

Copyright Exhaustion Rationales and Used Software

A Law and Economics Approach to Oracle v. UsedSoft

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Abstract: This article aims to provide courts and policymakers with an analytical framework that, building upon the traditional rationales of IP exhaustion doctrine, identifies factors which advocate for a modulation or flexibilization of the role of exhaustion in copyright law. Factors include (i) the personal features of acquirers of copies of copyrighted works, distinguishing between consumers and commercial users; (ii) whether post-sale restrictions have been adequately communicated to acquirers and have been agreed in the contract or license; (iii) the degree

of complexity of the acquired goods and their prospects of productive uses and interoperability; (iv) the role of other exclusive rights in providing rightholders with indirect control over uses of the copies in the aftermarket; (v) the impact of post-sale restraints in preventing opportunism in long-term contracts and in reducing deadweight losses created by IP pricing; and (vi) the temporal scope of post-sale restraints. After setting out this analytical framework, the ECJ Judgement in *Oracle v. UsedSoft* is discussed.

Keywords: Exhaustion, Law and Economics, Ownership Rationale, Information Costs

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A. Exhaustion as a structural limitation to aftermarket control

1 The right of distribution plays a substantial role in the exploitation of intellectual property assets and in the commercialization of works protected by copyright law. The right of distribution basically allows rightholders to control the introduction of tangible embodiments of a work into the market and, in this regard, supplements the right of reproduction in cases where the act of reproduction has occurred outside the EU or where the origin of the infringing copies is unknown.¹ Obvious as it may be, this right is not unrestricted: among other limitations, once the rightholder authorizes the transfer or transfers ownership of a copy of the work or the medium in which the work was fixed, she will not be able to prevent

the acquirer from reselling the copy in the aftermarket. Exhaustion of copyright (first-sale doctrine, *Erschöpfung*, *épuisement du droit de mise en circulation*, *agotamiento del derecho de distribución*) and of other intellectual property rights limits rightholders' ability to monitor and control purchasers' conduct in relation to copies of a protected work or products in which the copies have been installed.

2 Article 4(2) of the Directive 2001/29/EC of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society² establishes the general rule providing for the regional exhaustion of the right of distribution in the European Economic Area (EEA).³ In the case of software copies, which are the focus of this article, Article 4(2) of the Directive 2009/24/EC of the European Parliament and the Council of 23 April 2009

on the legal protection of computer programs⁴ codifies exhaustion doctrine in the EU. According to the last provision, the first sale of a copy of a computer program by the copyright owner or with her consent shall exhaust the distribution right of that copy within the European Community (EC), i.e. the EEA.⁵ According to these provisions, transferring ownership of a copy exhausts the distribution right in relation to a specific copy or item of an original work. Yet from a broader analytical standpoint, exhaustion reduces rightholders' control over aftermarket activity by acquirers or third parties in relation to that specific copy or item.

- 3 Both traditional and law and economics scholarship has advocated the limitation of monitoring and controlling powers over further distribution of a copyrighted work, its copies and the products into which the work is incorporated, and has endorsed exhaustion as a sound and socially desirable policy for copyright markets. First, without exhaustion of the distribution right, ordinary dealings in the market would frequently give rise to copyright infringement unless the rightholder had authorized them in advance.⁶ Traditional foundations of exhaustion highlight that markets for copyrighted works would be seriously affected if their participants lacked the minimum security that common events such as a consumer sale implied a potential liability risk for copyright infringement, or if the distribution rightholder had the opportunity, at any time, to seek an injunction and paralyze any business by a third party that consisted in introducing copyrighted copies into circulation.⁷ In this scenario, exhaustion of the distribution right stands as the legal solution to the transaction costs and risks of hold-up that the need for the rightholders' consent would involve for such normal mass behaviours in the market. Second, exhaustion of copyright involves several positive externalities that have been identified in the law and economics literature.⁸
- 4 However, application of the exhaustion doctrine is not without social costs. To put it simply, exhaustion prevents parties from including some covenants and conditions in sales and other transfer agreements, and freedom of contract is thus restricted. In this vein, the doctrine has been heavily criticized from the standpoint of economic analysis of competition law, which in recent years has shown the benefits and pro-competitive effects of vertical restraints and the ability of IP rightholders to engage in efficient price discrimination. Extensive literature on the theory of the firm has shown how post-sale restrictions – or, in general terms, the ability to control post-commercial activities – reduce the need for the vertical integration of firms commercializing IP assets.
- 5 The goals of this article are threefold: 1) to present a critical assessment of the traditional foundations

of exhaustion, which balances the benefits that are ordinarily associated to the doctrine with costs that arise in particular distribution or marketing contexts; 2) to provide an analytical framework for examining issues related to the exhaustion of the right of distribution, which identifies factors that sustain a lower scope for exhaustion in some settings; and 3) to apply this analytical framework to ECJ Judgment of 3 July 2012 in *Oracle v. UsedSoft*. In pursuing these goals, the article is organized as follows: Section B surveys the positive external effects that the doctrine of exhaustion may have in markets for copyrighted works; Section C further describes the rationales identified in traditional legal scholarship to support the exhaustion of the distribution right; Section D critically assesses these traditional rationales against findings from law and economics literature and builds an analytical framework that may help decision-makers in matters concerning copyright exhaustion; Section E applies this framework to the ECJ Judgment in *Oracle v. UsedSoft*; and finally, Section F provides a summary of the article's main conclusions.

B. Spillovers of exhaustion

- 6 Copyright exhaustion entails substantial positive externalities or spillovers which may serve as a justification for the enactment or keeping in force of rules that purport to reduce or eliminate rightholders' control of aftermarkets.⁹

I. Creation of secondary markets

- 7 The doctrine of exhaustion of copyright allows the creation of secondary markets for legal copies and the development of alternative distribution models outside rightholders' control.¹⁰ Thrift stores, bookstores, public libraries and websites like eBay depend to some extent on the previous exhaustion of the distribution right on the products or works that they offer in the market. The immediate social consequence of these alternative distribution systems, outside rightholders' control, is greater public access to works. Moreover, the existence of these alternative systems increases competition in the primary market and encourages rightholders to improve or update their products.¹¹ In this regard it is common for sellers of a copyrighted work in the primary market to put new versions of the same product into circulation – such as remastered CDs, DVDs with new content or new versions of computer programs – in order to compete with those in the secondary market offering lower quality copies or copies with less content.

II. Cultural preservation and access to controversial works

- 8 Exhaustion of the distribution right contributes to cultural preservation: the doctrine facilitates conservation and public access to works that are no longer offered by their producers (works discontinued for financial reasons,¹² works withdrawn for political or ideological motivations, orphan works,¹³ and so on). Again, the existence of multiple copies, beyond the rightholder's scope of control, and their geographical distribution, facilitate greater public access to the work.
- 9 It has also been argued that exhaustion contributes to the protection of privacy and anonymity in cultural consumption: lack of rightholder control allows consumers to transfer copies of works anonymously, which may be particularly important for works with controversial or stigmatizing content.¹⁴ Anonymity in cultural consumption reduces the chances of detection by agents enforcing restrictive social norms and allows greater dissemination of ideas. The dissemination of minority views and new ideas which are opposed to those prevailing in a society at a given time furthers the search for truth in the classical sense promoted by John Milton or John Stuart Mill.¹⁵ Positive externalities or spillovers in the form of education, public debate and the search for truth have a positive effect on social welfare.¹⁶

III. Reduction of transaction costs in IP markets

- 10 The exhaustion of IP rights reduces the transaction costs associated with the need to examine the idiosyncratic properties of products which incorporate copyrighted works – for instance, whether a particular copy can be resold in the aftermarket or not. Consumers or purchasers of copies of copyrighted works would not need to invest more effort, time and money to learn about the particular characteristics of the goods or product concerned and might instead resort to the legal system – i.e. a domestic copyright act – to find out what they can and cannot do with their copies. If producers of copyright-protected goods were provided with greater flexibility in the commercialization of works and could therefore establish certain restrictions or limitations for some copies while distributing others without limitations, an economic burden in the form of information costs and constraints on trading would be created for the public.¹⁷
- 11 Also, other sources of transaction costs are lessened and legal and economic exchanges are consequently protected. Without exhaustion, the prospects of selling a copy in the secondary market would face new

transaction costs that would arise if the copy owner needed to negotiate a license or authorization with the holder of the exploitation rights. First-sale doctrine decreases these transaction costs, including the associated risks generated by hold-up problems.

IV. Decentralized innovation

- 12 The doctrine of exhaustion of rights allows users to modify products, adapting them to their own preferences and interests. This results in an increase in the value that users and consumers ascribe to their purchased goods. As a consequence, decentralized innovation and the development of new products and markets are enhanced.¹⁸
- 13 The doctrine contributes to innovation at least in two ways.¹⁹ First, it allows the modification and processing of a specific copy or product. For example, the purchaser of a piece of furniture may certainly make some alterations and adjustments to it that deviate from the original design, or the purchaser of a book may remove the binding and transform it into a lamp or a backpack. An absolute control by rightholders over aftermarket activities by copy owners would make those innovative modifications impossible. Needless to say, not all modifications would be permitted under the exhaustion doctrine: alterations that affected the copyrighted work and not only specific copies may infringe on the transformation and reproduction rights; or, especially in relation to unique and original works, modifications are obviously subjected to limitations imposed by the moral right of integrity in countries within the '*Droit d'auteur*' tradition and by preservation of cultural heritage rules. Second, the exhaustion doctrine alleviates what is called 'the problem of the future': it prevents restrictions or limitations imposed by the rightholder which were grounded in short-term objectives or reasons from being enforced at a later time at which they are no longer sound, or even prove counterproductive in solving an unanticipated problem.²⁰ Remoteness between a sound post-sale restriction today and an unforeseen problem in the future may involve substantial transaction costs due to the renegotiation of an obsolete limitation for the copy user.

V. Competition between technological platforms

- 14 The doctrine of exhaustion increases competition between technological platforms, and as a consequence it reduces the possibilities of technological lock-in. It allows a user who wants to shift from one technological platform to that of a competitor to transfer ownership of the product (for instance, video games for a particular platform or the video

game console itself) and to recoup some of her investment. Limiting the possibilities of reselling the product would make shifting platforms more burdensome and less likely. Besides, the availability of secondary markets promoted by the exhaustion doctrine makes shifting to new platforms cheaper.

- 15 In spite of all this, the scope of these externalities would need to be contrasted empirically. As the article shows, in some circumstances – depending on the model or type or distribution, such as the kind of work put into circulation or the features of agents in the market – spillovers may prove to be extremely scarce or off-set by the costs of exhaustion on freedom of contract. Exhaustion of the distribution right may indeed have a negative effect on social welfare.

C. Three traditional foundations of exhaustion: reward, market protection and full ownership

I. Origins of the exhaustion doctrine

- 16 The origins of the doctrine of exhaustion of intellectual property rights in Europe can be traced back to the work of the German jurist Josef Kohler (1849-1919), who elaborated on the principle of the connection between the different acts of exploitation (*Zusammenhang der Benutzungsarten*).²¹ According to this principle, legally recognized acts which would involve the economic exploitation of a patent are connected from the moment the invention is produced and end up determining the extent of all the profits a rightholder may obtain from it. Other acts fall outside the scope of the legal entitlement and the patent is deemed exhausted (*Erschöpfung*): the rightholder is not then entitled to any further profits.²² In fact, at the time that the product is made available to the public, the rightholder can anticipate further distribution acts by potential acquirers and internalize this fact in the product prices.²³

II. Reward theory

- 17 The doctrine was soon recognized by German courts in the field of trademark law²⁴ and copyright.²⁵ The principle of the connection between different exploitation acts is fundamentally linked to the basic notions of the theory of reward (*Belohnungstheorie*), which the rightholder may obtain by distributing copies of a copyrighted work or products distinguished by a trademark.

III. Full ownership theory

- 18 Another basis for the doctrine of exhaustion of the distribution right lies in the idea of full or unconditioned ownership (*Eigentumstheorie*). According to this rationale, the function of exhaustion is to provide the purchaser with a copy of a work which encompasses the bundle of rights that are ordinarily assigned to property: once ownership of a copy is acquired, the owner is presumed to be entitled to exercise all rights attached to the legal status of property. This argument, embraced by the first *Reichsgericht* case, was later abandoned:²⁶ during the last century the expanding notion of property was eroded and has been progressively replaced by a paradigm in which limitations to property rights are observed and are deemed part of its definition. In the case of copyrighted works, the existence of other exclusive rights and related rights over the work contained in the copy involves a restrictive interpretation of the *usus* or the set of behaviours that the owner of a copy may engage in. The bundle of rights provided by copyright is understood as an allocation of different property rights among different individuals. Even individuals other than the contracting parties may have some property rights over the copyrighted work, such as the right to create a parody, for instance, or other fair uses. In other terms, full or unconditioned property is merely an illusion.

IV. Market and legal certainty protection theory

- 19 A third rationale for the exhaustion of intellectual property rights is based on the idea of protecting the market and legal certainty (*Verkehrssicherungstheorie*). As mentioned earlier, restricting rightholders' control over distributed copies of a work serves to protect legal and economic exchanges and to prevent transaction costs that would arise if acquirers of a copy had to negotiate a new license or authorization every time they envisioned a new form of use for the copy. Moreover, legal certainty is also promoted if the idiosyncratic features of goods are confined and the law is used as the focal point to determine what users can do with their own copies of the goods. Besides the transaction costs associated with checking goods' particular characteristics and negotiating a new license or agreement, costs related to hold-up situations have to be considered as well: rightholders may abuse their bargaining position and try to extract the whole surplus created by the new allocation of rights – i.e. the results of specific investments made by users in gathering information about new uses of the copies or work.
- 20 Protection of markets and legal certainty, together with the reward rationale, are currently the main foundations of the exhaustion doctrine.²⁷ However,

the very idea of providing legal certainty in economic exchanges may be used to attack some of the doctrine's traditional features, as this article will show: protection of legal certainty may sometimes be achieved by less costly remedies and institutions, which may serve to adequately inform the acquirers of goods that incorporate copyrighted works and perform this function without hindering potentially efficient marketing strategies such as price discrimination or socially beneficial vertical restraints.

D. The erosion of traditional exhaustion foundations

I. Limits to the full ownership rationale: productivity, interoperability and the modulation of exhaustion rules

1. Property as a bundle of rights and the right of use

- 21 As previously mentioned, the idea of full ownership has mainly disappeared from modern discussions about the concept of property in private law theory. Although it has been subjected to many critiques, the notion of property understood as a bundle of rights seems to have gained acceptance and even esteem among private law scholars.²⁸ Within this framework the conjunction of law, contract and technology yields the final allocation of the rights comprised in the bundle at a given time among right-holders, copy owners and third parties.
- 22 The use of a good – *usus* in the Roman law tradition – is one of the main rights that is ordinarily presumed of proprietors. Copyright law does not explicitly recognize a generic exclusive right of use. Therefore, and at least in principle, authors or copyright holders do not have the right to control how owners actually use their copies of the copyrighted work, and the copies' proprietors are allowed to use them at their will. Moreover, there is no legal provision in EU law to establish that a right of use shall be deemed exhausted if some circumstances or requisites concur. Within this normative setting, the copyright holder who owns the exclusive rights over a literary work and sells copies of the book with the restriction that it can only be read on weekends, or the rightholder that gives promotional CDs to radio stations with a notice establishing that they cannot be resold, will lack any opportunity to bring an action for copyright infringement against the direct purchaser who reads the book on a Monday or against the radio station which resells the CD on eBay. If a contractual relationship or other enforceable promise were established, the copyright holder could then only bring an action for breach of contract or promise against the purchasers.²⁹ However, these actions would not be available against subsequent or remote purchasers since the latter would not be in a contractual or obligatory relation with the rightholder.³⁰ Privity of contract eliminates the availability of remedies for breach.

2. Productive and non-productive uses

- 23 It makes sense that in non-complex products – that is, copies of goods that are not really susceptible to productive uses, or that, in fact, do not interoperate or interoperate minimally with other products or services – the control that the rightholder may exercise over purchasers' activity is to be understood as non-existent, and a strong rule of exhaustion of distribution rights is promoted.
- 24 When mentioning the prospect of productive uses, I am not implying that the work embedded in a copy cannot be successfully transformed or adapted – for instance, through the cinematographic adaptation of a book. I am referring instead to the functional characteristics of the copyrighted work and the frequent interrelated use of the copy with other goods and services, namely computers.
- 25 In this respect, if a company buys a batch of copies of a printed book, its goal is likely to be to resell them to other companies or consumers. It makes sense that the rightholder should not be entitled to restrict the resale of copies of this kind of product and that the right of distribution should be deemed exhausted with the rightholder's first sale of the products or with her consent. In this context, there are sound arguments against the possibility of introducing restrictions on the use of copies in aftermarkets for consumers or final users.³¹
- 26 On the other hand, putting acts of reproduction aside, if a company buys a batch of software copies, it may be interested in reselling them to end consumers, but its aim may also be to install them into other products (e.g. computers, home appliances or cars) and to sell the latter goods in the market. Software acquirers can also commercialize the software copies purchased together with other computer programs that they have developed.³² In this context, a computer program's interoperability with hardware or other software may advocate a greater degree of rightholder control over these prospective uses. The prospects of productive interaction with other products or services suggest that it may be reasonable and socially desirable to extend the scope of the control that rightholders may continue exercising once the product has left their commercial sphere. More scope for modulating the effects of exhaus-

tion or for opting out of its legal regime should perhaps be provided.

3. Uses linked with other IP exclusive rights

a.) Right of reproduction: Ram copies

27 Indeed, in the latter category of products, their use either in isolation or in interaction with other products would frequently require acts of the exploitation of exclusive rights other than the right of distribution. Despite prior distribution, the ordinary use of copies in this category of products remains to some extent under the rightholder's control. This is particularly true of computer programs whose functional definition raises problems related to the limits of exhaustion.

28 For technical reasons, the use of computer programs requires acts of reproduction: running a software application on a computer necessarily involves having one or more Random Access Memory copies (RAM copies) in the machine it is installed or run on.³³ Because of the exclusive right of reproduction, copyright owners have some control over software users' activities. In other terms, the right of reproduction entails an indirect form of control over use in this category of functional goods or products.

29 Article 4.1(a) of the Software Directive establishes that

[...]the exclusive rights of the rightholder [...] shall include the right to do or to authorise: (a) the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole; in so far as loading, displaying, running, transmission or storage of the computer program necessitate such reproduction, such acts shall be subject to authorisation by the rightholder.

30 Hence RAM copies require copyright owner authorization or some other specific authorization established in the law.³⁴ With the aim of preventing hold-up situations, Article 5 of the Software Directive provides for some legal authorizations limiting the exclusive right of reproduction:

1. In the absence of specific contractual provisions, the acts referred to in points (a) and (b) of Article 4(1) shall not require authorisation by the rightholder where they are necessary for the use of the computer program by the lawful acquirer in accordance with its intended purpose, including for error correction. 2. The making of a back-up copy by a person having a right to use the computer program may not be prevented by contract in so far as it is necessary for that use. 3. The person having a right to use a copy of a computer program shall be entitled, without the authorisation of the rightholder, to observe, study or test the functioning of the program in order to determine the ideas and principles which underlie any element of the program if he does so while performing any of the acts of loading, displaying, running, transmitting or storing the program which he is entitled to do.

b.) Right to prepare derivative works

31 Authorization to prepare derivative works may also be required, depending on the type of actions necessary to carry out specialized or productive uses of the software program. For example, the developer of a new software program may generate a composite or derivative work as a result of incorporating library calls to an external source and will therefore need authorization to market the new software program from the holder of the right of transformation.³⁵

4. Flexibility of exhaustion in complex products

32 This article advocates distinguishing between copies of works that have a high degree of interaction and non-productive copies. The greater the degree of interaction and productivity, the greater the flexibility of exhaustion: the existence of other exclusive rights that serve as indirect control over users' activities calls for more room to control distribution and for the scope of copyright exhaustion to be more limited.

II. Limits to market protection and legal certainty rationale: Information costs, idiosyncratic goods and agent identity

1. Information costs caused by idiosyncrasy in goods

33 Exhaustion of IP rights reduces the transaction costs associated with the need to check the idiosyncratic properties of products which incorporate copyrighted works. Exhaustion thus protects certainty in legal and economic exchanges and prevents new transaction costs arising from the burden on copy owners of negotiating a new license with the copyright holder or the risks generated by hold-up problems associated with rightholders' interest in demanding a greater share of the profits or extracting them all.

34 This rationale highlights the information problems that lack of copyright exhaustion and greater control of subsequent distribution may bring about in the market. As previously established, exhaustion can be understood as the legal solution designed to reduce transaction costs, since it removes the need for potential acquirers to examine the idiosyncratic features of non-technologically complex copyrighted goods. Consumers or purchasers can use the law as the focal point for learning what they can and can-

not do with the copy they use or own. If greater flexibility were available to producers of those goods, they could decide to establish restrictions or limits on certain kinds of use for some copies while offering other copies without these restrictions at the same time. This possibility would create a burden for market participants, who would have to invest more effort and money to learn about the characteristics of goods. In a highly influential law review article, Thomas W. Merrill and Henry E. Smith argued that the legal solution consisting of defining an optimal set of standardized property rights and the prohibition on creating new idiosyncratic rights in rem serve to prevent or reduce such costs for third parties in the market.³⁶ Although the article focuses on the analytical explanation of the *numerus clausus* doctrine, its findings prove useful to understand exhaustion's role in copyright law.³⁷

- 35 The *numerus clausus* doctrine serves to reduce information costs for third parties, including both potential acquirers of property rights and individuals interested in not infringing others' property rights. To that end, the law establishes an optimal standardization of legal property rights. Standardization affects both the number of rights and their content and scope, and therefore contracting parties are prevented from creating new rights in rem and from altering the content of rights defined by the law. Optimal standardization is determined by the trade-off between the utility of having a larger catalogue of rights in rem and the confusion that the configuration of new rights would bring about.

2. Trade-off between measurement costs and frustration costs

- 36 Merrill and Smith identify two kinds of costs involved in the trade-off: measurement costs, which affect third parties outside the contract that creates a new property right; and frustration costs, affecting the contracting parties themselves who are deprived of creating a right in rem according to their own wishes and interests and observe the curtailment of their freedom of contract.

a.) Measurement costs

- 37 Measurement costs are borne by the parties outside the contract – future successors of the contracting parties as well as other market participants – and are not internalized by the parties when self-regulating the uses of specific goods; that is, when allocating the different property rights over the goods. Permitting a contractual design of an idiosyncratic system and the consequent modification of the contours of a legal right (e.g. the creation of a right consisting of only performing a particular musical work

in public in spring and summer) also affects remote purchasers: knowing that some market participants have introduced idiosyncratic restrictions on their goods, remote purchasers will need to inform themselves about the legal characteristics of the goods they are interested in acquiring, even though they are not contracting with the parties that designed the particular idiosyncratic allocation. In order to prevent this negative externality, Merrill and Smith advocate the mandatory standardization of property rights: first, the number of basic forms of property rights ought to be limited to provide market participants with incentives aimed at reducing the efforts and costs involved in finding out whether the property right they are interested in acquiring fits with those established in the legal catalogue; and second, rights in rem with idiosyncratic features that are not established in the legal catalogue will not be enforceable by courts and other adjudicators.

b.) Frustration costs

- 38 Frustration costs, on the other hand, comprise the consequences that limiting freedom of contract has on the parties' interests. Mandatory standardization – or, in our case, the inability to mitigate or modulate the legal effects of exhaustion by validating aftermarket restrictions – does not come without costs. The parties will sometimes be unable to achieve their desired legal outcome, or on other occasions doing so will be more expensive. Indeed, the inability to opt out of the exhaustion of the distribution right would mean that the rightholder will not be able to avoid arbitrage – i.e. limiting the opportunities for potential acquirers to obtain the goods or service from sellers other than the rightholder and who acquired them at an inferior price. They will thus have fewer opportunities to engage in efficient price discrimination.³⁸ Moreover, the impossibility of enforcing certain vertical restraints will result in a reduction in the incentives to enter into long-term contracts for manufacturing and distributing copies of copyrighted works. Finally, taking into account the inherent uncertainty of technological innovation, an over-rigid exhaustion right may increase frustration costs due to the unfeasibility of the right's accommodating unanticipated innovation or new state-of-the-art developments.³⁹

3. Reduction of information costs

- 39 Henry E. Smith developed this analytical approach in the field of intellectual property rights in a later article.⁴⁰ In his opinion, an optimal legal regulation of intellectual property rights cannot be guaranteed, but it may serve as a point of reference that parties may resort to when allocating different property rights over a protected work or a copy thereof.⁴¹ This le-

gal regulation's ex-ante availability provides a basic framework that may be used to identify rights in the market and as a cost reduction device, since it contributes to the understanding of their scope.

- 40 However, one must consider that there are some alternative mechanisms that may also entail transaction cost reduction for potential purchasers. Digital licenses may provide the necessary information about the terms of use of digital copies.⁴² In this regard, providing information about the terms of use – the allocation of property rights – may be easier and cheaper for digital copies than for tangible goods.⁴³ As a consequence, the availability of these informative tools may serve as grounds for advocating broader freedom of contract or private ordering in the field of digital works and a more flexible exhaustion regime.⁴⁴
- 41 Another transaction cost reduction device has its origins in the sophistication and specialization of some agents in the market. In general terms, legal systems establish uniform rules on IP rights exhaustion which do not contemplate the different personal features of potential acquirers of copies of works and provide for the same legal effects for both companies and consumers. This uniformity contrasts with the legal solution provided for other issues (among others, legal warranties for lack of conformity, contract formation, liability limitations and exclusions, or the right of withdrawal) which would usually depend on purchasers' personal characteristics.
- 42 Specific knowledge, comparative advantages, and repeated interactions will usually entail fewer information costs and efforts and therefore may serve as a basis for a more flexible exhaustion regime.⁴⁵ The effects of exhaustion may be linked to the specific characteristics of agents in the market, and distinguishing between different groups of potential acquirers – namely, commercial producers and consumers – may prove socially desirable.⁴⁶ Modifying exhaustion's legal effects will thus be admissible when sufficient information has been conveyed to potential acquirers, when there is consent as to its inclusion into the contract, and when the acquirer is a specialized agent in the market.

4. Exhaustion as an obstacle for pro-competitive post-sale restrictions

- 43 Despite the information externalities created by the exhaustion of the distribution right and its impact on social welfare, the application of its legal effects may have other costs that should be balanced in the trade-off. Following the terminology coined by Merrill and Smith, a mandatory exhaustion rule and the correlative reduction in post-sale control involve frustration costs for parties interested in allocat-

ing property rights over copyrighted works. In this regard, the doctrine of exhaustion has been heavily criticized from law and economics perspectives, which have highlighted the pro-competitive effects of vertical restraints in contracts and the efficiency-enhancing nature of price discrimination in some settings.⁴⁷ A strong mandatory exhaustion rule may frustrate the availability of these strategies.

a.) Vertical restraints: Concept and classification

- 44 For the purposes of this article, the vertical restraints will be examined. Unlike horizontal restraints, vertical restraints appear in situations in which the contracting parties are not competing in the same market. Post-sale restrictions are a form of vertical restraint imposing some restrictions or conditions upon how goods may be used or commercialized after a first sale.⁴⁸
- 45 Vertical restraints are usually classified as 'intra-brand' or 'inter-brand' restraints. The former refer to limits on how the seller's product may be distributed or used afterwards. Common examples of intra-brand restraints include the establishment of resale prices (RPM), sales area segmentation, client group segmentation, commercial guarantees, post-sale maintenance or repair services and field-of-use restrictions. Inter-brand restraints, however, deny acquirers the possibility of using the goods together with products or services offered by third parties or limit acquirers' commercializing of products or services offered by third parties. The two main examples of inter-brand restraints are tying agreements and exclusive distribution.

b.) Positive externalities of vertical restraints

- 46 Although vertical restraints may sometimes be used with anti-competitive purposes, they frequently enhance social welfare and reduce opportunism in long-term contracts. Because of these positive externalities, competition law has viewed their legal validity in a more positive light in recent decades.⁴⁹
- 47 In contrast with horizontal restraints, parties in a vertical agreement share an interest in an increased level of market competition. For instance, sellers and producers profit when there is a high level of competition among different providers, and also when no single distributor has sufficient market power.
- 48 Vertical restraints also allow firms to profit from the advantages associated with the vertical integration of the firm but without having to face the costs arising from property rules on the firm's organization.⁵⁰

- 49 Moreover, vertical restraints provide distributors with the incentives to make specific investments, in the context of a long-term contract, in order to expand a local market and to offer pre-sale and post-sale services without incurring the risk that the principal may opportunistically profit from those investments afterwards. In this vein, the development of an efficient distribution system, which proves beneficial to all parties to the contract and also to consumers, requires that some specific investments are made to identify needs in the local market; to abide by all domestic regulations; to engage in promotional and advertising campaigns aimed at local consumers; to provide pre-sale services such as free samples; to participate in fairs and exhibitions; and to provide post-sale services such as maintenance services, technical assistance, repair services and management of legal and commercial guarantees.
- 50 If the holder of exclusive rights over the work is vertically integrated and assumes all distribution and sale services for third parties, she will make the appropriate investment decisions to commercialize the product in the local market. However, on many occasions it would be cheaper to avoid such vertical integration and to enter into contracts with specialized agents in the local market who will be in charge of distributing the products. If these agents cannot be certain that a third party is not able to extract a profit from the specific investments they have previously made, they will lack the necessary incentive to enter into a contract with the rightholder in the first place. If agents who have developed the necessary infrastructure for commercializing the products and informed the local public about the goods cannot prevent a new distributor entering the local market and offering the same products at a lower price, the positive externalities associated with distribution systems will not exist.

c.) Vertical restraints in the Technology Transfer Block Exemption Regulation

- 51 This pro-competitive understanding of vertical restraints has been accepted by European institutions, in particular the European Commission. In the field of software contracts, the Commission passed Regulation (EC) No 772/2004 of 27 April 2004 on the application of Article 81(3) of the Treaty to categories of technology transfer agreements (hereinafter 'TTBER').⁵¹ The TTBER and accompanying Guidelines⁵² explain the new approach to vertical restraints in software agreements and other technological dealings, how the regulation should be interpreted, and how Article 81 EC Treaty – now Article 101 of the Treaty on the Functioning of the European Union (hereinafter 'TFEU') – applies to licensing agreements not covered by the regulation. The function of the TTBER is to apply Article 101(3) of the TFEU to

technology transfer agreements. Article 101(1) prohibits undertakings from entering into agreements which have as their object or effect the prevention, restriction or distortion of competition within the common market, whereas Article 101(3) exempts such agreements if they improve the production or distribution of goods or if they promote technical or economic progress, provided they do not impose unnecessary restrictions on the undertakings involved nor enable the undertakings to eliminate competition in the relevant product market. According to the Commission, licensing agreements, though capable of having anticompetitive effects, often also have pro-competitive effects. They promote innovation because they allow innovators to earn the returns of their research and labour; and they promote dissemination of technical knowledge and information, which leads to the production of new or more sophisticated goods.⁵³

- 52 Pro-competitive effects of vertical restraints, as reflected in the TTBER and the accompanying Guidelines, mainly occur in situations of shared production of goods between undertakings that are not vertically integrated. As expressed in the Guidelines,

efficiencies at the level of the licensee often stem from a combination of the licensor's technology with the assets and technologies of the licensee. Such integration of complementary assets and technologies may lead to a cost/output configuration that would not otherwise be possible. For instance, the combination of licensors having improved technology with licensees having more efficient production or distribution assets may reduce production costs or lead to the production of a higher quality product.⁵⁴

- 53 Pro-competitive effects occur immediately after the first sale of the product has taken place or shortly after the first transfer of ownership.⁵⁵
- 54 The aforementioned pro-competitive effects of vertical restraints obviously do not occur in all distribution and commercialization scenarios. Hence it is possible to advocate a strict mandatory rule of exhaustion in situations in which these effects are non-existent or insignificant. This can be the case with contracts which do not aim at shared production of goods (mainly contracts with consumers) and with restraints which include limitations for an excessive period of time, and this can aggravate the problem of the future.

III. Limits to the reward rationale: Internalization of price discrimination strategies

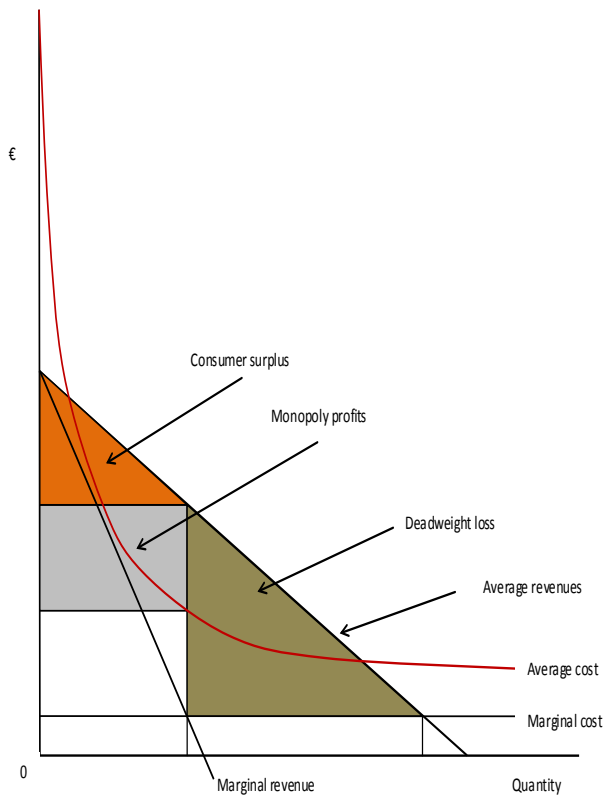
- 55 According to the reward rationale, the producers of copyrighted works would be entitled to the prof-

its dictated by market conditions at the time they put them into circulation but are not entitled to reap other earnings when purchasers or users try to transfer the products to third parties. In fact, the producers may anticipate that some of the copies will be transferred to third parties in the second-hand market and can reflect this eventuality in the price of their products. The fact that some potential purchasers may prefer to obtain a used copy instead of paying the producer for a new one may lead the producer to demand a higher price for the copy should market conditions concur.

- 56 The reward rationale for exhaustion seems to forget that the product's features will have an impact on its price and consequently on the profits that the producer may earn. The product's features include not only quality or performance attributes but also the allocation of property rights over the copy among the parties. The more the purchaser can do with the product, the higher the price; the more restricted the purchaser's use of the goods, the lower the price. In other terms, the license is also the product, and the price internalizes the terms of use.
- 57 Including the license as a product feature mainly requires that the producers are able to enforce it and to avoid arbitrage. If the license cannot be enforced and, in particular, if a resale prohibition is deemed unenforceable, the producer will probably be encouraged to increase the price of her products; as a result, some purchasers may be deprived of the goods because they cannot meet the new price. Producers who anticipate that exhaustion will make these reselling restrictions unenforceable will have fewer incentives to produce the goods in the first place. Moreover, they might also be encouraged to develop additional technical measures or other arrangements to avoid the copies being resold on the market. These measures, of which planned obsolescence is one, are costly both privately and for society.
- 58 A strict mandatory exhaustion rule may frustrate welfare-enhancing price discrimination strategies. The right of distribution allows the rightholder to choose how the copyrighted copies of works will be put into circulation, the distribution channels, whether ownership is transferred, the products' price and the limitations on their use according to the market structure at a given time.
- 59 By using the right of distribution, agents in charge of commercializing a copyright-protected work may implement price discrimination strategies that may increase social welfare.⁵⁶
- 60 In the field of software agreements, producers normally offer different versions of the same computer program to different groups of individuals. For instance, students and academics are offered lower-priced versions, while higher-priced versions are sold to commercial users such as professionals and companies. Legal databases are also priced differently for university libraries and law firms. In general terms, price discrimination involves charging different consumers different prices for access to the same goods or service when the variation cannot be explained by differences in the cost of producing the respective versions.⁵⁷ Firms that resort to price discrimination usually make more profits. However, price discrimination is not always available, and certain circumstances may have to concur to be able to engage in it:
- a The seller must have market power. Substitute goods or services must not be accessible in the market.
 - b The seller must be able to prevent arbitrage – that is, restrict the possibility that potential acquirers may obtain the goods or service from another client (not the seller) who obtained it at an inferior price.⁵⁸
 - c The seller must be able to discriminate among potential clients and identify to some extent the different valuations that they assign to the goods or service.
- 61 As mentioned earlier, charging different prices will also involve different allocations of property rights – that is, the different versions of the products will be conditioned to different terms of use. For instance, the market may be chronologically segregated and a higher price charged to consumers who are interested in accessing the work in the first place. Different formats of the work may also be put into circulation at different prices (hardcover versions, paperback, pocketbooks and e-books). Price may depend on the volume or amount of use that is intended by the consumer: in the field of software licenses the price or a part thereof is usually set according to the number of concurrent sessions of the computer program or the number of machines on which the program is installed or accessible. Using different terms of use is also a price discrimination strategy. In this regard, the allocation of property rights included in a software license may impact the price of the product, and consumers who are provided with a broader scope of use will probably be charged a higher price. For instance, consumers who are deprived of the right to resell the product will probably pay less than those who are afforded this possibility.
- 62 The conventional law and economics literature on intellectual property law is generally optimistic about price discrimination for copyrighted works and other products protected by IP rights.⁵⁹ Price discrimination is perceived as Pareto-efficient since it may help to reduce the deadweight losses that in-

lectual property law involves for establishing prices.⁶⁰

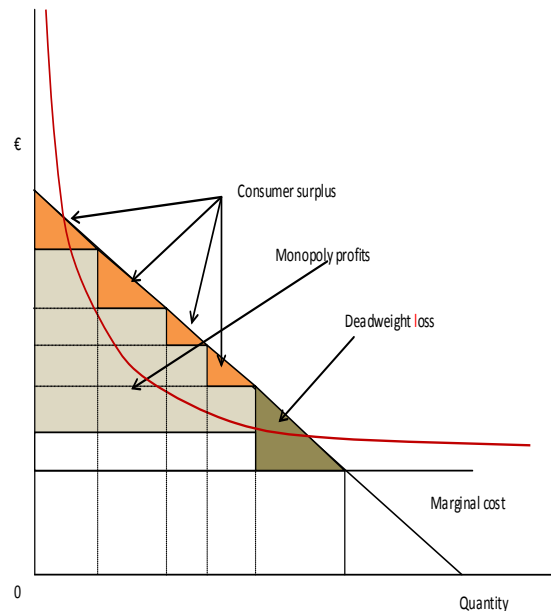
63 According to neoclassical economics, producers in a competitive market are expected to price their goods at the marginal cost of distribution, i.e. the cost of supplying the next additional unit to consumers. It is assumed that competition in the market will lead producers to price at marginal cost. Intellectual property rights are presumed to be public goods since they are non-rivalrous and non-exclusive goods. The marginal cost of distributing public goods is zero, i.e. it costs nothing for the next consumer to enjoy the goods. Anticipating this, producers will rationally not invest in producing the work or invention in the first place. Intellectual property law allows producers to charge prices above marginal cost and, in doing so, provides incentives for the creation and development of new inventions that would otherwise be under-produced. Producers of goods protected by intellectual property law may to some extent charge prices as if they were a monopoly:



64 Intellectual property law provides an opportunity to charge prices above marginal cost and to reap profits greater than zero. However, this is not without social costs: artificially raising prices and restricting output may price certain consumers out of the market. Consumers who would have enjoyed the product for free, who valued it above the marginal price but below the monopoly price, will be unwilling or unable to meet the higher monopoly price. This wasting of consumer surplus is a social cost known among

economists as the deadweight loss of gains that go unrealized either to the producer or the consumer.⁶¹

65 If producers are allowed to charge different client groups different prices, the deadweight loss is reduced. Obviously, some of the gains made will go to the producer, but consumers who value the product above the marginal cost of production but below the profit-maximizing price will gain access to the work. As a consequence, price discrimination, besides being efficient, is also frequently said to be fair because it redistributes welfare:



66 However, it is impossible to conclude as a matter of principle that price discrimination increases social welfare. It may sometimes increase the deadweight loss if some market characteristics concur. The effects of price discrimination on social welfare basically depend on the conditions of the market in which the strategy is implemented.⁶² Michael Meurer has suggested that in cases in which a bigger deadweight loss and output restriction occur, the prospect of higher profits for firms may encourage innovation and therefore price discrimination should be allowed: the increase in the deadweight loss may be compensated by the dynamic efficiencies arising from innovation.⁶³ Moreover, price discrimination does not always involve output restriction; in many instances, it will generate a larger quantity of goods on the market, which promotes economies of scale.⁶⁴

67 In any case, uncertainty about the impact of price discrimination on social welfare ought not to mean that these strategies should be banned and post-sale restrictions should be unenforceable. Price discrimination externalities would actually depend on the market traits of a specific industry and their effects should be empirically contrasted.⁶⁵

IV. Summary of critiques of the traditional rationales of exhaustion

- 68 The legal and judicial delimitation of exhaustion and of the powers of control established by right-holders over the use of copies in the aftermarket through post-sale restrictions would impact the viability of vertical integration and price discrimination strategies.
- 69 This article advocates a more flexible approach to the exhaustion of the right of distribution, especially in the field of software agreements and licenses. As has been shown, if certain circumstances concur, relaxing the legal effects of exhaustion or permitting the parties to contract to opt out of its legal consequences may prove welfare-enhancing.
- 70 There are several elements that can be factored into the decision to allow producers a greater degree of control over the aftermarket, basically aiming to provide incentives to innovation and the creation of new works in the first place. The concurrence of these elements advocates the possibility of applying exhaustion rules more flexibly, as some courts have done when deciding software licensing cases. Among these elements, adjudicators should take into consideration (i) the personal characteristics of acquirers of the copyrighted copies of works – basically whether they are acting as consumers and whether they will use the products for commercial or non-commercial purposes; (ii) whether adequate and sufficient information about post-sale restrictions has been conveyed to the purchaser who accepted them in the contract; (iii) the degree of productivity and interoperability of the purchased goods – basically whether the copies in question embody complex or non-complex products; (iv) the degree of indirect control that rightholders may have over the uses of copies through other exclusive rights – namely, the right of reproduction and the right to prepare derivative works; (v) the impact of post-sale restraints in preventing opportunism in long-term contracts and in reducing deadweight losses created by IP pricing; and (vi) the temporal scope of post-sale restrictions. If these circumstances – or at least some of them – concur, and as a result the producer can prove that the post-sale restrictions have pro-competitive effects, exhaustion should be displaced and the restriction enforced.⁶⁶
- 71 What follows is a critical discussion of a recent case decided by the European Court of Justice concerning exhaustion of the distribution right in the field of used software. In this case, the Court adopts a mandatory and strict regime for the exhaustion of copyrights, which if applied indiscriminately may curtail efficient strategies in the distribution and commercialization of computer programs in the European Union.

E. Digital exhaustion: The special regime for computer programs and the ECJ Judgment in *Oracle International Corp. v. Usedsoft GmbH*

I. Facts of the case

- 72 The increase in the digital transmission of software copies through the Internet and the development of new software commercialization and distribution models have actually required a new legal interpretation of the contours of the exhaustion doctrine both at the EU level and in domestic jurisdictions. The ECJ has recently resolved a reference for a preliminary ruling from the German Supreme Court⁶⁷ concerning the exhaustion of the right of distribution in computer programs offered on the Internet: *Oracle International Corp. v. Usedsoft GmbH*.⁶⁸
- 73 Oracle International Corp., the plaintiff in the case, develops and markets computer programs. Oracle basically distributes its software (mainly client-server software) via Internet downloading; in fact, direct downloads from the Internet represent 85% of the company's distribution activity. Clients do not receive a CD or DVD with the computer program unless they specifically ask for one. When commercializing its client-server software, Oracle uses a mixed second- and third-degree price-discrimination strategy:⁶⁹ companies are offered the client-server software with fewer restrictions on group licenses for a minimum of 25 users per group, so if a customer requires that 30 of its employees be able to use the software issued, it will have to acquire two licenses. However, it offers more restrictive licenses and products to other sorts of clients.
- 74 The right to use the program, governed by the license agreement, included the right to store a copy of the program permanently on a server that could be accessed by a certain number of users who would make temporary copies on their own computers. Updates and patches for correcting errors could be downloaded from Oracle's website.
- 75 In the case in question, Oracle's license agreement contained the following term, under the heading, 'grant of rights': 'With the payment for services you receive, exclusively for your internal business purposes, for an unlimited period a non-exclusive non-transferable user right free of charge for everything that Oracle develops and makes available to you on the basis of this agreement.'
- 76 The defendant, UsedSoft GmbH, was a German company that offered 'second-hand' or 'already used' licenses for computer programs on the market. In October 2005 UsedSoft promoted an 'Oracle Special Offer' in which it offered 'already used' licenses

for the Oracle programs and informed prospective customers that the licenses were valid and updated and that the lawfulness of the original sale was confirmed by a notarial certificate.

- 77 UsedSoft had acquired the licenses from Oracle clients who had requested group licenses for a larger number of users than they actually needed as a consequence of the licensing policies.
- 78 After acquiring a license, UsedSoft's clients either downloaded a copy of the Oracle software directly from Oracle's website or, if they were already in possession of the computer program in question, were induced to copy the program onto the additional user's work station.
- 79 Oracle filed a lawsuit against UsedSoft for copyright infringement, trademark infringement and unfair competition practices. In relation to the copyright infringement claims, according to Oracle, the actions of UsedSoft and its customers infringed the company's exclusive rights of reproduction and distribution. The District Court in Munich granted Oracle's application in a Decision issued on 15 May 2007.⁷⁰ This Decision was upheld by the Court of Appeal in a Judgment rendered on 3 July 2008 in which UsedSoft's appeal was dismissed.⁷¹
- 80 UsedSoft then appealed against the Judgment to the Federal Supreme Court, which decided to stay the proceedings and refer to the ECJ for a preliminary ruling. The following questions were referred to the ECJ:⁷²
1. Is the person who can rely on exhaustion of the right to distribute a copy of a computer program a 'lawful acquirer' within the meaning of Article 5(1) of Directive 2009/24?
 2. If the reply to the first question is in the affirmative: is the right to distribute a copy of a computer program exhausted in accordance with Article 4(2) of Directive 2009/24 when the acquirer has made the copy with the rightholder's consent by downloading the program from the Internet onto a data carrier?
 3. If the reply to the second question is also in the affirmative: can a person who has acquired a 'used' software license for generating a program copy as a 'lawful acquirer' under Article 5(1) and Article 4(2) of Directive 2009/24 also rely on exhaustion of the right to distribute the copy of the computer program made by the first acquirer with the rightholder's consent by downloading the program from the Internet onto a data carrier if the first acquirer has erased his program copy or no longer uses it?
- 81 The Court addresses the second question first and discusses whether and under what conditions the downloading from the Internet of a copy of a computer program, authorized by the rightholder, involves the exhaustion of the right of distribution. In this regard, it has to be decided whether a software download in the context of a license agreement may be regarded as a 'first sale' within the meaning of Article 4(2) of Directive 2009/24. The ECJ answers the question in the positive.
- ## II. The concept of sale: Downloads as first sales for exhaustion purposes
- 82 After stating the need for a uniform application of European Union Law,⁷³ the ECJ declares that, since Directive 2009/24 does not make any reference to domestic laws as regards the meaning of sale, an autonomous concept shall be adopted.⁷⁴
- 83 In adopting this autonomous concept, the ECJ refers to a pragmatic definition of 'sale', which is understood as 'an agreement by which a person, in return for payment, transfers to another person his rights of ownership in an item of tangible or intangible property belonging to him' (Para. 42). In assessing whether Oracle's commercialization system fits with this definition, the Court examines its underlying economic function and states that the downloading of a copy of a computer program and the conclusion of a user license agreement 'form an indivisible whole' (Para. 44), together with the installation of patches and updates (Para. 68). When downloading the copy from the Internet and concluding the license agreement, Oracle's customers receive a right to use the copy for an unlimited period in return for payment. The Court uses the reward rationale to affirm that the copyright holder is able to 'obtain a remuneration corresponding to the economic value of the copy of the work of which it is the proprietor' (Para.45) and should not therefore be able 'to control the resale of copies downloaded from the Internet and to demand further remuneration on the occasion of each new sale, even though the first sale of the copy had already enabled the rightholder to obtain an appropriate remuneration' (Para. 63).
- 84 Examined as a whole, the economic substance of Oracle's commercialization system shows that ownership of the copy has been transferred to the customer (Para. 46) and it makes no difference to the Court whether the copy of the computer program was made available to the customer by the rightholder by means of a download from the rightholder's website or by means of a tangible medium such as a CD-ROM or a DVD (Para. 47).⁷⁵ In both cases, the right to use the downloaded copy or the tangible copy depends on the conclusion of the license agreement.

85 The Court follows the opinion of the Advocate General,⁷⁶ who had supported a broad interpretation of ‘sale’ within the meaning of Article 4(2) as comprising ‘all forms of product marketing characterized by the grant of a right to use a copy of a computer program, for an unlimited period, in return for payment of a fee designed to enable the copyright holder to obtain a remuneration corresponding to the economic value of the copy of the work of which he is the proprietor’. If rightholders had the opportunity to qualify the agreement as a ‘license’ instead of a sales contract, the rule on exhaustion could be circumvented. This solution is in contrast with widespread practice in US case law, which in many cases has embraced software exceptionalism⁷⁷ and has held that software licenses do not transfer ownership and cannot be deemed ‘sales’ for ‘first sale doctrine’ or ‘essential step defense’ purposes.⁷⁸

III. Exhaustion applies only to software copies but not to other digital copies downloaded from the Internet

86 The Court also disregards the application of the ‘right of making available to the public’ established in Article 3(1) of the Information Society Directive to software downloads. According to this provision, copyright holders have a right to make their works available to the public in such a way that members of the public may access them from a place and at a time individually chosen by them; and this right shall not be exhausted.⁷⁹ The Software Directive constitutes a *lex specialis* in relation to the provisions of the Information Society Directive (Para. 51). Moreover, the existence of a transfer of ownership of the intangible copy transforms an act of communication to the public into an act of distribution (Para. 52). Therefore, there is a stark difference in the EU between software that is downloaded from the Internet and other digital works – such as e-books, digital music and videogames – that are also accessed through the Internet. In the latter category, as no distribution acts occur, exhaustion does not apply and rightholders have greater control powers over the aftermarket. This conclusion does not fit with the findings of this article, according to which exhaustion of copyright makes more sense in works with few productive uses and weak interoperability. In general, computer programs pose a higher degree of interoperability and productive uses than digital works.

87 However, it must be taken into account that the productive uses in question in the case only concerned the functioning of companies or other Oracle clients but did not really have an impact on the creation of new innovations in the software field. In this regard, they did not constitute software license agreements covered by the TTBER, since they were not agree-

ments where the licensor permitted the licensee to exploit the licensed technology, possibly after further research and development by the licensee, for the production of goods or services. The software at issue in the case is basically company application software that comprises several business-oriented tools. None of those tools was seemingly licensed to permit the research and development of new goods and services.

IV. The irrelevance of tangibility

88 The Court finally disregards that exhaustion within the meaning of the Software Directive applies only to the distribution of tangible copies. As established in the Judgment, ‘it does not appear from Article 4(2) of Directive 2009/24 that the exhaustion of the right of distribution [...] is limited to copies of programmes on a material medium such as a CD-ROM or DVD. On the contrary, that provision [...] makes no distinction according to the tangible or intangible form of the copy in question’ (Para. 55). The Software Directive, which is *lex specialis* in relation to the Information Society Directive, applies broadly to computer programs, comprising ‘programs in any form, including those which are incorporated into hardware’ (Recital 7). The Court again refers to the economic reality involved in the different acts: ‘from an economic point of view, the sale of a computer program on CD-ROM or DVD and the sale of a program by downloading from the Internet are similar. The on-line transmission method is the functional equivalent of the supply of a material medium’ (Para. 61).

V. Creating monsters: Artificially indivisible goods by way of contract and the numerus clausus narrative

89 According to the Court, exhaustion applies only to the whole group license sold by Oracle (Para. 69). In this regard, the acquirer is not authorized to divide the license and resell only the user rights corresponding to a number of users determined by the customer. On the contrary, Oracle’s clients may only sell the entire group license to UsedSoft. Division of the license would constitute a breach of contract – and supposedly a copyright infringement – since this would mean that the customer does not make his own copy unusable at the time of its resale (Para. 70). The Court thus safeguards Oracle’s commercialization scheme: customers are prevented from selling individual licenses, which was what they intended and what UsedSoft induced them to do. It is likely that if UsedSoft cannot meet a lower price for the group licenses, potential customers would prefer to buy the group licenses directly from Oracle,

for reputational reasons. This legal solution respects the price discrimination strategy devised by Oracle, which may thus reap the anticipated profits arising from using this distribution system. According to the Court, restrictions to resell the whole goods are not enforceable, whereas restrictions to resell only a part thereof are deemed valid. In light of the *numerus clausus* analytical narrative, this legal outcome seems to exacerbate measurement costs for potential acquirers of used software in the market. Artificial indivisibility of entertainment goods and other copyrighted products creates a sort of monster in secondary markets: purchasers of encyclopaedias, double packs of CDs or the entire DVD collection of *The Sopranos* would presumably have a property right to sell just one of the volumes, one of the CDs or just the first season of the TV show. However, according to the ECJ, software products are different and artificial indivisibility is enforceable against both first acquirers and subsequent acquirers of software licenses.

- 90 Notwithstanding the application of the Judgment conclusion to the specific Oracle facts, the ECJ assumes a strong rule of exhaustion in the field of used software. As explained above, this result may impinge upon the ability of rightholders to prevent arbitrage. Applying a strong rule of exhaustion for software copies may discourage efficient price discrimination and encourage rightholders to market software with costly technical protection measures or other alternatives which involve a waste of resources. In fact, the Court expressly states that it is permissible for the rightholder to make use of technical protective measures such as product keys (Paras. 79 and 87).⁸⁰
- 91 The Court seems to forget that implementing further technical protective measures can be costly, both socially and privately. In the end, enforcement of post-sale restrictions may be less costly from a social point of view than achieving the same result through technology.

VI. Acts that are necessary for lawful acquirers to use the computer program

- 92 After examining how exhaustion applies to reselling used software downloaded from the Internet, the Court discusses questions 1 and 3 in a joint section of the Judgment. According to the Court, as the copyright holder can no longer oppose the resale of a copy by virtue of the exhaustion doctrine, purchasers such as UsedSoft customers may be reputed as 'lawful acquirers' within the meaning of Article 5(1) of the Software Directive.

- 93 Article 5(1) of the Software Directive states that, in the absence of specific contractual provisions, the reproduction of a computer program does not require author authorization where the reproduction is necessary for the lawful acquirer's use of the computer program in accordance with its intended purpose, including error correction. When UsedSoft's clients download a copy of the program in question and install it in their computers, they are making a reproduction that is regarded to be necessary to enable the new acquirer to use the program in accordance with its intended purpose (Para. 81).
- 94 In order not to infringe the rightholder's exclusive right of reproduction, exhaustion requisites must concur and, in particular, resellers must have made the copy which was downloaded onto their computers unusable at the time of resale.⁸¹
- 95 Rightholders are not required to authorize these acts of reproduction under a license agreement concluded directly with the final user. As explained by the Court, requiring a direct agreement with the rightholder or complying with all the terms in the agreement would have the effect of allowing the rightholder to prevent the effective use of any used copy in respect of which his distribution right has previously been exhausted (Para. 83). In these scenarios, an expansive right of reproduction would work as a form of indirect control over users' activities and a means to circumvent exhaustion effects.
- 96 The ECJ concludes that in the event of the resale of a user license involving the resale of a software copy downloaded from the copyright holder's website, the second acquirer of the license, as well as any subsequent acquirer, will be able to rely on the exhaustion of the distribution right under Article 4(2) of the Software Directive, and hence be regarded as the lawful acquirer of the copy within the meaning of Article 5(1) and benefit from the right of reproduction provided for in that provision.

F. Conclusions

- 97 This article provides an analytical framework built upon the traditional rationales of IP exhaustion doctrine which identifies factors that can be considered by courts and policymakers in applying rules on exhaustion more flexibly in some settings.
- 98 In deciding whether copyright holders should be allowed a greater degree of control over the distribution of copyright-protected goods in the aftermarket, courts and policymakers might consider (i) the personal features of acquirers of the goods, distinguishing between consumers and commercial users; (ii) whether post-sale restrictions have been adequately communicated to acquirers and have been agreed in the contract or license; (iii) the degree

of complexity of the goods and their prospects of productive uses and interoperability; (iv) the role of other exclusive rights in providing rightholders with indirect control over uses of the copies in the aftermarket; (v) the impact of post-sale restraints in preventing opportunism in long-term contracts and in reducing deadweight losses created by IP pricing; and (vi) the temporal scope of post-sale restraints. Rightholders engaged in pro-competitive post-sale restrictions that can show the concurrence of most of these factors in a particular distribution setting may be awarded the possibility to enforce a contractual agreement limiting the legal effects of exhaustion rules.

- 1 See Ohly, "Economic Rights", in: Derclaye (ed.), *Research Handbook in Intellectual Property*, p. 219 (Edward Elgar, Cheltenham/Northampton, 2009).
- 2 Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society (OJ 2001 L 167, p.10) (hereinafter, Information Society Directive).
- 3 Article 4(2): "The distribution right shall not be exhausted within the Community in respect of the original or copies of the work, except where the first sale or other transfer of ownership in the Community of that object is made by the rightholder or with his consent". This provision has been adopted by the different EU domestic laws, even in countries like France which traditionally recognized a broad right to control commercial uses of copies (*droit de destination*). See Dusollier, 'Le droit de destination: une espèce franco-belge vouée à la disparition', 20 *Propriétés Intellectuelles* 281-289 (2006). The exhaustion doctrine in EU Law is a product of ECJ case law prior to the Information Society Directive. See ECJ, 8 June 1971, case C-78/70, *Deutsche Grammophon Gesellschaft mbH v. Metro-SB-Großmärkte GmbH & Co. KG*. (holding that the distribution right does not allow its rightholder to control the distribution of phonographic copies in a domestic jurisdiction if they had previously been put into circulation in another Member State); ECJ, 18 March 1980, case C-62/79, *SA Compagnie générale pour la diffusion de la télévision, Coditel and others v. Ciné Vog Films and others* (holding that the freedom to provide services does not involve the exhaustion of the performing right in a cinematographic film in a Member State where the film had previously been shown in another Member State); ECJ, 20 January 1981, joined cases C-55/80 and 57/80, *Musik-Vertrieb GmbH and K-Tel international v. GEMA* (holding that national exhaustion is incompatible with the principle of free movement of goods); ECJ, 22 January 1981, case C-58/80, *Dansk Supermarked A/S v. A/S Imerco* (holding that national exhaustion is incompatible with the principle of free movement of goods); ECJ, 9 February 1982, case C-270/80, *Polydor Limited and RSO Records Inc. v. Harlequin Records Shops Limited and Simons Records Limited* (holding that importation of records into the United Kingdom from Portugal – when this country was not a Member State – can be prevented by the distribution right assignee in the former country); ECJ, 17 May 1988, case C-158/86, *Warner Brothers Inc. and Metronome Video ApS v. Erik Viuff Christiansen* (holding that national exhaustion is incompatible with the principle of free movement of goods); ECJ, 24 January 1989, case C-341/87, *EMI-Electrolav. Patricia*, (holding that national exhaustion is incompatible with the principle of free movement of goods in a case where the rights over the work had expired in the country where the copies were put into circulation); and ECJ, 28 April 1998, case C-200/96, *Metronome Musik GmbH v. Music Point Hokamp GmbH* (holding that the introduction of Community legislation of an exclusive rental right cannot therefore constitute any breach of the principle of exhaustion of the distribution right). Following the introduction of the Information Society Directive, exhaustion has also been interpreted by the ECJ. See ECJ, 12 September 2006, case C-479/04, *Laserdisken ApS v. Kulturministeriet* (holding that Art. 4(2) of Directive 2001/29 is to be interpreted as precluding national rules providing for exhaustion of the distribution right in respect of the original or copies of a work placed on the market outside the European Community by the rightholder or with his consent); ECJ, 17 April 2008, case C-456/06, *Peek & Cloppenburg KG v. Cassina SpA* (resorting to Art. 6(1) WIPO Copyright Treaty 1996 to define distribution as "making available through sale or other transfer of ownership"); and ECJ, 3 July 2012, case C-128/11, *UsedSoft GmbH v. Oracle International Corp.* (holding that, in the field of software law, distribution of intangible copies downloaded from the internet exhausts the right of distribution).
- 4 Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (OJ 2009 L 111, p. 16) (hereinafter, Software Directive).
- 5 Art. 4(2): "The first sale in the Community of a copy of a program by the rightholder or with his consent shall exhaust the distribution right within the Community of that copy, with the exception of the right to control further rental of the program or a copy thereof". On the doctrine's geographical application, contrast with the recent US Supreme Court decision in *Kirtsaeng v. John Wiley and Sons, Inc.*, 568 U.S. ___ (2013) (holding that exhaustion – "first sale doctrine" – applies to copies of a copyrighted work lawfully made abroad).
- 6 Absent consent or authorization by the rightholder, buying a used copy of a book in a bookstore, giving it to a friend as a birthday present or even leaving it on a park bench or in a tree hollow may constitute copyright infringement. See Rothchild, "The Incredible Shrinking First-Sale Rule: Are Software Resale Limits Lawful?", 57 *Rutgers L. R.* 11 (2004) (arguing that gifts constitute distribution acts in US copyright law). On abandonment of copyrighted works and exhaustion, see Kermel, "Off the Walls: Abandonment and the First Sale Doctrine", 45 *Col. J. of Law and Soc. Probl.* 353 (2012).
- 7 See *infra* Section C.
- 8 See *infra* Section B.
- 9 See Perzanowski & Schultz, "Digital Exhaustion", 58 *UCLA L. Rev.* 889 (2011), pp. 894-901. Positive externalities are benefits of an exchange that are not captured by the parties thereto but that spill over onto other third parties. Negative externalities are costs of an exchange that are not borne by the parties but spread to individuals not engaged in the exchange. See Cooter & Ulen, *Law and Economics* (Pearson Education, Boston, 2011), p. 39; and Frischmann & Lemley, "Spillovers", 107 *Col. L. Rev.* 257 (2007).
- 10 Reese, "The First Sale Doctrine in the Age of Digital Networks", 44 *B. C. L. Rev.* 577 (2003), pp. 585-594.
- 11 Gordon, "Intellectual Property as Price Discrimination: Implications for Contract", 73 *Chi.-Kent L. Rev.* 1367 (1998), pp. 1383-1390.

- 12 For instance, more than 10,000 books were published in the US in 1930 but only 174 of them were commercially available in 2001. See Landes & Posner, *The Economic Structure of Intellectual Property Law*, p. 212 (Belknap Press of Harvard University Press, Cambridge, 2003). Moreover, it is estimated that only 20% of the films that were produced during the 1920s can be accessed nowadays and that 40% of all phonograms produced during last century are not commercially available. In this regard, see Hinkes, “Access Controls in the Digital Era and the Fair Use/First Sale Doctrines”, 23 *Santa Clara Computer and High Tech. L. J.* 685 (2006), p. 702.
- 13 Due to ignorance as to the rightholder’s identity and the potential infringement risk, incentives for engaging in a new economic exploitation of orphan works are dramatically reduced. Given the difficulties in supplying brand new copies of orphan works, access to their content is highly dependent on the availability of secondary markets.
- 14 See Cohen, “The Right to Read Anonymously: A Closer Look at Copyright Management in Cyberspace”, 28 *Conn. L. Rev.* 981 (1996).
- 15 See Milton, *Areopagitica*, 1644 (an online version may be found at <<http://www.gutenberg.org/files/608/608-h/608-h.htm>>); and Mill, *On Liberty*, 1859 (an online version may be found at <<http://www.gutenberg.org/files/34901/34901-h/34901-h.htm>>).
- 16 See Posner, “Free Speech in an Economic Perspective”, 20 *Suffolk U. L. Rev.* 1 (1986); and Farber, “Free Speech Without Romance: Public Choice and the First Amendment”, 105 *Harv. L. Rev.* 554 (1991).
- 17 See *infra* Section D.II.
- 18 Secondary literature on decentralized innovation is quite extensive. Two classic references are Von Hippel, *Democratizing Innovation* (MIT Press, Cambridge (MA), 2005); and Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (Yale University Press, New Haven, 2006). See also Fisher, “The Law of User Innovation”, 94 *Minnesota Law Review* 1417 (2010) and Lessig, *Remix: Making Art and Commerce Thrive in the Hybrid Economy*, (Penguin Press, NY, 2008).
- 19 Perzanowski & Schultz, *supra* note 9 at 899-900.
- 20 Van Houweling, “The New Servitudes”, 96 *Geo. L. J.* 901 (2008).
- 21 See Kohler, *Deutsches Patentrecht*, pp. 160 *et seq.* (Bensheimer, Mannheim, 1878); and Kohler, *Handbuch des Deutschen Patentrechts in rechtsvergleichender Darstellung*, pp. 452 *et seq.* (Bensheimer, Mannheim, 1900).
- 22 In the US the reward rationale in patents has also been accepted by the Supreme Court: “Whilst the remuneration of genius and useful ingenuity is a duty incumbent upon the public, the rights and welfare of the community must be fairly dealt with and effectively guarded. [...] The test has been whether or not there has been such a disposition of the article that it may fairly be said that the patentee has received his reward for the use of the article” (*United States v. Masonite Corp.*, 316 U.S. 265 (1942)).
- 23 The doctrine developed by Kohler improved on his former conception based on the idea of giving the purchaser of a patented product an implied license to perform acts of exploitation without requiring the patent owner’s express consent. Given the traditional principle of privity of contract (“*Beschränkung der Rechtswirkungen auf die direkt beteiligten Vertragsparteien*” as implicit in current §311 BGB), resorting to an implied license rationale was dogmatically unworkable in relation to subsequent purchasers of the patented product or the product that was obtained through the process claimed by the exclusive right. Implied licenses are also unworkable under the scope of a contract for the benefit of third parties (“*Verträge zugunsten Dritter*”, §328 BGB) provided the need for expressed terms to establish such agreements.
- 24 1902, RGZ 50, 229 “Kölnisch Wasser”; and 1902, RGZ 51, 263 “Mariani”.
- 25 1906, RGZ 63, 394 “Koenigs Kursbuch”.
- 26 Berger, “Die Erschöpfung des urheberrechtlichen Verbreitungsrecht als Ausprägung der Eigentumstheorie des BGB”, 201 *AcP* 418-419 (2001). In the same regard, see Loewenheim, *Urheberrecht Kommentar*, Sec. 17 Copyright Act, No. 44 (4th ed., C.H. Beck, Munich, 2010).
- 27 See Loewenheim, *supra* note 26 at No. 44.
- 28 Among the most relevant critiques, see Dagan, “The Craft of Property”, 91 *Cal. L. Rev.* 1517 (2003); Merrill & Smith, “What Happened to Property in Law and Economics?”, 111 *Yale L.J.* 357 (2001); and Penner, “The ‘Bundle of Rights’ Picture of Property”, 43 *UCLA L. Rev.* 711 (1996).
- 29 In short, the existence of a promise or a contractual obligation between the parties would require that the restrictions were deemed legally valid and incorporated into the sales contract or the gift. The discussion of these issues exceeds the scope of this article, and questions about their enforceability are only referred to incidentally.
- 30 Legal validity and enforceability of simple communications conveyed by the copyright holder to the user of a copy – for instance, through a printed or attached notice in the product – in which the terms of use are displayed is a contested issue. However, in products that are not technologically complex – such as a printed book, for instance – enforceability of terms of use through notice would be rather limited. See Lemley, “Terms of Use”, 91 *Minn. L. Rev.* 459 (2006).
- 31 But see Commission Regulation (EU) No 330/2010 of 20 April 2010 on the application of Art. 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices (OJ L 102, 23.4.2010, p. 1). According to Art. 2 of this Block Exemption Regulation, some vertical restraints in particular chains of production or distribution may be efficiency-enhancing and thus permitted by the law.
- 32 With respect to the interrelation between different computer programs, see Van Rooijen, *The Software Interface Between Copyright and Competition Law – A Legal Analysis of Interoperability in Computer Programs*, pp. 13 *et seq.* (Kluwer Law International, Alphen aan den Rijn, 2010), and Determann, “Dangerous Liaisons – Software Combinations as Derivative Works? Distribution, Installation, and Execution of Linked Programs under Copyright Law, Commercial Licenses, and the GPL”, 21 *Berkeley Tech. L. J.* 1421 (2006).
- 33 Perzanowski, “Fixing RAM Copies”, 104 *Nw. U. L. Rev.* 1067 (2010). For most courts and authors, RAM copies are acts of reproduction within the meaning of copyright law. The exceptions to this understanding are rather limited (1999 LG Mannheim, CR, 360-62, *apud* Determann & Fellmeth, “Don’t Judge a Sale by Its License: Software Transfers Under the First Sale Doctrine in the United States and the European Community”, 36 *U.S.F. L. Rev.* 1 (2001), pp. 74-75). In the US, see specially *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993); and *Sony Computer Entertainment, Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir. 2000): “Any purchaser of a copyrighted software program must

copy the program into the memory of a computer in order to make any use at all of the program”.

- 34 In the same regard, concerning the right of reproduction for digital music copies, see Davis, “Reselling Digital Music: Is There A Digital First Sale Doctrine?”, 29 *Loy. L.A. Ent. L. Rev.* 363 (2009).
- 35 Determann, *supra* note 32 at 1458 *et seq.*
- 36 Merrill & Smith, “Optimal Standardization in the Law of Property: The Numerus Clausus Principle”, 110 *Yale L.J.* 1 (2000).
- 37 See also Hansmann & Kraakman, “Property, Contract, and Verification: The Numerus Clausus Problem and the Divisibility of Rights”, 31 *J. Leg. Stud. (Supp.)*, S373 (2002).
- 38 See *infra* section D.III.
- 39 Long, “Information Costs in Patent and Copyright”, 90 *Va. L. Rev.* 465 (2004), p. 470.
- 40 Smith, “Institutions and Indirectness in Intellectual Property”, 157 *U. Pa. L. Rev.* 2083 (2009).
- 41 Smith, *supra* note 40 at pp. 2119-2120.
- 42 Actually Smith suggests that supplementary mechanisms aiming at conveying information to potential acquirers exist, but in any case their positive impact on social welfare needs to be empirically assessed and confirmed. See Smith, *supra* note 40 at p. 2121. According to Smith, the problem in practice does not concern the amount of information but of attention (quoting Herbert Simon [Smith, *supra* note 40 at p. 2121]).
- 43 Van Houweling, *supra* note 20 at 933; see also Merges, “The End of Friction? Property Rights and Contract in the ‘Newtonian’ World of On-Line Commerce”, 12 *Berkeley Tech. L.J.* 115 (1997), p. 122.
- 44 However, disclosure of terms of use may prove counterproductive in many scenarios. Providing purchasers with a large amount of information may discourage acquirers from reading and comprehending the intended allocation of property rights. In this regard, see Ben-Shahar & Schneider, “The Failure of Mandated Disclosure”, 159 *U. Pa. L. Rev.* 647 (2011).
- 45 It must be taken into account that a more flexible regime to alter legal rights and the correlative increase in measurement costs may create barriers to entry for non-specialized agents in that market, i.e. only sophisticated parties may actually understand the market.
- 46 Van Houweling, *supra* note 20 at pp. 932-939.
- 47 See Hovenkamp, “Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective”, 66 *N.Y.U. Annual Survey Am. L.* 487 (2011); and Hovenkamp, “The Law of Vertical Integration and the Business Firm: 1880-1960”, 95 *Iowa L. Rev.* 863 (2010), pp.882-885.
- 48 See Hovenkamp (2011), *supra* note 47 at pp. 488-490.
- 49 The US Supreme Court has modified its antitrust legal approach to most post-sale restrictions. Instead of considering them illicit *per se*, the “rule of reason” standard is used to assess its validity. *Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977): a vertical restraint aiming at a geographical segmentation is not illicit *per se* (reversing *U.S. v. Arnold, Schwinn & Co.*, 388 U.S. 365 (1967)); *State Oil Co. v. Khan*, 522 U.S. 3 (1997): a maximum resale price maintenance agreement is not illicit *per se* (reversing *Albrecht v. Herald Co.*, 390 U.S. 145 (1968)); and *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007): a minimum resale price maintenance agreement is not illicit *per se* (reversing *Dr. Miles Medical Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911)). The turning point in Europe came with the ECJ Judgment in Case C-258/78, *Nungesser v. Commission*, which pointed out the pro-competitive effects of exclusive IP rights licenses. Afterwards, Commission Regulation (EC) No 772/2004 of 27 April 2004 on the application of Art. 81(3) of the Treaty to categories of technology transfer agreements (OJ L 123/11, 27.4.2004) has also promoted a less refractory approach to vertical restraints.
- 50 See Bar-Gill & Parchomovsky, “Law and the Boundaries of Technology-Intensive Firms”, 157 *U. Pa. L. Rev.* 1649 (2009); and Barnett, “Intellectual Property as a Law of Organization”, 84 *S. Cal. L. Rev.* 785 (2011). This line of scholarship has its origins in Ronald Coase’s famous essay on the nature of the firm, which showed that contracts and equity ownership are two ways of pursuing the same goal within a firm. See Coase, “The Nature of the Firm”, 4 *Economica* 386 (1937).
- 51 Commission Regulation (EC) No 772/2004 of 27 April 2004 on the application of Art. 81(3) of the Treaty to categories of technology transfer agreements (OJ L 123/11, 27.4.2004). Discussion of the Regulation exceeds the scope of this paper. For a detailed analysis, see Speyart, “Technology Transfer Block Exemption Regulation. Introductory Remarks”, in: Cottier & Véron (eds.), *Concise International and European IP Law. TRIPS, Paris Convention, European Enforcement and Transfer of Technology*, (Wolters Kluwer, Alphen aan den Rijn, 2011).
- 52 Guidelines on the application of Art. 81 of the EC Treaty to technology transfer agreements (2004/C 101/02) (OJ C 101/2, 27.4.2004).
- 53 Para. 17 of the Guidelines.
- 54 Para. 17 of the Guidelines.
- 55 In this regard, see Katz, “What Antitrust Law Can (and Cannot) Teach About the First Sale Doctrine”, 2012 (available at: <<http://ssrn.com/abstract=1845842>>), at p. 4.
- 56 Secondary literature on price discrimination and intellectual property rights is abundant. Wendy J. Gordon has suggested that many institutions in intellectual property law can be explained through price discrimination (Gordon, *supra* note 12 at pp. 1367 *et seq.*). Other important references include Fisher, “Reconstructing the Fair use Doctrine”, 101 *Harv. L. Rev.* 1659 (1988); Besen, Kirby & Salop, “An Economic Analysis of Copyright Collectives”, 78 *Va. L. Rev.* 383 (1992); Lunney, “Reexamining Copyright’s Incentives-Access Paradigm”, 49 *Vand. L. Rev.* 483 (1996); Meurer, “Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works”, 45 *Buff. L. Rev.* 845 (1997); Fisher, “Property and Contract on the Internet”, 73 *Chic-Kent L. Rev.* 1203 (1998); Benkler, “An Unhurried View of Private Ordering in Information Transactions”, 53 *Vand. L. Rev.* 2063 (2000); Boyle, “Cruel, Mean, or Lavish? Economic Analysis, Price Discrimination and Digital Intellectual Property”, 53 *Vand. L. Rev.* 2007 (2000); Cohen, “Copyright and the Perfect Curve”, 53 *Vand. L. Rev.* 1799 (2000); Meurer, “Copyright and Price Discrimination”, 23 *Cardozo L. Rev.* 55 (2001-2002); Fisher, “When Should We Permit Differential Pricing of Information”, 55 *UCLA L. Rev.* 1 (2007); Conley & Yoo, “Nonrivalry and Price Discrimination in Copyright Economics”, 157 *U. Pa. L. Rev.* 1801 (2009).
- 57 Fisher, *supra* note 56 at 3. A technical definition of price discrimination is attributed to economist George J. Stigler (1911-1991), according to whom price discrimination is used when two identical or similar products with the same marginal cost of production are sold at different prices (Stigler, *Theory of Price*, 4th ed., [MacMillan, New

- York, 1987]). Nevertheless, definitions of this technique and the delimitation of its contours are critical. In this regard, see Motta, *Competition Policy. Theory and Practice*, p. 491, n. 106 (Cambridge University Press, Cambridge, 2004).
- 58 Effective price discrimination requires that the producer may prevent consumers who can buy the product at a low price from reselling it to other users who assign a higher value to the product. In *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996), Judge Easterbrook holds that “[t]o make price discrimination work, however, the seller must be able to control arbitrage [...]. Instead of tinkering with the product and letting users sort themselves out — for example, furnishing current data at a high price that would be attractive only to commercial customers, and two-year-old data at a low price — ProCD turned to the institution of contract”.
- 59 See Epstein, “ProCD v. Zeidenberg: Do Doctrine and Function Mix?”, in Baird (ed), *Contract Stories* (Foundation Press, New York, 2007), pp. 94 *et seq.*
- 60 A strong critique to the conventional view can be found at Lunney, “Copyright’s Price Discrimination Panacea”, 21 *Harv. J.L. & Tech.* 387 (2008).
- 61 See Burk, “The Law and Economics of Intellectual Property Rights: In Search of First Principles”, University of California at Irvine, School of Law, *Legal Studies Research Paper Series* No. 2012-60 (2012).
- 62 In this respect, see, for instance, Rub, “Contracting around Copyright: The Uneasy Case for Unbundling of Rights in Creative Works”, 78 *U. Chi. L. Rev.* 257 (2011), pp. 267 *et seq.*
- 63 Meurer, “Copyright and Price Discrimination”, 23 *Cardozo L. Rev.* 55 (2001-2002).
- 64 Hausman & MacKie-Mason, “Price Discrimination and Patent Policy”, 19 *RAND J. Econ.* 253 (1988).
- 65 For instance, there are no conclusive articles or reports showing the impact on social welfare of norms that forbid circumvention of technical protection measures and therefore indirectly facilitate discrimination of prices. See Rothchild, “Economic Analysis of Technological Protection Measures”, 84 *Or. L. Rev.* 489 (2005); and Rothchild, “The Social Costs of Technological Protection Measures”, 34 *Fla. St. U. L. Rev.* 1181 (2007).
- 66 This article does not discuss whether post-sale restrictions affecting copies of copyright protected works should be enforced according to contract law or copyright law, that is, whether the violation of a post-sale restriction gives rise to copyright infringement or only to breach of contract. See Ben Shahar, “Damages for Unlicensed Use”, 78 *U. Chi. L. Rev.* 7 (2010).
- 67 BGH, Beschluss v. 03.02.2011, Az. I ZR 129/08.
- 68 ECJ, Judgment of 3 July 2012, Case C-128/11, *UsedSoft GmbH v. Oracle International Corp.*
- 69 See Varian, *Intermediate Microeconomics*, 7th ed., p. 445 (W. W. Norton & Company, New York, 2005): “Second-degree price discrimination means that the monopolist sells different units of output for different prices, but every individual who buys the same amount of the good pays the same price. Thus prices differ across the units of the good, but not across people. The most common example of this is bulk discounts. Third-degree price discrimination occurs when the monopolist sells output to different people for different prices, but every unit of output sold to a given person sells for the same price. This is the most common form of price discrimination, and examples include senior citizens’ discounts, student discounts, and so on”.
- 70 LG München I, 15.03.2007 - 7 O 7061/06 (ZUM 2007, 409).
- 71 OLG München, 03.07.2008 - 6 U 2759/07 (ZUM 2009, 70).
- 72 Case C-128/11, *Usedsoft GmbH v. Oracle International Corp.* (OJ C-194/8, 2.7.2011).
- 73 In the field of copyright law, see, *inter alia*, ECJ Judgments of 16 July 2009, Case C-5/08, *Infopaq International A/S v. Danske Dagblades Forening*; and 26 April 2012, Case C-510/10, *DR and TV2 Danmark A/S v. NCB—Nordisk Copyright Bureau*.
- 74 Para. 41: “A uniform interpretation of the term ‘sale’ is necessary in order to avoid the protection offered to copyright holders by that directive varying according to the national law applicable”.
- 75 This pragmatic notion of “sale” contrasts with the differences highlighted by EU institutions between sales contracts and contracts for the supply of digital content, including computer programs. See, in this vein, the Proposal for a Regulation of the European Parliament and of the Council on a Common European Sales Law, 11.10.2011 (COM (2011) 635 final).
- 76 See Opinion of Advocate General Yves Bot delivered on 24 April 2012.
- 77 See, among other cases, *MAI Systems Corporation v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993); *Triad Sys. Corp. v. Se. Express Co.*, 64 F.3d 1330 (9th Cir. 1995); *DSC Commc’ns Corp. v. Pulse Commc’ns, Inc.*, 170 F.3d 1354 (Fed. Cir. 1999); *Adobe Systems, Inc. v. One Stop Micro, Inc.* 84 F. Supp. 2d 1086 (N.D. Cal. 2000); *Adobe Systems, Inc. v. Stargate Software Inc.*, 216 F. Supp.2d 1051 (N.D. Cal. 2002); *Wall Data, Inc. v. Los Angeles County Sherriffs Dep’t*, 447 F.3d 769 (9th Cir. 2006); *Vernor v. Autodesk, Inc.*, 621 F.3d 1102 (9th Cir. 2010); and *MDY Indus., LLC v. Blizzard Entm’t, Inc.*, 629 F.3d 928 (9th Cir. 2010). For a contrasting solution in the field of promotional CD copies, see *UMG Recordings, Inc. v. Augusto*, 628 F.3d 1175 (9th Cir. 2011).
- 78 US case law in the issue in question is rich. Courts have used different criteria to deny application of the first-sale or exhaustion doctrine to software licenses. For a detailed discussion, see Carver, “Why License Agreements Do Not Control Copy Ownership: First Sales and Essential Copies”, 25 *Berkeley Tech. L. J.* 1887 (2010).
- 79 See Recital 29 in the Preamble of the Information Society Directive: “The question of exhaustion does not arise in the case of services and on-line services in particular. This also applies with regard to a material copy of a work or other subject-matter made by a user of such a service with the consent of the rightholder. Therefore, the same applies to rental and lending of the original and copies of works or other subject-matter which are services by nature. Unlike CD-ROM or CD-I, where the intellectual property is incorporated in a material medium, namely an item of goods, every on-line service is in fact an act which should be subject to authorisation where the copyright or related right so provides”.
- 80 In practice, technical protective measures may eliminate exhaustion’s legal effects. In this regard, see BGH 11.2.2010 -I ZR 178/08-, “*Half Life 2*”, in which the German Supreme Court held that a prohibition on transferring an user account provided to access a computer game, which was sold on DVD, does not violate the principle of exhaustion, even if this means that the acquirer of the used DVD cannot in fact play the videogame.
- 81 It should be highlighted that the main actors in the digital markets have started to pave the way and protect themselves through technologies that would prevent resellers

from accessing digital content after the transaction occurs. In this respect, Amazon was issued a US patent in January 2013 describing “an electronic marketplace facilitating a secondary market for digital objects” that discloses a system that uses deletion to prevent reproduction of digital content after a transaction takes place. *See* Villasenor, “Rethinking A Digital First Sale Doctrine In A Post-Kirtsaeng World: The Case For Caution”, *CPI Antitrust Chronicle*, May 2013(2).