely to negatively affect market dynamics, when such rights are coupled with different kind of economics effects the scenario changes.
The combination of IPRs, network effects and lock-ins can sensibly alter competition leading to inefficient results, such as the persistence of the second best technology to the detriment of technological process, with a consequent social damage.

4. The American case law, throughout the presumption set in the Data General case and confirmed in Xerox, seems to grant IP-owners a sensible advantage in that their unilateral conduct will always be presumed legitimate, unless the plaintiff is successful in proving the contrary.
Conversely, the European system has endorsed a more balanced approach. The focus of European assessment has not be placed upon whether protection of IP may or may not amount at a first glance to a legitimate business justification.
Rather, European bodies have focused on the overall market scenario where intellectual property, together with other market circumstances, exert their effects.
In such a framework, consideration is given to the fact that the dominant undertaking might have acted to protect and safeguard its own business.
However, such considerations are not simply based on IPRs but on the overall situation the dominant firm has been facing.
For instance, even the ECJ, responding to the preliminary ruling in the IMS case, stressed the role network and lock-in effects had played in the overall situation, together with IPRs.
EU antitrust enforcement is mainly concerned about preserving a competitive structure of the market, and when such scenario is at risk, it is not excluded the possibility to constrain the use of IPR insofar as this would be the only feasible way to restore competition; this, although it is acknowledged that the possession of patent or copyright is not in itself the cause of the abuse.
European bodies are well aware of the potential dangers stemming from a too lenient imposition of a duty to share upon dominant firms. This is exactly why the Commission has elaborated a specific test, the so called Magill test, different from both mere essential facility test and refusal to deal assessment.

It may even be argued that the Magill test is too restrictive insofar as it is interpreted to require all the exceptional circumstances listed in the test to be cumulatively met.
In particular, the requirement to show that the dominant firm intends to reserve to itself a separate derivative market for a new product is surely troublesome to comply with and unnecessary for several reasons.
In fact, it may but it also may not happen that the dominant company attempts to leverage its power on a secondary related market.
Furthermore, in cases where such leverage takes place, it is very rare that the behaviour concerns an entirely new segment where neither the dominant company nor its rivals have competed before.
The requirement is unnecessary, too, because it seems to support the misleading assumption that IP-owners are allowed to monopolize the entire market relating to the item for which IP protection has been granted.
Actually, as I mentioned before, IP paradigms are not meant to work as a future guarantee for R&D expenditures, nor IP laws have ever been intended to grant monopolies in an economic sense.
Moreover, it shouldn't be assumed that consumer welfare can only be damaged throughout the foreclosure of competition in a secondary market (and not in the first one).
In this framework, as far as the role of consumer welfare is concerned, first of all we have to underline that IP and competition laws have different policy goals which cannot be easily harmonised with one another.
No-one would claim that the goal of competition law and policy would be the promotion of innovation, as well as no-one would claim that IP laws aim at fostering competition.
Anyway, IP and antitrust laws may be called complementary in that they aim at different but often synergic objectives.
The synergy exists insofar as protection of competition and openness to markets favours and spurs innovation.
So, both IP and competition laws are ultimately aimed at protecting society at large, and hence consumers.
However, it is important to highlight that the term consumer welfare has different nuances.
In particular, while it is correct to assert that IP laws want to spur creativity and technological process to the benefit of society, it would not be appropriate to affirm that IP laws wish to protect consumer welfare in the sense of low prices and increased quantities offered in the market.
As a consequence, an assessment of a case at the intersection of IP and competition law should evaluate how a likely decision in favour of IP-owner is going to affect the innovation

process in the long run; so, if consumers will actually benefit later on in terms of increased innovation.

5. In such framework, the relation between IPRs and market power must be pointed out with respect to the exceptional nature of the antitrust interference in the context of the European Community approach which I have described before.
This exceptional nature means a denial in principle that the power to exclude unauthorised third-party access – a power normally associated with IPR ownership and distinct from the exercise of contractual powers of disposition that can have anti-competitive effects – can per se confer a degree of market power that warrants antitrust interference, and hence the imposition of an obligation to grant paid access to the IPRs.
Only where special circumstances render the exercise of those exclusionary powers a barrier capable of foreclosing access to one or more markets – and not simply access to just one product among the many available on the market – such interference takes place.
Having said that, identifying such circumstances cannot be done in relation to intellectual property rights at all.
The study of intellectual property rights calls for a highly differentiated analysis, even without forgetting that IPRs are part of an overall system, founded on the common power of IPR holders to combat free riders and infringers.
Let's now proceed to the analysis of the basic IP paradigms, in order to check if, when and how, each entitlement might correspond to a situation of market power in an antitrust perspective.

5.1. First of all, as far as patents are concerned, as I mentioned before patents institutional mission is to grant inventors a micro-monopoly on the given specific technological solution they have developed, and not a macro-monopoly on the industrial sector or niche that solution belongs to.
In fact, patents cannot prevent competitors from developing and marketing – and indeed patenting, too – any different competitive solution aimed at the same function of the first invention.
Moreover, subsequent competitive innovation is fostered by several built-in mechanisms of the patent paradigm itself, in particular the public disclosure of a full and exact description of the invention.

The denial that ownership per se of a patent can be tantamount to market power that is relevant for antitrust purposes, thus affirming a duty to grant paid access to third parties, must hold true also in cases where the patented invention results quite superior to the prior art and hence becomes de facto dominant: think of a new drug dramatically improving the cure of perilous diseases.
Other competitors will always be able to produce a better cure for the same disease, based on the application of other molecules, and if they eventually come up with it, they will break into the market with their more advanced product.
Anyway, as far as meeting consumer interests and incentivising subsequent innovation are concerned, there is always the rule on cross-licence in favour of highly valuable dependent inventions.
Such rule is provided for within the patent system itself and its application is totally independent of any antitrust considerations, in particular the holding of market power.
The assessment of "antitrust-relevant" market power should be limited to two hypotheses, expressing absolute foreclosure of competition:
1) The patented innovation has been formally selected by law or specific bodies as "the" productive industrial standard. Think, for example, of the single vaccine that health authorities have approved (in Italian law, this is a case of "legal monopoly", regulated by a duty to deal on a non-discriminatory basis, according to article 2597 of the Italian Civil Code); or think of the choice, by the European Telecommunication Standards Institute (ETSI), of a certain technology as the industrial standard.
2) A patented technology has become the de facto dominant standard in a sector characterised by factors such as network effects which, locking in consumers and users, may alter the balance between present and subsequent innovation, making it impossible for competitors to enter into the market.
Such two hypotheses should also concern competition on the primary market, hence at a horizontal level.
In this direction, we must consider that the non-voluntary (cross-)licence mechanism, provided by article 31 of the TRIPs Agreement in favour of derivative inventions of high technical and economic value, applies to derivative innovation realised at any market level, thus even in the same primary market as the prior invention.

5.2. Although the smaller breadth of copyright protection as compared to patents would suggest that individual copyright material is rarely the source of significant monopoly

power, copyrights have been involved in important competition law cases, such as Magill, IMS Health and Microsoft.
In general copyright, in the original classical paradigm – protecting only expression and not underlying ideas, and referring to non-utilitarian creations of purely intellectual enjoyment – would not carry risks of market power in the proper sense.
In fact, that kind of protection, as applied to that kind of creation, allows an infinite degree of substitutability, unlike in the field of utilitarian innovation.
In this "classical" domain of copyrighted works, the problem of third parties' access is not essentially of a competitive nature.
It relates to the diffusion of culture and information, hence must be solved by a substantial rebalancing of interests enhancing the rights of citizens-users.
A different scenario occurs when copyright, trespassing on the classical division with patents, expands to cover such technological products as computer programs, fictitiously assimilated to a literary work and where the form is driven by the functional goal.
Here, antitrust interference should be allowed under the same rationale, and in the same basic legal framework as for patents.
This, indeed, with even stronger justification, since copyright protection is unselective on the merits and thus can cover even very "weak" innovation.
Moreover, again differently from the field of patents, the copyright owner is under no obligation to grant any licence whatsoever to the author of a derivative work, even if the latter is of high cultural importance.
Indeed, unlike in the general (common) copyright model, the rules governing technology copyright do not grant any freedom to third parties to implement a derivative innovation.
In the field of computer programmes, reverse engineering is allowed just for purposes of "interoperability" with other programmes, so not also in order to allow the development of improved software.
In this framework, several studies have shown that copyright creates monopoly power and that the majority of information goods markets follow a pathway of progressive concentration both at a national and international level.
It has also been found that some characteristics of such markets – such as the existence of economies of both scale and scope on the supply side and network externalities on the demand side – are self-reinforcing and contribute to creating and strengthening dominant positions and consolidations in the copyright area.
The anti-competitive effects of copyright protection of software, particularly of interfaces – which allow the interoperability of different pieces of software or hardware – have been central in several cases, notably involving the dominant software provider, Microsoft.

The main concern in these cases has been the possible leveraging of the monopoly power enjoyed in one market to other markets through the control of interfaces.
Therefore, in 2004 the European Commission concluded, after a five-year investigation, that Microsoft broke EU competition law by using its near monopoly in the market for operating systems for personal computers to take over the markets for operating systems for work group servers and for media players.
The Commission ordered Microsoft to disclose to competitors the interfaces required for their products to be able to communicate with the Windows operating system and to offer a version of its Windows operating systems without Windows Media Player to PC manufacturers, or when selling directly to end users. In addition, Microsoft was fined 497 million Euros for abusing its market power.
Competition law concerns have also frequently arisen in relation to copyright collecting societies.
The European Commission opened formal proceedings against the International Confederation of Societies of Authors and Composers (CISAC) and its individual national members.
The Commission's concerns included the fact that the royalty collectors were trying, by various methods, to ensure that each of them maintained exclusive access to broadcast royalties in the countries in which they operate.
By obliging commercial users to get a licence only from the domestic collection society, limited to the domestic territory, collective societies may ensure a monopoly on their domestic markets and prevent the new entrants from getting into the copyright management market.
In order to settle the case with the Commission, in July 2007 CISAC offered to grant multi-territory licences for performing rights over the Internet, satellite and cable.
In this framework, it is clear that the need to invoke antitrust law might often be avoided if the paradigm of IPRs – especially copyright – were structured, or applied, so as to reconcile in a more balanced way the interests of the first and subsequent innovators, who are often respectively incumbents and new or existing rivals.
This seems most urgent in the IT field, which is more intensely characterised by network effects, and extensively dominated by the copyright paradigm, and less friendly to derivative innovation.
In this respect, an example of more competition- and innovation- oriented regulation of intellectual property was provided in the failed proposal of Directive on the patentability of computer-related inventions, which sought to transpose to the patent framework the pro-

interoperability rules of Directive 91/250/EC providing for copyright protection over computer programmes.
The basic arguments and considerations just applied to patents and copyrights also apply to industrial and trade secrets, which are not protected as IPRs in proper sense.
This conclusion gives systemic support, for instance, to the EU Commission's position in the Microsoft case, regarding the refusal to give access to Window's source code of communication interfaces.

5.3. The general issue we are discussing affects all IPRs, including trademarks, which at first sight it seems illogical to associate with the prospect of access, that is sharing by third parties.
It could be intuitively assumed that except for the special, atypical case of geographical trademarks – which do not reflect origin in a particular firm but characteristics that are associated with a particular territory and the related traditional knowledge and can therefore legitimately be used by a number of qualified parties – the imposition of shared use of a trademark would amount to accepting, indeed encouraging, confusion about the industrial source of products.
However, this argument – while neglecting the fact that European trademark law allows coexistence agreements between the holder and third parties – fails to address the case of a trademark's selling power far exceeding its merely distinguishing effect and function.
This power, in fact, can come from the celebrity of the sign, which can be either the effect of the product high reputation or of strong advertising investments.
Such selling power can well entail strong 'lock-in' effects for consumers, also in sectors other than those that the trademark is registered for, and thus translate into market power in an antitrust sense.
When that occurs, which is possible solely for highly renowned trademarks, the trademark owner's exclusionary power can be subject to antitrust scrutiny in relation to the assessment of a dominant position created, or at least reinforced, by the control of trademarks with strong selling power.
There have been some important cases, decided by the European Commission and national antitrust authorities, whereby an "antitrust storm" undermined the excluding paradigm of the registered trademark.
For instance, a merger consolidating famous trademarks in a single ownership may lead to a situation of market power which the competition authorities may decide to reduce by ordering the grant of licences to third parties.

Or where an abuse of dominant position has been found under article 102 TFEU for an anti-competitive implementation of a trademark licensing scheme, the Commission has consequently imposed as a remedy that the company licenses the trademark free of charge.
Finally, reference can be made to the synergies between the trademark's appeal and the exploitation of other IPRs.
Let's think, for instance, to the case of a patented product, marketed under a certain trademark, whose commercial success and appeal is enhanced by the exclusive presence of the product on the market for twenty years.
Here, the appeal acquired by such a trademark can prolong the "monopolistic" effect of the patent, beyond the patent's expiration.

6. Finally, undue enforcement of IPRs can also amount to anti-competitive conduct.
In particular, preliminary injunctions may be effectively used to prevent legitimate competition. This is why courts in the US and Europe have generally taken a very cautious approach towards the granting of injunctions in patent cases.
Border measures can also be used with an anticompetitive intent.
One case relating to soymeal imports to the European Union is illustrative of the potential misuse of provisions aimed at protecting legitimate interests.
The European Regulation 1383 of 2003 empowers customs authorities to detain goods suspected of infringing IPRs.
Unlike the obligation under Article 50 of the TRIPS Agreement, which is limited to trademark counterfeiting and copyright piracy, the Directive applies to other IPRs, including patents.
The company Monsanto did not obtain a patent on its herbicide resistant technology for soybeans in Argentina, as it filed the respective application after the expiry of the applicable legal terms.
Although Monsanto obtained royalties for its technology under private contracts with seed companies, it tried to obtain an additional payment from Argentine farmers, who refused to pay any extra charge for a technology that is in the public domain.
Monsanto then targeted the importation of Argentine soymeal into Europe, on the basis of two patents that protect the gene and gene constructs, as well as the transformed cells, in a soybean plant.
Despite the fact that the patents cannot extend to industrially processed products where the genes in question cannot perform their functions, Monsanto obtained orders from customs authorities in several European countries to detain the importation of Argentine soymeal.

It filed lawsuits against importers in the Netherlands, Denmark and Spain, that were bound to deposit substantial guarantees to get the imported soymeal dispatched.
This case illustrates an attempt to expand the legal powers conferred by patents through an overly broad interpretation of patent claims.
If these attempts were successful, they could have an adverse effect on competition in secondary markets, as the patent owner would exercise undue market power on products not covered by patents.

7. Here, as in other areas of IP law, Europe offers a perceptible contrast with the United States.
In the US, as I mentioned before, the dominant opinion – boosted, albeit not specifically in an IP-related case, by the Supreme Court in the 2004 Trinko decision – is traditionally reluctant to allow any breaches in the excluding faculties of IPRs, viewed as (a) indispensable incentives to innovation, and (b) already subject to (sufficient) built-in limitations of time and scope.
In the area of patents, for instance, in the Amgen case, the scope of the patent was interpreted in the US as including possible alternatives to obtain the same end-product, whereas in Europe – in this case, the UK – the approach is stricter and the monopoly was acknowledged only on the elements that were specifically claimed.
Again, let's think of the role assigned in European patent law to compulsory licences, especially cross compulsory licences, to foster derivative high profile competitive innovation.
The multifaceted "reasonably" pro-access approach prevailing in Europe has its roots deep in the continental European theory of property.
From early Roman times, according to the doctrine of servitudes – which could be considered the substantive ancestor of the essential facility doctrine as originally applied to physical infrastructures – the theory of property law included a duty by landowners to grant access to landlocked neighbours in the specific cases where foreclosure of the latter would, for instance, have jeopardised the efficiency of their farming or breeding activity and consequently the overall productivity of the Roman economy. In other words, land property was born limited by duties grounded in social welfare.
Conversely, the application of the essential facility doctrine to IPRs achieves from the outside – through antitrust interference – the result that the specific paradigms of intellectual property do not allow to be achieved from the inside.

8. The point of departure is the modern industrial trend towards standardisation, that is the development of products and processes capable of working together with other products and processes and therefore of providing interoperability through compatibility.
Various beneficial economic effects are associated with this trend, such as the production of compatible products and services, and therefore the creation of markets separate from that of the first, standardised product.
However, in addition to these favourable effects, economic analysis has identified the risk of adverse impacts of standardisation on competition and consumer welfare as well as on the dynamics of innovation.
This is particularly so when, together: (a) standardised technology also becomes the dominant pattern on the market, thereby meaning that consumers tend to become increasingly reluctant to switch to different products, and hence suppliers are also compelled to follow the path of the standardised product; (b) the de facto dominant standard is protected by IPRs, be they patents or copyrights.
It is self-evident, in fact, that in the absence of IP protection, any standardised product or technology can be appropriated and adopted by competitors, who are free to improve them and thus put improved versions on the market.
The risk of adverse effects on competition is further intensified if the market scenario is that of information technologies, often characterised by a systemic form of competition.
This term describes a type of market on which two or more firms compete, offering consumers not a single article but a series of articles which are not only standardised in the sense I have described before, but linked by a functional bond so that consumers only benefit from joint purchase of the whole set of those articles.
Let's think, for instance, to the close functional link between the hardware of a personal computer and its operating system, and between those two items and programmes such as Internet browsers.
In the presence of this type of competition, the effects of the self-perpetuating success induced by consumers' preferences tend to be strongly emphasized.
This is due to the so-called 'network effects'. As I mentioned before, the term describes the phenomenon whereby the utility obtained by a consumer from a given article grows when, and to the extent that, others use the same product.
This phenomenon acts as a powerful catalyst of demand, with the result that once a first demand for a given article has been created, it will be self-perpetuating, continuing to attract more and more consumers to its network (this is the so-called direct network effect).

And the more the number of purchasers of the product grows, the more products compatible with it will be launched on the market, and this will make the basic product even more appealing to consumers (this is the so-called indirect network effect).
While in the "old economy" consumers' preference for a product which has become the most popular on the market does not in fact prevent, per se, other competing products from entering or remaining on the market, if network effects are present, consumers tend to be far more intensely captured by the technology initially chosen.
The costs initially incurred for purchasing and learning the technology bought, and buying a range of compatible products, discourage consumers from changing over to a new product, and consequently constitute an entry barrier for competing products, even if these are technologically superior.
Although this trend has some immediate technical advantages for consumers, the obstacles to competition may be particularly strong.
Network effects lead to the de facto dominance of a single standard, marginalising standards based on alternative technologies: even if the latter may be technically superior, as happened for instance in the famous case of video recorders, where the success of the VHS technology excluded the competitor Betamax from the market.
The anti-competitive effect is even wider in relation to secondary markets.
In the IT sectors, competition between products compatible with the standardised "first" product means creating market niches that did not exist, and were not even originally foreseen by the owner of the standard.
Anyway, the European approach does not appear to be really punitive for the owner of the IPR-protected standard, who is subject to an obligation to grant access on the basis of the essential facility doctrine.
First of all, in purely financial terms, the perception of adequate licence royalties could well maintain, or even increase, the owner's expectations of profit, and therefore its propensity to innovate.
At the same time, the burden of paying royalties, if these are really fair, could maintain a significant competitive advantage for the owner (though in a different form) through an increase in rivals' costs.
Moreover, in terms of technological development, the IPR holder could in her turn take advantage of the derivative innovation, developed by competitors as a result of the right to access.
This is legally possible in the case of patents, on the basis of the cross-licence mechanism established by article 31 of the TRIPs Agreement and widely adopted in Europe.

It could also occur in the case of copyright, here only through an antitrust interference for granting access.
So, the statement that antitrust interference deprives IPRs of their typical excluding powers, undermining their essential function, must be rejected.
The antitrust correction, in fact, concerns not the IPR's exercise as such, but the market situation of competitive bottleneck that has grown around the IPR, be it due to the owner's behaviour or to objective circumstances such as network effects.

9. We have seen how the relation between antitrust and intellectual property laws is a complex one. Because intellectual property law grants exclusive rights which may allow, in the short run, for a restriction of competition, some have considered IPRs to be in sharp contrast with competition law.
Advocates of strong IP protection firmly criticize antitrust intervention into the IP realm, claiming that such intrusion would undermine the incentive rationale which lies at the core of the IP system.
A similar conclusion has been reached by some other scholars, who assert antitrust inaptness to deal and solve the expansionist trend endorsed by IP in recent years.
Eventually, courts in different countries have given different interpretation of such a relation.
In the United States courts, with some small exception, seem to have totally accepted the criticism just outlined.
They have assumed that antitrust and intellectual property laws are complementary legislations that, in the long run, pursue the same goal: namely, the protection of consumer welfare.
In practice, however, such "complementarity" of goals has resulted, in the United States, into a IPRs' immunity from antitrust intervention.
The European antitrust agencies have shown a more flexible approach which tries to evaluate the overall circumstances of each single case.
European antitrust authorities analyze whether specific factors existed that put the dominant IP owner in such a position to overexploit her exclusive right and unduly constrain competition.
While the European approach has created growing fears into American companies that do business in Europe, actually such approach is not as far-reaching as it may initially seem.
First of all, European antitrust analysis of unilateral practices always requires a finding of dominance in the first place.

Moreover, the mere possession of an IPR has never been judged itself as proof of dominance.
Once dominance has been found, because the mere refusal to license an IP does not amount to an anticompetitive behaviour, several conditions shall be met to find an abuse of dominance.
Such divergence of approaches is also a consequence of a more generalized difference in the antitrust assessment of unilateral exclusionary conduct in the United States and Europe.
With regard to refusals to deal and essential facility cases, United States and Europe have shown different attitudes and ideas of what means are necessary to protect and foster competition.
As shown by the Trinko case, United States intends to protect competition by preserving dominant firms' incentives to compete and innovate.
In order to do so, US antitrust authorities do not force a dominant firm to deal or to license its competitors because this might reduce its incentives to invest and compete to gain a monopolistic position.
European competition law, conversely, has somehow mitigated that view with the idea that a firm who has achieved a position of dominance in the market bear a special responsibility towards the market itself, and so towards its competitors and consumers.
Such firm is not allowed certain conduct which is permitted to smaller competitors, because its position of economic and commercial strength would amplify the effects of such conduct and eventually restrict competition.
This view places lots of significance in the value of openness of markets, as fundamental condition to favour competition.
As far as intellectual property legislations are concerned, both American and European have been framed with an intrinsic pro-competitive balance.
Patent law – at least in theory – restricts the grant of the patent to severe eligibility requirements and circumscribes the scope of protection to what has been precisely discovered and claimed.
Hence, it leaves the room for third parties to invent around the patent.
Similarly, copyright covers only expressions, leaving ideas free to be taken by others.
This room that IPRs envisions for rivals to compete in the same market allows prices, even in the short run, to be driven down.
As a consequence, the assumption that IPRs necessarily restrict competition and damage consumers by diminishing quantities and increasing prices is true only to a certain extent. Competition by substitution is promoted by the same IPRs.

In conclusion, IP paradigms vest inventors and creators with a set of exclusive rights, but such rights do not grant absolute control over their intangible works, nor monopoly power in the economic sense.
Conversely, authors are vested with a degree of market power severely constrained by the presence of substitute products.
In general, only where peculiar economic factors – such as network effects – intertwine with IPRs, does the market power grow and IP become a potential tool for exclusionary strategies.
In such circumstances, often the product covered by IPRs gains an essential position on the market so that IP-owners, by foreclosing its access, can exclude actual and potential competitors.
In these exceptional cases, antitrust intervention is necessary, because competition is restricted, but even the whole innovative process risks being hampered, to the detriment of consumer welfare, which – as seen in this research – should be the fil rouge (in the European Union… at least) for dealing with the liaisons dangereuses between IPRs and market power.

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