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Exhaustion of Digital Goods: An Economic Perspective

Wolfgang Kerber*

April 2016

Abstract: The "UsedSoft" decision of the Court of Justice of the European Union (CJEU) about the right of a buyer of a downloaded copy of a software to resell this copy triggered a controversial discussion about the applicability of the "exhaustion" rule (US: first-sale doctrine) to copyright-protected digital goods (as, e.g., also e-books). This paper offers, in a first step, a systematic analysis and assessment of economic reasonings that have been discussed in the literature about exhaustion, and applies this framework, in a second step, to downloaded digital creative works. An important result is that digitalisation, on one hand, changes considerably the benefits and costs of exhaustion, esp. in regard to the danger of jeopardizing the incentives for copyright owners. On the other hand, however, also the costs of imposing restrictions might be high and even increase in a digital economy. This leads to the conclusion that it is necessary to think seriously about the legal limits for the restrictions that copyright owners should be allowed to impose on their customers. However, these limits might be drawn also by other legal instruments than copyright exhaustion.

Keywords: Digital goods, copyright exhaustion, first-sale doctrine, post-sale restrictions

JEL classification: K20, L86, O34

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I. Introduction

The "UsedSoft" decision of the Court of Justice of the European Union (CJEU)[1] about the right of a buyer of a downloaded copy of a software to resell this copy without the consent of the copyright owner triggered a controversial discussion about the applicability of the so-called "exhaustion" rule to copyright-protected digital goods.[2] The basic idea of exhaustion (or, in the U.S., the "first-sale doctrine") is that the first legal acquirer of a copyright-protected good has the right to resell this copy, which usually leads to the emergence of secondary markets (as, e.g., for used books or music CDs) that cannot be controlled by the copyright owner. Whereas the exhaustion rule is widely accepted for the sale of copyright-protected goods on tangible carriers (as CDs, DVDs), the current controversy is about cases of digital copies in form of downloaded files.[3] In the "UsedSoft" decision the CJEU ruled that also in the case of only downloaded software the seller cannot restrict the buyer to resell this copy without his consent. This decision has not only been criticized much in Europe but also might lead to a rift with the current U.S. approach where the first-sale doctrine is widely legally seen as not applicable to digital goods. Closely related are the discussions whether this decision of the CJEU has also implications beyond software for other copyright-protected digital goods as e-books or audiobooks.

In this paper this problem will be analysed from a law and economics perspective. Whether there should be a legal rule that ensures that used digital goods as software, ebooks or music files can be resold or whether the copyright owner should have the right to restrict the purchaser in regard to resale of his copy, is an important policy question, which calls for an eco-

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1 CJEU Case C-128/11 - UsedSoft v. Oracle (3 July 2012).

2 See for this discussion in Europe *Hartmann*, Weiterverkauf und „Verleih“ online vertriebener Inhalte, GRUR Int., 2012, 980-989, *Hilty/Köklü/Hafenbrödl*, Software Agreements - Stocktaking and Outlook - Lessons from the UsedSoft v. Oracle Case from a Comparative Law Perspective, IIC, 2013, 263; *Rubi Puig*, Copyright Exhaustion Rationales and Used Software: A Law and Economics Approach to Oracle v. UsedSoft, JIPITEC, 2013, 159; *Zech*, Vom Buch zur Cloud. Die Verkehrsfähigkeit digitaler Güter, ZGE, 2013, 368; *Hauck*, Gebrauchthandel mit digitalen Gütern, NJW, 2014, 3616; *Hilty*, Exhaustion in the Digital Age, Max Planck Institute for Innovation and Competition Research Paper No. 15-09, 2015 (forthcoming 2016 in: *Calboli/Lee* (eds.), Research Handbook on Intellectual Property Exhaustion and Parallel Imports); *Haberstumpf*, Verkauf immaterieller Güter, NJOZ, 2015, 793; for the U.S. discussion see below fn.5.

3 As an economist, I will use the term "digital copy" also for the downloaded electronic file independent from its actual physical carrier, although the electronic file as such is not a tangible copy. From a functional and therefore economic perspective, it can be used like a copy.

nomic analysis of the effects of such a legal rule. This paper will present a systematic overview and assessment of economic reasonings that have been discussed in the literature about exhaustion, apply this framework to digital goods, and offer some guidance in which direction we should look for solutions. We will see that also from an economic perspective this is a difficult question that will not lead to a simple clear answer but might warrant a complex policy solution, for which much more research is necessary. The analysis in regard to digital goods will focus on the problem of downloaded digital goods (as in the UsedSoft decision of the CJEU), i.e. on the digital goods of the so called second period of the digital age, and will not deal with streaming that has started to replace the downloading of copyright-protected works.[4] Since economic reasoning in regard to the exhaustion rule is much more present in the U.S. than in Europe, this paper draws heavily on the current discussions in the U.S.[5]

For structuring the paper a two-step approach was chosen. Whereas the discussion among lawyers is mostly about the question whether the well-accepted exhaustion rule for traditional

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4 *Hilty* (fn.2), 2, distinguishes three periods of the digital age: (1) digital copies on tangible carriers as CD and DVD, (2) downloaded digital copies, and (3) streaming, which do not lead to a digital copy on the computer of the customer.

5 For recent contributions to the U.S. discussion with many economic reasonings see especially *Rub*, Rebalancing Copyright Exhaustion, Emory L. J., 2015, 741; *Katz*, The First Sale Doctrine and the Economics of Post-Sale Restraints, BYU L. Rev. 2014, 55; *Katz*, The Economic Rationale for Exhaustion: Distribution and Post-Sale Restraints, in: *Calboli/Lee* (eds.), Research Handbook on Intellectual Property Exhaustion and Parallel Imports, (forthcoming 2016); *Perzanowski/Schultz*, Digital Exhaustion, UCLA L. Rev., 2011, 889; *Perzanowski/Schultz*, Legislating Digital Exhaustion, Berkeley Tech. L. J., 2014, 1535; *Perzanowski/Schultz*, Reconciling Intellectual and Personal Property, Notre Dame L. Rev. 2015, 1211; see also as the early article of *Reese*, First-Sale Doctrine in the Era of Digital Networks, B.C. L. Rev., 2003, 577; from an antitrust perspective see *Hovenkamp*, Post-Sale Restraints and Competitive Harm - The First Sale Doctrine in Perspective, NYU Annual, 2011, 487: For the new recent discussion on digital exhaustion in the U.S. see *U.S. Copyright Office*, DMCA Section 104 Report, available at: http://www.copyright.gov/reports/studies/dmca/sec-104-report-vol-1.pdf; *Davis*, Reselling Digital Music: Is There a Digital First Sale Doctrine, Loy. L.A. Ent. L. Rev., 2009, 363; *Villasenor*, Rethinking a Digital First Sale Doctrine in a Post-Kirtsaeng World: The Case for Caution, CPI Antitrust Chronicle, 2013, 1; *Cobb*, The Implications of Licensing Agreements and the First Sale Doctrine on US and EU secondary markets for digital goods, Duke J. Comp. Int. L., 2014, 529; *McIntyre*, Game Over For First Sale, Berkeley Tech. L. J., 2014, 1; *Perkins*, Fixing the First Sale Doctrine: Adapting Copyright Law to the New Media Distribution Paradigm, North Ill. L. Rev., 2014, 1; *Soma/Kugler*, Why Rent When You Can Own? How ReDigi, Apple, and Amazon Will Use the Cloud and the Digital First Sale Doctrine to Resell Music, E-Books, Games, and Movies, N.C. J.L. & Tech., 2014, 425; *Riehl/Kassim*, Is Buying Digital Content Just Renting for Life: Contemplating a Digital First-sale Doctrine, Wm. Mitchel L. Rev., 2014, 783; *Brassel*, Confused, Frustrated, and Exhausted: Solving the U.S. Digital First Sale Doctrine Problem Through the International Lens, Vand. J Transnat'I L., 2015, 245; *Dobson*, Comment: ReDigi and the Resale of Digital Media: The Courts Reject a Digital First Sale Doctrine and Sustain the Imbalance Between Copyright Owners and Consumers, Akron Intell. Prop. J., 2015, 179; *Reis*, Toward a "Digital Transfer Doctrine"? The First Sale Doctrine in the Digital Era, Northwestern University Law Review, 2015, 173.

copyright-protected goods can and should still play a role in regard to digital goods, from an economic perspective it is necessary to look first at the economic reasons in favor or against the traditional exhaustion rule. Therefore section II will provide an assessment of economic arguments in regard to the traditional exhaustion rule. We will see that exhaustion has a number of benefits and costs, which generally justifies the application of exhaustion but suggests also more flexibility than the current law offers. This framework of economic arguments will then be used in section III for an economic analysis of the changes of the effects, if exhaustion were also applied to digital goods. This also entails an analysis of the effects, if copyright owners would have far-reaching scope for imposing restrictions on the resale and use of their digital goods. A crucial result will be that digitalisation, on one hand, changes considerably the balancing of benefits and costs of exhaustion, esp. in regard to the danger of jeopardizing the remuneration and therefore the incentives for copyright owners. On the other hand, however, also the costs of imposing restrictions might be high and even increase in a digital economy, leading to the conclusion that it is necessary to think seriously about the limits for the restrictions that copyright owners should be allowed to impose, either through exhaustion or other legal instruments. Section IV will draw some conclusions for further discussions and research.

II. Economic Analysis of Exhaustion

1. Introduction

Although the incentive problem as the main economic justification of intellectual property rights is well-accepted among legal and economic scholars, the question of the optimal design of copyrights and patents is still a largely unsolved question. From an economic perspective copyrights and patents as temporary exclusive rights are not a first-best solution for solving the incentive problem due to different kinds of costs. Intellectual property rights should not offer too small but also not too large protection of the creative works for not imposing too large costs on the consumers, other creators, and the society. As a consequence, it is not the task of intellectual property law to maximize the profits of the creators as incentives. Therefore economists always have asked for the optimal design and limits of intellectual property

rights, e.g. in regard to the length and breadth of these exclusive rights, which would lead to an optimal balance of benefits and costs.[6] However the question for the overall design of an intellectual property regime is much broader than the length and breadth of exclusive rights but also includes, e.g., in regard to copyright law, all rules about exceptions and limitations (as, e.g., fair use) as well as the rules for enforcement. Important for our discussion is that from an economic perspective the question of the application of the exhaustion rule in copyright law can and should be seen also as a part of this overall question how an optimally designed copyright law regime should look like.

The exhaustion problem deals with the question whether and to what extent a copyright owner can restrict the resale of her intellectual goods in downstream markets. Economically, restrictions on the resale and use of a copy influence the value for the buyer and therefore have also implications for the price-setting of the copyright owner. It is important to distinguish three basic types of restrictions: They can legally be based either on copyright law or be part of the contract with the first purchaser, e.g. as part of standard form contracts. Another possibility are technical restrictions, which might render certain uses and/or reselling of the copy technically impossible. These different types of restrictions have different benefits and costs for the copyright owner, the buyer, and society. Since the three types are substitutes, the policy question of limiting these restrictions emerges in regard to all three of them, although the legal possibilities might be very different. It is also important to understand that there might be stronger or weaker rules of exhaustion. For example, Katz distinguishes several levels of exhaustion in regard to the first-sale doctrine. The weakest one would be a simple default rule with no problems for attaching restrictions, the stronger ones make it increasingly difficult (in regard to case-specific justifications) to contract around the exhaustion of the copyright up to the strongest version, in which all attempts to work around exhaustion would be per-se invalid.[7] Therefore the ultimate policy question is not whether there should be an exhaustion rule or not, but to search for an optimal solution in regard to the extent that restrictions based upon copyright law, contract law, and technical restrictions should be allowed or prohibited. However, it is important to understand that the application of exhaustion is only one legal instru-

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6 For the economics of copyright law see *Landes/Posner*, An Economic Analysis of Copyright Law, J. Legal Stud., 1989, 325; *Lévêque/Ménière*, The Economics of Patents and Copyright, 2004, 61-81. In the legal discussion this is often described as the incentives-access tradeoff (e.g., *Rub* (fn.5), 763).

7 *Katz* (2014, fn.5), 61-63.

ment for limiting the scope of these restrictions. A different discussion, which we do not address in this paper, is the well-known issue of national, regional, and international exhaustion of intellectual property rights and the related topic of parallel trade.[8]

Since exhaustion or the first-sale doctrine is an old topic in IP law there are a number of well-established and much-discussed legal theories about exhaustion.[9] In the following, I will focus on reasonings, which explicitly or implicitly entail economic arguments for and against (more) exhaustion.[10] Whereas in this section II the general benefits and costs of exhaustion will be discussed, the specific analysis for downloaded digital goods will be presented in section III.

2. Economic Arguments Pro Exhaustion

The most important economic argument for exhaustion is that the exhaustion of the copyrights through the first sale reduces transaction costs on secondary markets. If the sale of copyright-protected goods would be done with contract-specific restrictions for their reselling, then potential buyers of a used copy (as a book or a music CD) would always be in danger of infringing copyright law, if they are not perfectly informed about these restrictions. This would lead to huge information and therefore transaction costs which might render secondary markets infeasible leading to allocative inefficiency and market failure. Exhaustion of the copyrights leads to a standardisation of the property rights of copies that buyers acquire, i.e. all potential participants on secondary markets know what standardised set of rights they buy and sell. In the U.S. discussion this has been derived from the so-called numerus clausus doctrine. It stipulates that it should only be possible to sell a limited set of standardised property rights for reducing transaction costs on markets.[11] From an economic perspective this is a

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8 See, e.g., *Rub* (fn.5), 796-801. To some extent this discussion is also directly relevant, because the question of geographical exhaustion influences significantly the possibilities of international price discrimination strategies with all the manifold effects of price discrimination (see below section II.3).

9 For a brief overview about the "reward theory", the "full ownership theory", and the "market and legal certainty protection theory" see *Rubi Puig* (fn.2), 162.

10 For comprehensive overviews about the economics of exhaustion see, in particular, *Rubi Puig* (fn.2) and *Rub* (fn.5).

11 See *Merrill/Smith*, Optimal Standardization in the Law of Property, Yale L. J., 2000, 1. They view the optimal standardisation of property law as the solution of the tradeoff between measurement costs

well-substantiated argument, because standardisation can help to solve the tradeoff between benefits of efficiently specified property rights and the additional information costs due to too many idiosyncratically specified property rights.[12] However it is less clear whether this argument really can justify the necessity of a mandatory exhaustion rule, because standardised property rights might also emerge on competitive markets.

This transaction cost argument however is only important, if the advantages of secondary markets for copyright-protected goods are larger than its disadvantages. In a first step of the analysis, the enabling of the trade of used goods increases economic efficiency, because trade allocates the goods to their most efficient uses and therefore reduces waste. Therefore reducing transaction costs on secondary markets is clearly improving static economic efficiency. However, in a second step of analysis, it becomes clear that the sellers of used copyright-protected goods compete with the copyright owners, which might reduce the latters' revenues from original sales and therefore might lead to lower innovation incentives. But there are also some counterarguments against this conclusion. First, the right to resell a copyright-protected good increases the willingness-to-pay of first buyers which might allow the copyright owner also to set higher prices. Therefore it can also be in the interest of the copyright owner to allow and facilitate secondary markets.[13] Secondly, the used copies might have a lower quality and are therefore only an imperfect substitute for the original copy. Therefore price competition might be limited. Similar effects can be achieved by the copyright owner through releasing new or updated versions of the same product.[14] As a consequence, competition through used copies need not be a problem for ensuring sufficient innovation incentives; on the contrary, this competitive pressure can also trigger more innovation from the copyright owner. Another important argument about the advantages of secondary markets is that they allow the access to copyright-protected goods, if the original product is not sold any more (as this is the

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externalities for third parties, i.e. information costs about idiosyncratically specified property rights, and frustration costs for the property rights owners due to their restrictions for individually specifying the property rights they can sell (see ibid., 24-42). See also Rubi Puig (fn.2), 165.

12 See *Rubi Puig* (fn.2), 164-165; and particularly *Rub* (fn.5), 788-795, for whom the reduction of transaction costs is the crucial (and only) convincing argument for copyright exhaustion.

13 See *Rub* (fn.5), 780-783, who therefore correctly argues that exhaustion might not be necessary for enabling secondary markets. Exhaustion however would not leave this decision to the copyright owners.

14 See *Rubi Puig* (fn.2), 163.

case for many books, music CDs etc.).[15] From the discussion about orphan works we know the inefficiencies that can arise through lacking knowledge about copyright holders. Without exhaustion even the existing copies of orphan works might not be allowed to be traded.[16] These arguments are closely linked to arguments as, e.g., that secondary markets and therefore exhaustion is important for cultural preservation, for the access to controversial creative works, and for the protection of privacy, i.e. that copyright owners do not know who is using their creative work.[17] However, it has to be considered that it can be critically discussed whether exhaustion is really necessary for these objectives, or whether cultural preservation, access to controversial works and the privacy problems can also be solved by other solutions than the exhaustion of copyrights.[18]

Another important question is whether and how exhaustion can also lead to more innovation. Perzanowski and Schultz have argued that the first sale doctrine could spur innovation as a consequence of secondary markets: Competition from secondary markets might offer incentives for further innovation by the copyright owners. Additionally, secondary markets might allow the creation of new business models and technologies as well as enable more innovations by the users through finding more possibilities for using the products or modifying them in a creative way.[19] In innovation economics it is a well-established insight that innovations need not only be developed by producers but can also be the result of innovative activities of users. Therefore a too large scope for restricting the resale and use of copyright-protected goods on downstream markets might indeed have also negative effects on further innovation, because it might hinder the innovative efforts of users and other innovating firms.[20] As a consequence, from an innovation economics perspective, limiting the restrictions that sellers

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15 See *Reese* (fn.5), 592-602, who discusses in detail the advantages of exhaustion in the cases that works are out of print or copyright owners withdraw the works to suppress work due to different reasons.

16 See *Perzanowski/Schultz* (2011, fn.5), 895.

17 See *Rubi Puig* (fn.2), 161. Cultural preservation and the access to politically, religiously, or ideologically controversial works are crucial for an open public debate in a free and democratic society. Copyright law should not be misused for endangering this public debate by denying access to controversial works. For the privacy concerns see in more detail below in section III.

18 For a critical discussion see *Rub* (fn.5), 783-788.

19 See *Perzanowski/Schultz* (2011, fn.5), 898-900, *Katz* (2014, fn.5), 112-117, and *Rubi Puig* (fn.2), 161 ("decentralized innovation").

20 For user innovations see generally *Von Hippel*, Democratizing Innovation, 2005; for the problem that post-sale restrictions should not impede innovation, see also *Hovenkamp* (fn.5), 538.

can impose on firms or consumers on downstream markets can lead to more innovations (without needing the consent of the upstream copyright owner). However, from a legal perspective, it is less clear (and perhaps different between U.S. and European copyright law) to what extent copyright exhaustion would create additional, new possibilities for innovation, or whether other solutions are necessary for limiting the scope of possible restrictions by the copyright owners in order to enable more innovation. But, in any case, the existence of secondary markets that are enabled by exhaustion would facilitate the access of innovators to copyright-protected goods.

Another important problem is that restrictions that might be imposed on first buyers for the resale and use of copyright-protected goods might be efficient only in the short term: In the long run, they might block other more efficient uses, because often the benefits and costs of these restrictions change considerably over time in an unpredictable way. Since renegotiation of these restrictions is usually too costly, the long-term welfare effects of such restrictions might easily turn negative.[21] The argument about the positive effects of exhaustion on platform competition refers primarily to the digital economy and will therefore be discussed in section III.

3. Economic Arguments Contra Exhaustion

What are the most important arguments against exhaustion from an economic perspective? Overall there are two main arguments: Mandatory exhaustion (1) might not allow imposing efficiency-enhancing restrictions in distribution systems in downstream markets for copyright-protected goods, and (2) can reduce considerably the possibilities for increasing profits through price discrimination. The economic rationales about the potential positive welfare effects of restrictions for the first buyers are similar to the well-known economic arguments for defending vertical restraints in competition law, as, e.g. in regard to resale price maintenance, selective or exclusive distribution, and many other vertical restraints. In competition law both in the EU and the U.S., a long-term development to a more favorable attitude to vertical restraints has taken place, which was based upon the economic insight that many vertical

21 See *Perzanowski/Schultz* (2011, fn.5), 899-900, and especially Van Houweling, The New Servitudes, Geo. L. J., 885, 900-906, who calls this "the problem of the future".

restraints can have a number of efficiency-enhancing effects. These can be the result of solving free-rider problems among retailers (e.g., for pre-sale services), incentivizing the investment of retailers in the development of new markets, and others. But due to the possible anti-competitive effects of vertical restraints most economists recommend that there should be competition law limits to vertical restraints, i.e. that a differentiated approach should be applied, which stipulates under what conditions what kinds of vertical restraints should be allowed or prohibited.[22] The economic reasonings from this discussion suggest that there might be also many efficiency-enhancing effects of post-sale restrictions of copyright owners that should be taken into account in regard to exhaustion.[23]

The other important argument against exhaustion are its potential negative effects for the possibilities of a copyright owner to pursue price discrimination strategies. Price discrimination can mean that the same good is sold to different (groups of) customers with different prices, or that different versions (e.g., hardcopy or paperback books) are sold whose price differences are larger than the cost differences for these versions. In comparison to a monopoly price for a copyright-protected good, price discrimination implies that customers with a high willingness-to-pay would pay more and those with a lower willingness-to-pay would pay less than the monopoly price.[24] Such a strategy has several effects: Price discrimination might allow the copyright owner to reap overall higher profits which can lead to higher innovation incentives for the creators. In comparison to one monopoly price a larger number of copies can be sold, and the welfare losses due to the deadweight loss caused by monopoly pricing decrease. In addition to these potentially positive effects on innovation incentives and static efficiency it is often claimed that price discrimination might also have positive distributional effects, because poorer persons might pay lower prices than wealthier persons. Therefore price discrimination

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22 For comprehensive overviews on the economics of vertical restraints and the potential efficiency and anticompetitive effects see *Motta*, Competition Policy, 2004, 302; and *Kerber/Schwalbe*, Economic Principles of Competition Law, in: *Hirsch/Montag/Säcker* (eds.), Competition Law: European Community Practice and Procedure - Article-by-article Commentary, 2008, 331.

23 See *Hovenkamp* (fn.5), 539-547; *Rubi Puig* (fn.2), 166-167, and *Rub* (fn.5), 754-759.

24 For a brief overview on the economics of price discrimination see *Rubi Puig*, (fn.2), 167-169. Usually three different kinds of price discrimination are distinguished: First-degree price discrimination means that the firm sets individual prices for each customer, which are equal to their specific willingness-to-pay. In second-degree price discrimination the customers are offered different versions with different prices (as, e.g. hardcopy and paperback books), whereas it is a third-degree price discrimination, if the firm offers the products with different prices to different customer groups (as, e.g., different prices for regular customers and students).

might also increase the affordability and availability of copyright-protected products for less wealthy individuals. However, many price discrimination strategies only work, if the reselling of the goods sold with lower prices to customers with higher willingness-to-pay (arbitrage) can be limited entirely or at least to a certain degree. Therefore well-functioning secondary markets that might emerge through exhaustion can undermine price discrimination strategies or even render them impossible.

There are a number of counterarguments which question these conclusions. First, from an economic perspective, it cannot be shown that price discrimination generally increases social welfare. Whether it increases social welfare or not, depends also on the specific conditions of the markets.[25] Secondly, exhaustion does not exclude price discrimination strategies but might lead to different forms of price discrimination. The simultaneous existence of a market with new goods and a secondary market with much cheaper used goods leads itself to price discrimination and increases the affordability of these goods to people with lower income. Therefore some of the positive effects of price discrimination might still exist under exhaustion. However, it can be asked whether the different price discrimination strategies under exhaustion are more socially desirable than without exhaustion.[26] Thirdly, also the conclusion about the positive distributional effects of price discrimination need some qualification. The wealth of a person is only one influencing factor among many others for the willingness-to-pay for a copyright-protected good. Also less wealthy persons might have a high willingness-to-pay if they have a strong preference for a book or a music-CD as well as wealthy persons might have a low willingness-to-pay, if their preferences for these works are weak.[27] Therefore the argument about the positive distributional effects of price discrimination is not so strong, especially if we take into account that certain groups of consumers will suffer welfare losses due to higher prices. In that respect, it has to be kept in mind that these higher prices

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25 *Rubi Puig* (fn.2), 169; for a deep analysis of this issue see *Meurer*, Copyright Law and Price Discrimination, Cardozo L. Rev., 2001, 55.

26 See *Rub* (fn.5), 774-778.

27 However in regard to certain products the argument about the positive distributional effects of price discrimination might be very important. See, e.g., the discussion about access to medicine in developing countries which offers valuable arguments about the positive distributional effects of international price discrimination strategies in the pharmaceutical industry. This again has implications for the discussion about national and international exhaustion and the merits and problems of parallel trade. See also *Rub* (fn.5), 768-769 for the discussion about international geographical price discrimination of textbooks after the Kirtsaeng-decision of the US Supreme Court which decided for international exhaustion (Kirtsaeng v. John Wiley & Sons, Inc., 133 S. Ct. 1351 (2013)).

are the result of better possibilities of the copyright owners to exploit their market power without exhaustion.[28] Fourthly, also the alleged positive effects of price discrimination in regard to innovation incentives can be questioned. Since innovation incentives through copyrights can also be too large, the profit-increasing effects of price discrimination can also further aggravate the problem of already too high innovation incentives.[29]

4. Some Conclusions

In this section II we have seen that the imposition of restrictions for the resale and use of copyright-protected goods through the copyright owner can have both positive and negative effects in regard to innovation incentives, static economic efficiency and the welfare of creators, consumers, and the society. Especially important arguments in favour of exhaustion are the many positive effects of secondary markets (efficient allocation of used goods, better access and cultural preservation, more possibilities to innovate etc.), which are enabled through exhaustion and the ensuing reduction of transaction costs. However, the impeding of efficiency-enhancing effects of restrictions and price discrimination strategies can also lead to large costs of exhaustion. Therefore it is not surprising that despite all controversial discussions about exhaustion there is a wide-spread consensus in the literature that a simple mandatory exhaustion rule that prohibits generally restrictions for the resale of copyright-protected goods is hardly defendable from an economic perspective. Hence it can be claimed that the current legal situation both in the EU and the U.S. might be too strict in regard to exhaustion, and that therefore a more flexible and balanced approach might be recommended, which better takes into account the tradeoffs between these benefits and costs.[30]

This result raises the question under what conditions the prohibition of post-sale restrictions through exhaustion should be made more flexible. Rubi Puig discusses six different criteria which might be used by a producer to prove pro-competitive effects of post-sale restrictions

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28 See *Lemley/McKenna*, Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP, Geo. L. J, 2012, 2055, 2116, who view exhaustion as an important limitation for the market power of copyright owners, and are concerned about the additional power through the erosion of exhaustion.

29 See *Rub* (fn.5), 765, fn.102, who acknowledges this problem but insists that in such a case of generally too high innovation incentives other changes of copyright law (as, e.g. a shortening of copyright duration) should be made instead of limiting price discrimination.

30 See for such a result *Rubi Puig* (fn.2), 170; *Rub* (fn.5), 795; *Hovenkamp* (fn.5), 541-542.

for making them enforceable and exhaustion inapplicable.[31] In a similar way also Rub stipulates that copyright exhaustion needs a "rebalancing", and that the scope of copyright exhaustion should be decided through the balancing of the benefits and costs of exhaustion.[32] Although Katz primarily tries to defend exhaustion by discussing critically economic reasonings, he also acknowledges the necessity of flexibility in regard to exhaustion. Very interesting is his suggestion that in the necessary balancing we should consider that many benefits of post-sale restrictions might be short-term, whereas many costs might emerge more in the long run. Ultimately, he is in favour of exhaustion as a "sticky default rule", i.e. courts should require copyright owners to justify the efficiency and reasonableness of post-sale restrictions.[33] In this article it cannot be discussed more how such a more flexible approach to exhaustion can look like.

III. Benefits and Costs of Exhaustion in Regard to Digital Goods

Now the crucial question is whether the exhaustion rule can and should still play a role in regard to digital goods or whether it is "game over" for exhaustion in the digital economy.[34] Whereas in the legal system of the U.S., digital exhaustion is not possible right now, the UsedSoft decision of the CJEU has opened up the discussion about digital exhaustion in the EU, and also beyond software. In the legal discussion the CJEU decision has been interpreted as having used an economic approach, because the CJEU wrote in its judgment that "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" and a "functional equivalent".[35] This

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31 *Rubi Puig* (fn.2), 170. These six criteria are (1) personal features of acquirers (consumer vs. commercial users), (2) extent of information about post-sale restrictions, (3) degree of complexity of products and interoperability, (4) existence of other exclusive rights for controlling the use of the copies, (5) impact of post-sale restraints for preventing opportunism, and (6) the temporal scope of post-sale restraints.

32 See *Rub* (fn.5), 741. He also makes specific suggestions for criteria and policy changes, as, e.g., in regard to imported goods and commercial renting, and wants to differentiate according to the level of information costs (ibid., 792-795).

33 *Katz* (2014, fn.5), 89-102, *Katz* (2016, fn.5), 15-19.

34 See *McIntyre* (fn.5) in regard to the market for video games; see for this fundamental question, e.g., *Wiebe*, Die Krise des Erschöpfungsgrundsatzes im Informationszeitalter, in: *Leible/Ohly/Zech* (eds.), Wissen - Märkte - Geistiges Eigentum, 2010, 203, and *Rub* (fn.5), 801-806.

35 CJEU Case C-128/11 - UsedSoft v. Oracle (3 July 2012), para.61.

might be a misunderstanding. Both forms of the copy might be economically equivalent for the firm who buys and uses this copy, but looking only at this functional equivalence is not sufficient for deducing that the same rules should apply to copies that have been only downloaded and digital copies on a tangible carrier. For such a conclusion not only the economic effect on the purchasing firm but also all other relevant economic effects of these two different forms of a digital copy have to be included into the analysis.

Therefore, in the following, we will discuss whether and to what extent the fact that the copy is sold in a purely digital form instead on a tangible carrier changes the benefits and costs of exhaustion discussed in section II.[36] It is usually assumed for such a sale that the seller transmits the digital file to the buyer and simultaneously deletes his own file.[37] Also the proponents of digital exhaustion emphasized clearly the importance of this condition ("forward and delete"), which ensures that only one user can use the copy.[38] We also will not discuss here whether at a legal level the respective contract has been concluded as a sales contract or a (permanent) licensing agreement. Since in the case of digital copies there is no tangible carrier any more, what is "sold" is - from an economic property rights perspective - ultimately a (de facto) right to use. From an economic perspective, it is very unclear whether it makes any economic difference whether such a right to use is granted through a sales or a licensing contract.[39] Therefore most of the following economic arguments are also relevant for the discussion about the question whether licenses can be resold, at least if they grant a permanent, non-ending right to use.

In what respect do pure digital files differ economically from digital copies on a tangible carrier?[40] In both cases the costs are mainly the costs for creating the work. Despite the already

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36 An issue we do not address in this article are questions of additional enforcement problems, because the seller might not delete his copy, or other forms of illegal activites, which might be facilitated by exhaustion and secondary markets. See, e.g., *Wiebe* (fn.34), 206, and *Rub* (fn.5), 803.

37 Otherwise it is clear that the seller would infringe copyright law. However, legally, also "forward and delete" might be seen as an infringement, because the transmission of the file requires an act of reproduction.

38 See *Perzanowski/Schultz* (2011, fn.5), 936-939.

39 This problem whether the contracts should be interpreted as sales or licensing contracts is also a recurring theme in the legal discussion. In section IV, we will briefly come back to this issue of licensing agreements.

40 For economically relevant differences between these two types of digital copies, see *U.S. Copyright Office* (fn.5), 81-85, as well as, e.g., *Zech* (fn.2), 393-394, and *Rub* (fn.5), 803-804.

low marginal costs of digital copies on CDs etc., the marginal costs of an additional downloaded copy is nearly zero (and might consist primarily of transaction costs). Economically, this also means that no material resources are necessary for additional copies. Whereas traditionally copyrighted goods as printed books or music records have a decreasing quality through more use, such a degrading of the digital copy does not occur for both forms of digital goods. Economically this means that a "used" digital file might be a perfect substitute for a new digital file. Well-known is also the important fact that copying of a digital good is possible infinitely without any loss of quality. All of these properties are important but do not lead to real economic differences between downloaded digital copies and those on a tangible carrier. This is different in regard to the costs of reselling a copy on a secondary market. The resale of a CD or DVD requires a physical transport, which leads to considerably higher costs and also takes a longer time than in the case of a downloaded copy, which can be transmitted at once with de facto zero costs. The digital economy also changes the demand of the consumers, because the possibility of permanent and instant access to the internet implies that consumers do not need any more to buy a stock of digital goods (as a collection of books, music, or movies on DVDs) for always having instant access to them. Therefore economically the possession of a copyrighted work is much less important and can be replaced by a right to the access of a digital good.

There is a broad consensus that the most important argument against exhaustion of digital goods are the potential huge negative effects on the revenues of the copyright owners and therefore on their innovation incentives.[41] Two different effects might lead to this problem. First, the already discussed problems of exhaustion on the possibility of price discrimination strategies might increase. Since transaction costs are very low for trading digital files, secondary markets and therefore arbitrage might work much better than for digital copies on tangible carriers. Therefore under exhaustion many price discrimination strategies might not be feasible. However, vice versa, it also has to be considered that in a digital economy without exhaustion much more sophisticated and extreme price discrimination strategies are possible than in the traditional economy, because through Big Data and real-time personalised pricing the firms can target persons with a high willingness-to-pay much better and therefore reap to a much larger degree the consumer rents of customers. In the recent literature about Big Data

41 See, e.g., *Wiebe* (fn.34), 206, *Rub* (fn.5), 803.

and privacy it is seriously discussed that personalised pricing might even allow first-degree price discrimination, i.e. that prices are set individually close to the individual willingness-to-pay. So far the applied price discrimination strategies do not seem so sophisticated but they might be in the future.[42] Although this might increase profits and innovation incentives and have also positive distributional effects, many scholars in this discussion are concerned about such a development. This increases the ambivalence about the price discrimination argument.

Secondly, and more important, is that under exhaustion the "used" digital copies are perfect substitutes to the original ones, i.e. there might be a much more intense price competition between used and new digital copies. This effect is also much stronger with digital copies as downloaded digital files than with digital copies on tangible carriers due to the already mentioned much lower transaction costs on secondary markets for digital products. These low transaction costs in combination with the possibility of permanent and instant trading of these digital copies via internet leads to another problem. Through platforms it would be no problem that one copy could be de facto used by many users, because the possibility to use one copy could be easily sold and resold many times within a certain period A consequence of such a secondary market would be that one copy could be used by many users (as long as they do not need them at the same time), and this might lead to a huge decrease of the original sale of copies and therefore a considerable decrease of innovation incentives.[43] This example also shows that the same problem would arise, if the "sale" is legally framed as a licensing contract and it would be possible to trade licenses in such a way (without the consent of the copyright owner).

This problem that in a digital world one digital copy could be sold and resold many times and instantaneously with very low costs in combination with the impediment of price discrimination strategies through arbitrage is a huge problem for the innovation incentives of copyright owners, if no restrictions would be possible for the resale of digital copies. There are certainly also in the digital world a number of counterstrategies for increasing the incentives of copyright owners, as, e.g., regular updates and offering additional services only to the first buyers and others. The extent of these problems depend also on the specific kind of copyright-

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42 See *Acquisti/Wagman/Taylor*, The Economics of Privacy, JEL (forthcoming 2016), 14-16; available at SSRN: http://ssrn.com/abstract=2580411 (with many references).

43 See for this problem also *Rub* (fn.5), 803-806.

protected goods and their demand. If, e.g., the work is outdated rather fast (either in regard to the information transmitted or due to updates as in the case of software or fast-changing tastes in music etc.), then competition from older "used" copies might not reduce the incentives very much. Therefore the extent of this danger for innovation incentives might depend on many circumstances. This might also provide reasons why, e.g., software with its sometimes many and fast updates can be a type of digital good, which might be less endangered by secondary markets than other copyright-protected works.[44] However, this does not change the general conclusion drawn by many scholars in this discussion that secondary markets might seriously undermine the incentives for the copyright owners. In that respect, there is a huge economic difference between digital copies as pure digital files and digital copies on a tangible carrier.

From that perspective we can also ask about changes of the benefits of a secondary market for digital copies compared to digital copies on a tangible carrier. Since digital copies do not require resources for its production, the non-use of an idle digital copy of a first buyer is not wasteful from a social welfare perspective compared to the non-use of a copy on a tangible carrier (as a CD or a traditional book). If a printed book that is no more used by a first buyer is resold to a second buyer, then another person can read this work without the costs of printing and distributing an additional book, which would be necessary, if used books could not be resold. If the marginal costs of producing copies is zero, then trading "used" copies on secondary markets do not lead to a better allocation of resources compared to the solution that the second buyer directly buys from the copyright owners.[45] Although there might be still efficiency advantages from secondary markets, it can be expected that they are considerably lower than for copyright-protected works on tangible carriers.

What about other benefits of exhaustion? To what extent do they change through a transition to only downloaded digital copies without a tangible carrier? One of the crucial general benefits of exhaustion is the reduction of transaction costs on secondary markets. Even those who are in favour of the non-application of exhaustion to digital goods claim that this might be a serious problem and call for solutions.[46] However, first, it might be that in the digital econo-

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44 However, the problem can emerge whether the buyer on a secondary market also has bought the right to download regular updates.

45 If the marginal costs of a copy are zero, then there are no welfare advantages from sharing idle copies compared to produce new copies.

46 See *Rub*, 805-806 (fn.5).

my the information problems in regard to attached restrictions to digital copies can be more easily solved than in regard to digital copies on a tangible carrier. More important, secondly, is the argument that the benefit of reducing transaction costs is only relevant, if it is socially desirable to have well-functioning secondary markets at all, which however is an open question. Therefore the transaction cost argument might play a much smaller role in this debate, at least in regard to information costs about idiosyncratic property rights.

Much more important is the discussion whether digital exhaustion might lead to more possibilities for innovation for the buyers of digital copies. Modifications, adaptations, and further innovations by users play a much more crucial role in regard to digital works, because digital technology enables much more possibilities how to use, modify, and adapt digital works and combine them with others. Therefore the positive effects of freedom to innovate (by enabling more decentralised innovation) might be even more important in regard to digital works than in regard to traditional copyright-protected works on a tangible carrier. From the perspective of innovation economics, permitting too far-reaching restrictions in regard to the resale and use of digital copies might stifle and block too much further valuable innovation activities, because then the users/innovators might need too often the consent of the copyright owners. Therefore a sophisticated approach that balances the rights of copyright owners and users/ innovators might be helpful in regard to promote innovation or at least impede the blocking of innovation. However, it is again unclear to what extent the introduction of exhaustion would be sufficient for giving the users more scope for additional innovation activities, beyond the effect that secondary markets might make it considerably easier to get access to copyright-protected digital goods, especially in those cases in which the copyright owner would like to block this access.

Another argument for exhaustion of digital copies refers to the well-known competition problems of platform markets. Since platform markets have a tendency to natural monopoly problems due to often large direct and indirect network effects, it can be asked whether exhaustion of copyrights might increase competition among platforms and facilitate the market entry of new platforms. Exhaustion might be helpful for enabling buyers of copyright-protected digital works as e-books or music files to transfer the purchased digital copy to another platform. Such an elimination of the lock-in of customers of technological platforms lowers switching

costs between platforms. This effect is especially important in regard to digital goods.[47] The recent discussion in competition and data protection law whether users of social media and other platforms should have a right of data portability for facilitating switching to other platforms and promoting competition between platforms (with their natural monopoly tendencies as, e.g., Facebook) might support a parallel discussion in copyright law about a right of customers to transfer their purchased digital copies to other platforms (as, e.g., other e-book readers). This might help the buyers of digital works and can contribute also significantly to the solution of the difficult competition problems on platform markets.[48]

In the debate on exhaustion also the benefits of exhaustion in regard to the protection of privacy, access to controversial works, and cultural preservation have been discussed in section II. Also these benefits are at least as important in regard to digital works as for copyright-protected works on a tangible carrier. The recent discussion on the economics of privacy has shown that privacy concerns have increased tremendously in the digital economy. In a digitalised world, in which copyright owners and platforms can control and monitor to a large extent the use of digital works, the privacy of individuals in regard to what they read, what kinds of music and movies they are consuming, is in danger of being severely compromised. In the economics of privacy there is a huge discussion whether markets work well in regard to privacy issues and whether privacy preferences are sufficiently respected or whether privacy has to be strengthened by data protection law, consumer law or even competition law due to market failure problems.[49] Limiting post-sale restrictions of copyright owners, either by exhaustion or other legal means, might help to solve privacy problems.[50] This can be linked to the

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47 See *Perzanowski/Schultz* (2011, fn.5), 900-901; they also suggest specific applications of exhaustion for transfering digital media files as part of a resale or for shifting media files between different devices (ibid., 935-942).

48 For competition problems on platform markets see the German *Monopolkommission*, Competition policy: The challenge of digital markets, Special Report No. 68, 2015, para. 30-63, as well as for the suggestion of data portability for helping to solve these competition problems (ibid., para. 105-106).

49 See for an overview *European Data Protection Supervisor*, Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy, Preliminary Opinion 2014; *Kerber*, Digital Markets, Data, and Privacy: Competition Law, Consumer Law, and Data Protection, GRUR Int (forthcoming 2016), and more generally *Acquisti/Wagman/Taylor* (fn.42).

50 For privacy concerns in regard to copyright management, see *Cohen*, The Right to Read Anonymously: A Closer Look at Copyright Management in Cyberspace, Conn. L. Rev., 1996, 981; very interesting from a privacy perspective are also the links between exhaustion and personal property discussed in *Perzanowski/Schultz* (2015, fn.5).

discussion about access to controversial works. In a digital world, in which copyright owners remain in full control over all the digital copies they have sold, copyright owners can (be pressured to) block entirely the access to these works, which might have very negative effects on public discussion. In the traditional world of copyright-protected works on a tangible carrier, which can be sold, shared, or donated this is not so easily possible. However, also in this respect, it has to be admitted that exhaustion might not be necessary as a solution for these benefits (as well as for cultural preservation), because other solutions can be found (as, e.g., public libraries). But it has to be acknowledged that a far-reaching freedom of copyright owners for imposing restrictions on the purchasers of digital works might deprive the consumers and society from these important benefits.

The results in this section III show that, on one hand, our analysis of the costs and benefits of exhaustion of digital goods does not change the overall picture that there are significant tradeoffs between advantages and disadvantages of post-sale restrictions and exhaustion. On the other hand, however, the size of the positive and negative effects of applying exhaustion might have shifted considerably compared to copyright-protected copies on tangible carriers. The danger of secondary markets with a free resale of digital works for the incentives of the copyright owners has risen considerably and can jeopardize the essential function of copyright as a policy instrument for innovation incentives. However, the analysis has also shown that far-reaching restrictions of the copyright owners might also lead to the loss of important benefits which have been traditionally ascribed to exhaustion and secondary markets for copyright-protected goods. Especially important is that the benefits of more freedom for other innovators, of more competition among platforms, better protection of privacy as well as better access to controversial works might be considerably larger in the digital economy than in the traditional economy with copyright-protected works on tangible carriers.

IV. Exhaustion and Restrictions in Regard to Digital Goods: Some Conclusions

In this article only very preliminary policy conclusions can be drawn, because a deeper economic analysis would also require more input from empirical research as well as a differentiation between different types of copyright-protected digital works (software, e-books, music

files etc.), for which a balancing of the positive and negative effects of exhaustion might lead to very different results. Overall, despite the important benefits of exhaustion it is very questionable whether it can be recommended to support the emergence of entirely free secondary markets for copyright-protected digital copies. The benefits and costs of exhaustion might have shifted so far that the non-application of exhaustion might be recommended as the general rule and exhaustion only should be applied under more or less narrowly defined conditions. However, the potentially also large costs of far-reaching post-sale restrictions through copyright owners suggest that either a sophisticated regime for exceptions should be established, in which exhaustion should be applied under certain conditions, and/or other legal instruments should be used for limiting the possible post-sale restrictions for copyright-protected works in an appropriate way.

This conclusion seems to support the wide-spread opinion that the principle of exhaustion might not be able to play an important role in the future digital economy. In the U.S. discussion both the current law and many scholars do not view exhaustion as applicable to copies as downloaded digital files due to the incentive problems for copyright owners.[51] But at the same time there is also a strong movement in the U.S. for defending and reinvigorating the exhaustion principle in order to preserve important benefits of exhaustion and secondary markets. There are proposals how this could be achieved either through the courts or through legislation, and the UsedSoft-decision of the CJEU in regard to software has invigorated this U.S. discussion.[52] For the European discussion two questions arise: The first question is whether the introduction of exhaustion for digital copies of software leads to a thriving secondary market for used software, and if this will be the case, whether we will observe significant losses of revenues for software firms and imminent danger of too low incentives. In that respect, the legal situation in the EU might allow for an empirical test of this danger to innovation incentives. The second question is whether this experiment should be extended to other types of copyright-protected works (as, e.g., music files or e-books).[53] It might be that software and software markets have specific properties, which do not lead to such big problems

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51 See *U.S. Copyright Office* (fn.5), Rub (fn.5), 801-805, and *Dobson* (fn.5).

52 See *Perzanowski/Schultz* (2011, 2014, fn.5), *Villasenor* (fn.5), *Brassel* (fn.5), *Perkins* (fn.5), *Riehl/Kassim* (fn.5), *Dobson* (fn.5), *Cobb* (fn.5).

53 See also *Hilty* (fn.2), 13-16.

for innovation incentives through exhaustion in comparison to other copyright-protected digital works. But this would require much more specific and deeper research.[54]

It is clear that this discussion about the applicability of exhaustion can be seen as much too narrow in two regards: The first issue is that due to new technological possibilities and business models the sale of downloaded digital copies might be increasingly replaced by other models as streaming and/or flatrate pricing schemes for unlimited access to a large collection of copyright-protected works, which render the question of resales and secondary markets less important or even irrelevant.[55] However there can be also new technological possibilities for creating (a kind of) secondary market for digital copies, which might avoid some of the above-mentioned problems of digital exhaustion.[56] The second well-known issue is that copyright owners can react to attempts for applying the exhaustion principle to sales of digital copies by using other legal instruments as licensing agreements[57] or resort to technological restrictions for making a resale and certain uses technically impossible. This raises the important and much discussed question about limiting the possibilities for circumventing exhaustion through other contractual or technical solutions. For example, one of the issues is whether certain contractual restrictions that are imposed in standard form contracts on customers of copyright-protected goods should be permitted or not.[58] These are important questions and policy options whose analysis and discussion is beyond the objectives of this article.

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54 See in that respect for the current state of the legal discussion (including court decisions) in Europe, *Hilty* (fn.2), 13-16.

55 See for a very broad perspective, *Becker*, Ein Modernes Urheberrecht. Von der Nutzungshandlung zum digitalen Lebensbereich, ZGE (forthcoming 2016).

56 See, e.g., *Reis* (fn.5), 202-206, who proposes a digital secondary marketplace outside of the first sale doctrine, in which copyright owners should get a part of the revenues from secondary sales for a better balancing of the interests of consumers and copyright owners. See also *Soma/Kugler* (fn.5) for discussing other attempts for establishing secondary markets.

57 In section III it was already emphasized that a reinterpretation of the contract with the customers as a licensing agreement instead of a sales contract does not change much economically, if the license is granted for an indefinite duration. The introduction of a right to resell the license would lead to very similar problems for the incentives of the creators than a right to resell the digital copy through exhaustion. However the situation changes entirely, if the licenses are only sold for short periods. Therefore it is interesting to think more about licensing and other contractual solutions (and necessary limits), but this also leads to different business models (as, e.g. subscription services).

58 See, e.g., the discussions in *Zech* (fn.2), *Rub* (fn.5), 809-816; for limits in regard to technical restrictions, see *Specht*, Beschränkung der Verkehrsfähigkeit digitaler Güter durch technische Schutzmaßnahmen, ZGE, (forthcoming 2016); and *Mackenrodt*, Technologie statt Vertrag?, 2015.

From an economic perspective, it is important to understand that the real policy issue is the question what kind of scope copyright owners should have for imposing restrictions of the resale and use of rights they are granting through a sale or licensing contract to their customers (or through technical restrictions), and to what extent and how this scope should be limited, both in regard to (minimum) rights of the customers for the use of copyright-protected works, and in regard to the functioning of competitive markets for creative works, which always includes also the analysis of potential market failures and their most appropriate remedies. For such an analysis the above discussion about the effects on innovation incentives, benefits of secondary markets for static efficiency, access to digital works for other innovators, privacy concerns, and the manifold effects of price discrimination is also relevant in this wider context of other and newer business models and technological possibilities, although it has to be adapted to the different market and technological conditions. It is an important question for future research, whether this line should be drawn legally through exhaustion as part of copyright law, consumer law (as in regard to the control of standard form contracts), competition law, other legal instruments, or - perhaps much more realistic - with a sophisticated combination of several or all of these legal instruments.[59] But whatever kinds of legal instruments are seen as most appropriate, from an economic perspective it is always the analysis and balancing of the positive and negative effects of the restrictions that copyright owners can impose on their customers, which is crucial for deciding where the limits of these restrictions should be drawn for solving best the complex tradeoff problems. It can be expected that this will be a permanent task, because the future technological and economic evolution in the digital economy will require an ongoing coevolution of the appropriate rules both for copyright law and for the markets of copyright-protected creative works.

59 See also the conclusion in *Hilty* (fn.2), 22-23, who warns that copyright law should not be overburdened, and suggests, e.g., competition law and consumer protection law as additional appropriate legal instruments for solving certain problems.