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Publications in the Information Law Series focus on current legal issues of information law and are aimed at scholars, practitioners, and policy makers who are active in the rapidly expanding area of information law and policy.

Introduction & Contents
The advent of the information society has put the field of information law squarely on the map. Information law is the law relating to the production, marketing, distribution, and use of information goods and services. The field of information law therefore cuts across traditional legal boundaries, and encompasses a wide set of legal issues at the crossroads of intellectual property, media law, telecommunications law, freedom of expression, and right to privacy. Recent volumes in the Information Law Series deal with copyright enforcement on the Internet, interoperability among computer programs, harmonization of copyright at the European level, intellectual property and human rights, public broadcasting in Europe, the future of the public domain, conditional access in digital broadcasting, and the ‘three-step test’ in copyright.

The titles published in this series are listed at the end of this volume.

Copyright Reconstructed

Rethinking Copyright’s Economic Rights in a Time of Highly Dynamic Technological and Economic Change

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Borderlines of Copyright Protection: An Economic Analysis
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9.1 INTRODUCTION

Should copyright come into play when I want to bequeath my iTunes collection to my children? If I backup it up to the Cloud? If I forward an email? Or if I embed a link to a YouTube video on my webpage? In a 2007 article, John Tehranian described an ordinary day in the life of a hypothetical law professor John who, by the end of the day 'has committed at least eighty-three acts of infringement and faces liability in the amount of $12.45 million (to say nothing of potential criminal charges)' (Tehranian, 2007: p. 547). As digitization has rushed forward since 2007, including supplying us
The economic rights in terms of reproduction, communication to the public and distribution no longer seem to match with the digital environment. Even though these acts are broad and general in the sense that they can be applied to music, books, films, etc., they appear to be more adequate and relevant in an analogue world of physical carriers, than in the digital environment. One can observe the Court of Justice of the EU (CJEU or ‘Court’) struggling with these concepts to take a position on relatively common issues such as linking and embedding, resale of digital content and making copies of digitally acquired content. In an analogue environment, it may have been logical to make reproduction an important element of the exclusive right of the creator, for instance, but in the current digital environment, this no longer seems the case. Accidental or transient copies of works, for instance, are constantly made in the process of consuming or distributing works; however, they do not seem to affect the exploitation opportunities for the right holder. In fact, reproducing a work without distributing these copies appears not to harm the incentives for the creator to create or to exploit a work.

This chapter starts with a brief overview of the basic economic analysis of copyright and a few trade-offs and insights concerning its scope, followed by an overview of how digitization has affected these trade-offs and insights (section 9.2). From thereon, five cases of ‘borderline exploitation’ are analysed, which the current copyright acquis can be argued to have problems making sense of. These cases are analysed through the lens of the welfare economic framework to determine how the scope of copyright could be reconstructed to be more in line with the twenty-first century. The first three cases, digital resale (section 9.3), private copying (section 9.4), and hyperlinking and embedding (section 9.5) will be dealt with more extensively; the last two, cable retransmission (section 9.6), and text and data mining (section 9.7) are discussed briefly. Section 9.8 offers a brief summary of findings and conclusions.

9.2 WELFARE ECONOMIC ANALYSIS OF COPYRIGHT

9.2.1 COPYRIGHT AS A SOLUTION TO THE PUBLIC GOOD MARKET FAILURE OF CREATIVE WORKS

In general, the economic literature on copyright links the rationale for copyright protection to the incentive to create and exploit works of literature, science and art, at the cost of creating a temporary monopoly over these

the main focus here, but will inevitably come up when considering suggestions for adjusting the scope of copyright.
works (e.g., Landes & Posner, 1989; Besen & Raskind, 1991; Posner, 2005; Miceli & Adelstein, 2006; Sag, 2006). Although this so-called utilitarian perspective is by no means undisputed, it is considered the most popular justification for copyright (Fisher, 2001) and it is certainly the most popular in the economic literature on copyright. Put simply, the exclusive right to certain acts of exploitation enables a right holder to generate revenues and to recoup the investment made to create and exploit the work. Like for many other economic activities, the costs of creating and exploiting works precede the benefits and this implies that future benefits need to be expected to provide proper incentives. This mechanism is highly relevant for creative works, since the initial (fixed) costs of creation are often very large in comparison to the (marginal) costs of reproduction, while copycats do not have to invest the fixed costs of creation.

Of course, this is a simplification as intrinsic motivation (or 'inner drive' or even 'inner necessity') is generally accepted to be very important to understand the professional activities of creators and performers. Nonetheless, extrinsic motivation (wages and other financial rewards) has been shown to play an important role, much like for any other profession (e.g., see Frey, 1997 & Towse, 2006). Moreover, economic considerations and incentives can be assumed to prevail over intrinsic motivations for publishers and intermediaries.

From this (utilitarian) welfare economic perspective, copyright aims to prevent a situation in which anyone could create and sell copies of a work without permission once the costs of its initial creation have been incurred. This would reduce the revenues for the initial creator though a loss of market share as well as a price drop towards the marginal costs of making a copy. In the short term this would be beneficial for consumers who gain access to works at low prices. But this would undermine the incentives for the creator to invest in the creation and exploitation of high-quality works, possibly leading to a loss of welfare in the long run. This mechanism, which represents the core dilemma of the economic analysis of copyright, is illustrated in Figures 9.1 and 9.2.

Figure 9.1 gives a highly stylized representation of the supply of and demand for a work with high fixed costs of creation and low marginal costs of reproduction. In such a case, the average costs per copy (the curved line) drop rapidly and converge to the marginal costs as the number of copies increases. If the right holder is the only supplier of the work (and can only charge a uniform price), he would choose price \( p_1 \) to maximize his profits, which is the grey area in Figure 9.1 that equals the quantity \( q_1 \) sold at price \( p_1 \) times the difference between the price \( p_1 \) and the average costs. At this price, consumers gain welfare as well, called consumer surplus. For each consumer, the individual welfare created is the difference between his or her maximum willingness to pay, depicted by the demand line, and the actual price paid. At the chosen fixed price \( p_1 \), all consumers combined gain a consumer surplus represented by the dark triangle in Figure 9.1.

Figure 9.1 Stylized Supply and Demand Graph for a Copyright Work

Now assume that the right holder faces competition from other suppliers of the same work – copycats – who have the same marginal costs of reproduction but no fixed costs. In that case, competition will bring the price down close to marginal costs, as is depicted in Figure 9.2. The total consumer surplus (the triangle) is much larger this time as a direct result of the lower price. However, no supplier is making a profit anymore in this extreme case, and the right holder has no way to recoup the initial investment.\(^3\)

3. A few authors, most notably Boldrin & Levine (2002–2008) dispute this analysis, basically by emphasizing that in the initial sale to copycats, the creator can charge them for the profits they expect to make from subsequent reproductions. Although this type of argument will be accepted in certain special circumstances, it is rejected as a general argument against copyright. It requires rather theoretical assumptions, such as full appropriation of downstream rents upon sale, frictionless resale of copies by any copier at a uniform market price and no uncertainty about future demand. This is very remote from the current situation, in which a handful of copies of, for instance, a new film make their way to peer-to-peer exchange platforms. See McManis (2009) for a general critique of Boldrin & Levine (2008).
The optimum scope of copyright in the economic literature follows from the optimum long-term effect it has on total social welfare, taking account of the dynamic effects of copyright on the creation and quality of works, and the incentives it provides for their active exploitation. In such an analysis, consumer surplus and profits for producers are given equal weight and neither right holders nor consumers enjoy a privileged status. It should be stressed here that the concept of social welfare is much broader than the limited realm of monetary effects or wealth. In the welfare economic framework, non-monetary social norms such as privacy and freedom of speech also contribute to well-being and hence to social welfare. The utilitarian ambition would be for those norms, or more precisely the effect of certain acts or policy measures on those norms, to be expressed in monetary terms to allow for a comparison within the unified welfare economic framework. Only the distribution of welfare falls outside its theoretical scope. Teulings et al. (2003), for instance, argue that ultimately there are only two goals for public policy making: efficiency and distributional issues. Ideally, these should be decided on independently. A few years earlier, the Dutch Scientific Council of Government Policy had identified five separate principles for good governance: democratic legitimation, equality before the law, legal certainty, effectiveness and efficiency (WRR 2000, 27–28). In response, Teulings et al. (2003) point out that effectiveness is not fundamentally distinct from efficiency, while they consider the first three principles to be procedural criteria, which are not goals in themselves but means to achieve the public interests of efficiency and an acceptable distribution of welfare.

In practice it seems almost impossible to realize this normative ambition to express any social norm or value other than equity in monetary terms and integrate it into a unified welfare economic framework. In fact, it will prove complicated enough to assess the static and dynamic effects of copyright issues for right holders and consumers, without integrating these other norms into the same framework. Focusing on these static and dynamic effects within the copyright industry and on consumers, and – if needed – later amending the outcomes of such a narrower economic analysis on the basis of these other norms therefore seems a more pragmatic solution than trying to incorporate these norms fully in the welfare economic framework. For instance, it could be decided that the economic position based solely on total welfare would lead to over- or under-protection since it insufficiently incorporates other social norms.

Thus, in economic terms, the main argument for copyright boils down to the observation that the rents from creation are not (or are insufficiently) excludable without some form of protection. This ‘public good’ market failure related to the creation of a work can justify copyright legislation and enforcement, but the extent to which this market failure occurs is not a given. It differs between types of works and has changed over time.

First, it depends on the cost advantage of the creator or publisher making copies of copyright-protected content: if the costs of making copies are much higher for third parties, the need for copyright protection is lower. In Figures 9.1 and 9.2, this point relates to the position of the marginal cost line for copycats compared to its position for the initial creator: the higher the marginal costs of copycats compared to those of the right holder, the more room there is for the right holder to recoup his investment.

Second, the need for protection will depend on the substitutability of ‘originals’ by copies. A painting by Marlene Dumas, for instance, is not only very hard to replicate adequately, but also derives much of its value from the fact that it is an original. Hence, creating a copy will be costly and will most likely yield no more than a poor substitute, which is why from an economic perspective, copyright protection would be less necessary here than for

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4. See Stolwijk (2010) for a discussion of the broad economic concept of social welfare in policy analysis, contrasted with the narrower concept of GDP.
instance for an e-book. Thus, the stronger the market preference for ‘originals’ over copies, the less need there is for copyright protection.

Third, contractual arrangements – private ordering – are a potential substitute for copyright protection. In a world with perfect and enforceable private contracts, no copying without permission will occur and hence no copyright protection is required. The viability of private ordering as a substitute for copyright will depend on the enforceability and transaction costs of private contracts, as well as on the limits to contractual freedom and the enforcement of contracts on behalf of, for instance, competition policy, unfair business practices and privacy protection.

9.2.2 THE EFFECTS OF DIGITIZATION ON THE PUBLIC GOOD MARKET FAILURE

Digitization has significantly affected all three of these factors relevant to the optimum scope of copyright protection. In the digital age, the costs of making good quality copies of many kinds of work have decreased sharply relative to the initial costs of creation, while the quality of third-party copies and hence the substitutability of originals by copies has increased. As a consequence, the ‘natural protection’ of the rents for the creator or follow-up right holder has diminished, making the situation depicted in Figure 9.2 a realistic scenario without adequate protection. Moreover, the Internet has dramatically decreased the cost of distributing digital copies.

Considering copying by private individuals, within small companies, within schools, etc. Photocopying a printed book in such an environment ‘originals’ over copies, the less need there is for copyright protection.

5. That is setting aside the exclusive right to produce derivative works, which can also be part of the incentive system of an artist. In addition, the droit de suite for works of art should be mentioned in this context. This right entitles an artist or his heirs in some jurisdictions to a fee or share in the profits on resale of their work. This right is unrelated to the public good market failure at the foundation of copyright. Instead, it may be justified on other grounds. From a welfare economic perspective, it may be justified by information asymmetries, if buyers are believed to have better knowledge of the quality and market value of these works of art than the artists themselves. Also, it may be justified on distributional grounds, if the income or wealth position of artists or their heirs is believed to call for intervention or if buyers of works of art are generally believed to have market power vis-à-vis artists which need correcting for. As general rules, these justifications are contestable while the creation of a droit de suite can be expected to have a negative impact on the price in the first sale. For a critical welfare economic analysis of comparable legislative proposals to improve the position of authors, see Poort & Theeuwes (2010).

6. C.f. Landes & Posner (1989, p. 329): ‘To generalize, when either the cost of making equivalent copies is higher for the copier than for the creator or the copier’s product is a poor substitute for the original, the originator will be able to charge a price greater than his marginal cost, even without legal protection. And, obviously, the greater the difference in the costs of making copies and in the quality of copies between creator and copier ..., the less need there is for copyright protection.’

used to be time-consuming and costly. Taking labour costs – or in the case of a private copy the opportunity costs of time – into account as well as the costs of copying paper and toner, the total costs of such a copy were probably higher than the production costs of an original by the publisher. At the same time, the quality of the photocopy compared poorly to the original. More or less the same held true for tape cassette copies of music records. In both cases, the cost of making copies and their inferior quality provided a natural protection for the original, even without copyright protection. Making copies from copies caused the quality to deteriorate even further, thus creating a natural barrier to the proliferation of copies.7

However, the costs for private individuals to make copies of digitized media such as CDs, DVDs and computer games are much lower, while the quality difference is much smaller. For works sold as digital files without any physical carrier, such as e-books, mp3 files, digital photos and video files, copying these files is easier still while there is no quality difference at all. As a result, the economic need and rationale for some form of copyright protection in the digital age may be stronger than before.

On the other hand, technical protection measures (TPMs) and digital rights management technology have been developed to prevent such copying or at least to increase the ‘costs’ of copying for individuals. Moreover, TPMs are increasingly used as tools for imposing end-user licence agreements, defining what buyers can and cannot do with the works they acquire. For instance, they allow consumers to only play content they have purchased on a limited number of devices or prevent them from reselling it or from giving it away by linking it to a user account. Thus, the more effective TPMs are, the more they enable private ordering. By doing so they serve not just to support or enforce copyright, but also to substitute it. As Elkin-Koren (2009) points out, ‘TPMs could be designed to enforce copyright as defined by legislation, but also to expand the scope of protection by disabling uses which are explicitly exempted under copyright law.’

When perfectly effective, TPMs can resolve the previously described public good market failure, rendering copyright protection superfluous. But of course, TPMs are never infallible. They can be circumvented or removed, and if this is done well, the TPM-free version can no longer be traced back to the original buyer. This implies that the end-user licence agreement can no longer be effectively enforced. In addition, there is a natural tension between the aim of TPMs to restrict unlicensed uses, and the various interests of end users, for instance to access the content they acquired on different devices, as well as the public desire to safeguard the privacy and autonomy of users to some extent. In the early 2000s, TPMs on CDs caused computers to crash. Obviously, this conflicted with the bona fide expectation and wish of many consumers to use their computer for playing CDs. Eventually, the use of

7. Of course, this was different for ‘industrial’ copying e.g., by professional printers, but for these there was and is more room for copyright enforcement.
TPMs proved to be counterproductive for most of the music industry and was abandoned (Sinha, Machado & Sellman, 2010; Vernik, Purohit & Desai, 2011), while for audio-visual content, e-books and games it is still common. Also, the rapid emergence of access-based business models such as Spotify rekindled the use of TPMs for music. In light of the above, and despite their limitations, TPMs are regularly considered throughout this chapter, either as a means to support and enforce copyright, or as a potential substitute for it.

9.2.3 Societal Costs of Copyright Protection

Returning to the basic idea of copyright as a means to resolve the public good market failure associated with the creation and exploitation of works, it is important to stress that copyright protection comes with considerable costs to society. These costs need to be taken into account in any economic assessment of the optimum scope of copyright. Landes & Posner (1989) mention the costs of administering copyright, which are likely to increase with the number of works created and with the strength of protection. The administrative costs of licensing copyright or obtaining consent for certain acts which may be copyright-relevant are considered to fall within the same broad category of transaction costs of copyright. Posner (2005) adds that these costs increase over time, as identifying a copyright holder to license from usually becomes more difficult as time passes: the copyright holder may well be the heir of the initial creator, or a company obtaining the rights after the insolvency of a first company to which the initial creator transferred her economic rights, etc.

A second general type of cost of copyright protection stems from the fact that whenever it allows works to be priced above their marginal costs, this is likely to cause demand to decrease below the level that is optimum from a static perspective. This entails a static loss of welfare through so-called dead-weight losses. In Figure 9.1, these derive from all potential consumers who have a willingness to pay larger than the marginal costs but who are not serviced because the price \( p_1 \) set by the right holder is larger than these marginal costs. Thus, every potential customer with a willingness to pay larger than the marginal costs who is not serviced entails a static loss of welfare. In a static economic framework, marginal cost pricing (as in Figure 9.2) would be preferable to a uniform price above marginal costs, but of course this raises the issue of how to recoup investment costs. Alternatively, refined price discrimination schemes may be used to minimize dead-weight losses but can have other economic and distributional drawbacks that are touched upon at the end of this section.

A third type of cost is related to the former but appears in a dynamic perspective. Works protected by copyright often serve as input for other creators. Moreover, it will limit their ability to license works for transformative use and other forms of use, as this would likely be an infringement, or it will enhance uncertainty about whether the use of a work is allowed. These costs may cause dynamic welfare losses. Such dynamic effects imply that there is an inverted u-shaped relation between the strength of economic rights and creation: beyond some strength of copyright protection that yields the maximum level of creation, a further increase in strength leads to a decrease in the number of works created.

9.2.4 Economic Foundations for the Scope of Copyright

As a result of the three types of costs of copyright protection discussed in the previous section, the welfare economic optimum level of copyright protection lies not where creative output is highest in terms of volume and quality, but somewhere on the left-hand slope of this inverted u-shaped curve. The reasons for this are the increasing costs of administering copyright, and the dead-weight losses of stronger protection via the higher prices it entails, including its adverse effect on subsequent creation.

Where this optimum lies, for instance in terms of the duration of copyright, is essentially an empirical question, the answer to which may differ across types of work and forms of exploitation. For a more general economic assessment of the scope of copyright, however, one needs to go back to the general economic foundation of copyright protection, which is the resolution of the 'public good' market failure associated with the creation of works, so as to provide proper incentives for the creation and exploitation of works. As explained above, the costs of copying, the substitutability of originals by copies and the possibilities of private ordering as an alternative to copyright protection need to be borne in mind in such an assessment, as well as the various societal costs of copyright protection.

As a general principle, resolving the market failure requires giving a creator and follow-on right holders exclusive rights with respect to acts that, as a consequence of this public good market failure, negatively and significantly affect his current or future exploitation opportunities and hence negatively interfere with his incentives to create or exploit. Put differently, it requires enabling them to reasonably foreseeable or anticipated positive external effects from their creation. Acts that do not meet this criterion should – in an economic assessment of copyright – be considered 'copyright irrelevant'. In fact, they may even benefit the right holder. Hence the right holder requires no legal protection with respect to these acts.

to be supplied at a profit-maximizing price. This will not be a strict monopoly price, since even under the strongest system of copyright protection there will be competition between works. Still, in many instances it will be higher than the price absent copyright protection, reducing demand from subsequent creators. Moreover, it will limit their ability to license works for transformative use and other forms of use, as this would likely be an infringement, or it will enhance uncertainty about whether the use of a work is allowed. These costs may cause dynamic welfare losses. Such dynamic effects imply that there is an inverted u-shaped relation between the strength of economic rights and creation: beyond some strength of copyright protection that yields the optimum level of creation, a further increase in strength leads to a decrease in the number of works created.
Resolving the public good market failure must not generate new market failures by granting more or stronger rights than a creator would have in the absence of the initial market failure. Therefore, it should in itself be copyright irrelevant if a buyer of copyright-protected content manages to create surplus in a downstream market, as long as the public good market failure is not reintroduced by doing so. To illustrate this point, consider a company manufacturing cars. Once a car is sold, this company has no claim to the revenues created by this individual: whether he uses it for joyriding, for visiting clients or as a taxi. The car is an excluolvable private good and there is no economic reason for the manufacturer to have any claims on surplus created after its sale. The same argument holds for smartphones, shovels and sandwiches, as well as for a work of literature, science or art, once the public good market failure has been resolved, resulting in its sale or licensing. The differences in the value various buyers derive from a good give rise to the consumer surplus in Figure 9.1, which is larger for some buyers than for others. But the public good market failure associated with creative works gives no reason to entitle the creator to this surplus any more than in the case of other products and services. Of course, an individual buyer may sell the car on the second-hand market and the manufacturer may argue that this second-hand market negatively and significantly affects the first-hand market. However, this argument can easily be reversed, since a strong second-hand market will affect the willingness to pay in the first-hand market. Hence, the surplus in the secondary market can largely be appropriated in the first sale. In any case, in the car market, the argument that the second-hand market may negatively affect the market for new cars has not been accepted as a valid reason to prohibit the resale of used cars. Why should this be different for copyright-protected content? The arguments here imply that the exclusive rights of copyright should not extend beyond the first sale of a work any more than for other exhaustible goods. Once a physical or digital copy of a work has been sold, the market failure that justified copyright legislation has been resolved with respect to this specific copy. Like for any other product which does not suffer from this market failure, there is no economic justification for granting the initial creator automatic control over the secondary market or over the value created with the product downstream in the value chain, as this value is not an external effect that needs to be internalized to achieve a welfare optimum. Of course, altering the current copyright system to this end can affect the sales or licensing agreements upstream, and will impact the allocation of risks in the value chain.

The difference between copyright works and physical products such as smartphones or cars is of course that the initial buyer of a work could extend the market by selling multiple copies or by granting several new consumers access to the work. Thus, the initial buyer becomes a new seller (not just of what he bought), who can undercut the original creator and still make a profit because he has no investment in the initial creation to recoup. This is the scenario depicted in Figure 9.2 which reintroduces the initial ‘public good’ market failure and can justify intervention for the initial creator to regain control. This mechanism will be studied in more detail in sections 9.3 and 9.4, when discussing the issue of digital exhaustion and private copying.

To understand which acts ought to fall under copyright protection since they negatively and significantly affect the current or future exploitation opportunities of the right holder, it is essential to note that exploitation is a very wide and open concept here. The concept not only applies to the wide variety of business models that exist today, but also to future business models. Nowadays, exploitation can take many forms other than a simple exchange of a physical carrier or a content file – a copy of a work – for money. Exploitation can take the form of providing digital access to works on a temporary or permanent basis – for instance by licensing digital streaming platforms such as Spotify and Netflix. And a monetary payment by the end user in exchange for a work or access to a work is just one of several possible business models. Others may rely on advertising revenues (e.g., YouTube, Spotify Free, Readfy), collecting data about consumers, creating an environment of cross-selling other works or products, building a fan base or reputation which can be monetized in the future, and whatnot. For the right holders of works on free platforms such as YouTube or even SSRN, the number of views or downloads can be an important incentive for creating and posting works, as views or downloads may be monetized directly through a share in advertising revenues, or indirectly as a proof of reputation or fame which contributes to the career opportunities of the creator. When the challenges of copyright in the digital age became apparent, in particular in the context of unauthorized file sharing, an often-heard recommendation was for the content industry to develop new business models (e.g., Van Eijk, Poort & Rutten, 2010). Now that various such business models have emerged, it is important to take into account their existence when considering how acts by third parties may affect current or future exploitation opportunities. This does not imply that any current exploitation model must be respected and protected by copyright. But it does mean that the scope of copyright should be broad enough to allow for many of the current exploitation models, and general enough to account for new models yet to be developed.

The central notion for all of the models mentioned above is that of control. This control – deriving from the exclusive nature of the economic right – enables the right holder to exchange access to a work for something which generates value for him, be it money, website traffic, attention or personal data. A right holder exploiting a work can control who can consume a work and under what circumstances, and choose an exploitation model.

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8. A potentially appealing counter-argument that digital works are different as they do not degrade as physical products do will be discussed in the case study of digital exhaustion in section 9.3.
which seems fit. This control to exclude consumers is what is lacking without
copyright protection, due to the 'public good' nature of a work. However,
from an economic incentive perspective, control is only justified to the extent
that a lack of control would, as a consequence of the public good market
failure that is described, negatively and significantly affect the current or
future exploitation opportunities for the right holder.

But even if a negative and significant effect may occur, the extent of the
market failure – in light of the cost for third parties to make copies, the
substitutability of originals by copies and the opportunities for private
ordering – as well as the various ‘costs’ of copyright protection need to be
considered in order to define the optimum scope of copyright. As said, this
is an empirical question, the answer to which may differ between types of
work and forms of exploitation.

First, transaction costs may justify curtailing copyright and placing
certain acts that negatively and significantly affect the current or future
exploitation opportunities for the right holder nonetheless outside the scope
of copyright protection.

Second, there is the issue of dead-weight losses that result from above
marginal cost pricing. In theory, the interests of society at large and the right
holders in minimizing these costs are aligned. To minimize dead-weight
losses and to maximize profits, right holders can be expected to develop price
discrimination schemes, just as entrepreneurs in many other industries do, as
soon as the conditions for price discrimination are met. That is, the seller
needs to have at least some market power to be able to set prices above
marginal costs; he needs to be able to distinguish between consumers to
know which price to charge to whom; and resale needs to be impractical,
costly or outright forbidden in order to prevent arbitrage between customers.
Note that the last condition has a direct link with private ordering and
end-user licence agreements, which implies the opportunities for price
discrimination when using TPMs are abundant.

In practice, given the fact that perfect (first degree) price discrimination
is not achievable, a right holder will be inclined to accept dead-weight losses
if it helps to maximize revenues. There is a vast literature on the outcomes
and welfare effects of price discrimination in various different competitive
settings and under various assumptions about consumer demand, the
information consumers and producers have, producers' ability to commit to
prices, etc. These effects turn out to be ambiguous. As Miller (2013)
observes: 'economic models of price discrimination tend to predict a positive
increase in overall social welfare compared with flat rate pricing'. A general
rule of thumb is that for price discrimination to be welfare enhancing, it must
lead to a substantial increase in total output by serving markets that were
previously unserved.

Figure 9.3 Product for Which no Uniform Price Recovers the Fixed

In situations such as that depicted in Figure 9.3, and also in less extreme
cases, price discrimination can be welfare enhancing. But even then, total
consumer surplus will be reduced at the expense of producer surplus, raising
distributional concerns. In other cases even producers can suffer a welfare
loss, due to intensified competition. These considerations are general and not
specific for copyright works. Therefore, a welfare economic assessment of
the scope of copyright may involve limits to the ability of right holders to
price discriminate, but in principle these limits should be no more or less
stringent than for other products and services.

Lastly, as stated at the start of this section, it may be necessary to amend
the normative economic stance on the optimum scope of copyright on the

9. For example Varian, 1989. See in the context of price discrimination for copyright works

10. Note a strong analogy with antitrust policy here: if a right holder is given monopolistic
control over the exploitation of a work, there may be cause for antitrust intervention like
in other industries where dominant players exist.
basis of other societal norms such as freedom of speech and privacy, as long as such norms have not been incorporated in the normative economic framework itself.

9.3 DIGITAL RESALE

The issue of the resale of digital content has already been mentioned in the previous section. Here, this case is studied in more detail. The question is whether an end user should be allowed to resell digitally acquired copyright works such as e-books, music files, video files, and games, or to give them away, barter them or lend them to friends, just like works obtained on physical carriers.

9.3.1 LEGAL TREATMENT

The ‘exhaustion’ or ‘first sale’ doctrines refer to the general principle that once an original or copy of a work, such as a book or CD, has been sold by or under the authorization of the copyright holder, the exclusive right to authorize or prohibit any further distribution to the public of that original or copy, by sale or otherwise, is ‘exhausted’ (Article 4(2) of the Copyright Directive). In other words, the buyer can resell or give it to other parties as he sees fit and, in this respect, a physical carrier containing a copy of a work is treated identically to other products (although in EU copyright, the exhaustion rule does not encompass rental and lending). For digitally acquired works, however, this may be different as exhaustion does not apply to communication to the public (Article 3(3) of the Copyright Directive).

In a case relating to software, some room for digital resale was created by the CJEU. In Case C-128/11 – UsedSoft, the CJEU ruled that under certain conditions the exhaustion doctrine also applies to software bought by way of downloading it from the Internet, which means software can be resold ‘second-hand’ provided it is deleted by the initial buyer. Volume (multi-user) licences can only be resold as a whole and not partially, however. An important element in the reasoning of the Court was the fact that the Oracle software in this case could be used ‘for an unlimited period’ (CJEU, UsedSoft, para. 61). In other words, the buyer can resell or give it to other parties as he sees fit and, in this respect, a physical carrier containing a copy of a work is treated identically to other products (although in EU copyright, the exhaustion rule does not encompass rental and lending). For digitally acquired works, however, this may be different as exhaustion does not apply to communication to the public (Article 3(3) of the Copyright Directive).

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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. Interpreting Article 4(2) of Directive 2009/24 in the light of the principle of equal treatment

confirms that the exhaustion of the distribution right under that provision takes effect after the first sale in the European Union of a copy of a computer program by the copyright holder or with his consent, regardless of whether the sale relates to a tangible or an intangible copy of the program. (CJEU, UsedSoft, para. 61)

Hence, with respect to exhaustion, the CJEU makes no fundamental distinction between software bought on a physical carrier and software downloaded from the Internet without such a carrier. Commentators have stressed that in practice it will be hard to distinguish between authorized and unauthorized copies, as a result of which this ruling opens the door for uncontrollable piracy. On the other hand, the applicability of the ruling seems limited: first, it applies to software and not to other types of work. Second, it appears easy to circumvent this ruling by either offering a software licence for a limited time or offering it as a service instead of a product.11

However, in the case Tom Kabinet v. Nederlands Uitgeversverbond concerning the second-hand sale of e-books, the Amsterdam Court of Appeal held in 2015 that, in principle, the UsedSoft ruling can also be said to apply to e-books and therefore that the second-hand resale of e-books should in principle be allowed, as long as the reseller can guarantee the legitimacy of the e-books on sale. This case has now led to a preliminary reference to the CJEU.12 Moreover, in Case C-174/15 – Vereniging Openbare Bibliotheek v. Stichting Leenrecht, the CJEU ruled that public libraries can lend digital copies of e-books, provided that ‘only one copy may be downloaded during the lending period and that, after that period has expired, the downloaded copy can no longer be used by that user’. (CJEU, Vereniging Openbare Bibliotheek v. Stichting Leenrecht, paragraph 74). Both rulings suggest at least some room for applying the exhaustion doctrine to digital content.

9.3.2 ECONOMIC ANALYSIS

One may question the economic significance of resale of digital content. Before embarking on a normative economic analysis of digital exhaustion, the following subsection aims to scratch the surface of the potential market for second-hand digital content.

9.3.2.1 The Potential Market for Second-Hand Digital Content

It is uncontroversial that the exhaustion doctrine applies to physical carriers such as CDs, DVDs and printed books and is simply irrelevant for

subscription services which, once cancelled, leave the consumer with no collection that could be resold. The issue to be discussed here is whether – from a welfare economic perspective – it ought to apply to digital downloads of copies of works. To estimate the potential market for second-hand digital content, this subsection first assesses the share of digital downloads in the various content markets.

In the music industry, digital downloads and physical formats are rapidly losing ground while subscription services are booming. In 2016, global revenues from recorded music totalled USD 15.7 billion, a growth of 5.9% compared to 2015 and the second consecutive year of global growth after two decades of decline (IFPI, 2017: p. 11). Digital sales (downloads plus subscription services) accounted for 50% of total revenues (USD 7.8 billion), while physical formats were down to a 34% share. Performance rights and synchronization rights were responsible for the remaining 16% of global revenues. Within the digital revenues share, the market is rapidly tilting towards streaming services. In 2016, streaming grew by 60% to account for 59% of digital revenues, while revenues from downloads declined by 21% (IFPI, 2017: p. 12). Considering the growth and decline of these digital formats over the past few years, streaming can be expected to grow further at the expense of both physical formats and digital downloads in the years to come. This implies that the potential market for second-hand digital music will shrink as the consumption on the first-hand market declines. On the other hand, the revenue share of digital music downloads could stabilize at some still-significant level. Moreover, there could be a surge in consumers who have switched to streaming services and therefore want to resell their digital collections.

Compared with music, the market for audio-visual content is more fragmented between genres and windows with very different backgrounds and business models, such as linear television (free-to-air or subscription-based), on-demand services and over the top (OTT) services such as Netflix. Films can be made available through all of these channels, but also have the theatrical window which series and other audio-visual content do not. Unlike for digital music, revenues for digital audio-visual content are growing rapidly, but for audio-visual, physical carriers are still the dominant format.

In 2016, total spending in Europe on buying and renting physical and digital video was EUR 9.7 billion (International Video Federation 2017). Physical DVDs and Blu-ray discs accounted for EUR 4.2 billion of that, down by 18% in 2016, while digital video and video on demand grew by 27% in that period to EUR 5.4 billion. Of that, digital retail is only a small portion and it remains uncertain whether digital retail will ever gain a substantial share in this market, given the rapid growth of subscription services. The fact that most adults do not consume audio-visual content repeatedly, as they do music, makes this market even more fit for digital rental or subscription services than music, but also implies that people might want to resell digital downloads if they can.

The market for video games is also very fragmented by platform (PC games, console games, smartphone and tablet games) and acquisition channel (physical formats, rentals, subscription services, web downloads and downloads from app stores). SuperData Research estimated the global market for digital games at USD 61 billion in 2015, 8% growth from 2014. Of that USD 61 billion, tablet and smartphone games accounted for USD 25.1 billion and digital PC games for USD 32 billion. Digital console games accounted for only about USD 4 billion. In theory, a substantial percentage of this market for digital games could be relevant for digital resale.

Systematic, internationally comparable data for the e-book market are not available and different sources differ even when reporting for the same country (Poort & van Eijk, 2015). In 2013, e-book adoption was by far the highest in the US, where turnover from e-books amounted to about 19% of industry revenues. The UK came in second, with a 2013 market share for e-books of 15%, followed at some distance by countries such as Denmark (5%), the Netherlands (4.7%), Germany (3.9%), Spain (3%-5%), France (1.5%-2.3%) and Sweden (1%). Overall, e-books accounted for only 3% of book sales in Europe in 2013 (Wischenbart et al. 2014). More recent figures for the US e-book market suggest its share of total revenues has levelled off, at around 20% since 2012. There are some subscription services for e-books, such as Kindle Unlimited, but these have not yet picked up a large market share. This suggests that there could be a substantial potential market for second-hand e-books.

To summarize: despite the fact that physical formats are still dominant for books and that access-based models (subscription and rental) dominate digital sales in music and audio-visual, there is still a large market for the sale of digital content. This raises the question of whether or not to allow digital resale. Apart from the potential size of this second-hand digital content market, there are other reasons (both economic and non-economic) for advocating the existence of such a market. Reis (2015: pp. 189-194) lists improved access to content, preservation, privacy, transactional clarity, innovation, platform competition and reducing piracy.

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15. Similar arguments are provided by Rubi Puig (2013), who proposes a set of ‘factors that can be considered by courts and policymakers in applying rules on exhaustion more flexibly in some settings’. Taking such factors into account, right holders could formulate an efficiency defence for enforcing a contract limiting exhaustion.
Section 9.2.4 stated that, as a default, control over a copy should not extend beyond its first sale any more than for any exhaustible good: once a digital or physical copy of a work has been sold, the market failure that justified copyright legislation has been resolved with respect to this specific copy. As for any other product which does not suffer from this market failure, there is sound economic justification for granting the initial creator automatic control over the secondary market or over the value created with the product downstream in the value chain.

As argued, this does not imply that a right holder would not want to control or extract rents from the secondary market or from value creation downstream. As Boldrin & Levine (2002: p. 3) write: ‘All producers would impose downstream licensing agreements if they could: producers prefer not to compete against their customers. But the absence of competition leads to monopoly, and economists as a rule frown upon monopoly’. A car manufacturer, for instance, might want to forbid or otherwise control the secondary market for cars in order to prevent competition from the market for used cars in the market for new ones. The closer substitute used cars are to new ones for consumers, the more new and used cars become part of the same relevant market, which implies that the price of new cars will be depressed by the price of used ones. At the same time, however, the option to sell a car on the secondary market increases the value of a new car for a consumer and part of this value can be extracted by the manufacturer in the initial sale.

For the car manufacturer, it might seem a good idea to receive royalties for the profits made by a company using its cars or for any resale in the second-hand market. In fact, such a royalty on the digital resale of copyright works is proposed by Reis (2015) and has been agreed upon between the Dutch reseller of second-hand e-books Tom Kabinet, and right holders: authors receive EUR 0.50 for each e-book sold second-hand on this website. The idea of such a royalty for digital resale resembles the droit de suite or resale right which was discussed briefly in the introduction (section 9.1). The difference is that the droit de suite serves the purpose of improving distributive justice for artists whose work increases substantially in value after the first sale, or of protecting them against information asymmetries or possibly myopia; not of giving publishers or e-tailers control over downstream markets.

From an economic perspective, such a royalty should be rejected, since profits in downstream markets are not external effects and do not stem from the public good market failure of copyright works. A royalty on resale could hence be called a jealousy tax with no sound economic justification. In specific cases, such a royalty may improve the incentives for the production of cars. But as a general rule, this is more likely to introduce or worsen market failures downstream and lead to an overall welfare loss. From general economic theory it follows that the welfare effects on downstream markets, caused by investments in a market, may only be significant if significant market failures exist in these downstream markets. Only in such cases might the investment increase or reduce market failure (e.g., market power) in downstream markets and generate additional welfare effects there. A point which is often raised to argue that resale of digital content is different and that exhaustion should therefore not apply, is that digital content does not degrade or depreciate (e.g., Reis, 2015). A second-hand version of an e-book has no coffee stains or dog ears and is just as good as a new one. This could imply that first and second-hand versions are perfect substitutes, meaning the right holder may face stiff competition from the second-hand market. Three points can be made to counter this argument.

First, it was already pointed out that part of the value consumers anticipate from resale can be extracted in the initial sale. Second, depreciation of copyright works is not just physical but primarily commercial. Although there are certainly differences between types of works, genres and specific titles in this respect, books, music albums, films, series and games are generally ‘fast-selling products’ and generate most of their revenues during a short period of time. For games, this may be less than a week, but for popular music, books and audio-visual content too, sales fall off very rapidly over time.

To illustrate this: Adele’s album ‘25’ sold 2.3 million copies in the US during the first three days, making it one of twenty albums to have ever sold over a million copies within a week. Interestingly, the list of albums to ever sell over a million copies is identical to the list of albums selling over a million copies within a week, which implies that no album to ever sell over a million copies did not do so within a week. Most books also have a short commercial life cycle. For the Netherlands it was ascertained that, around 2010, an average book generated more than half of its turnover in the first year after publication and about three quarters in the first two years (Poort et al. 2012: p. 33). The content industries deploy windowing strategies to encourage and to exploit this phenomenon: books are often first published in a more expensive hardcover edition and gradually become cheaper. For films, windowing has evolved into a complex timeline, starting with the theatrical window and ending with free-to-air television, with windows in between for video on demand, digital sales, rental and pay television (Weda

17. For example see: Romijn & Renes, 2013: p. 63.
18. Under the assumptions in the models of Boldrin & Levine (2002–2008), full extraction occurs even if buyers start producing and selling multiple copies, which is not advocated here.
et al. 2012: p. 37). For video games, frequent updates boost people's preference for originals over second-hand products. Hence, the commercial depreciation of copyright works is well-established and limits the threat the second-hand market may be for the first-hand market. By the time second-hand works enter the market, most of the money has already been made.

Third, like in any second-hand market, there are information asymmetries and transaction costs associated with digital resale. These derive from questions such as: will the file format of this e-book or film be supported by my hardware and, if not, will I be able to get my money back? Will this video game be virus-free? Is it a corrupted version or illegal copy which does not give me updates and support? Jewellery is an interesting analogy, fitting the first and third points: like digital works, jewels barely degrade physically, but the option to resell or pawn them is part of the reason people are willing to pay large sums for them. Moreover, information asymmetries and transactions costs make many people think twice before buying expensive jewellery from street vendors or on eBay.

Yet another line of argument against digital resale starts from the perspective of private ordering. The point would be that contractual freedom should prevail and override digital exhaustion, implying that if buyer and seller agree on a contract which precludes resale, they should have a right to do so. If both parties agree on such a contract, it is likely to be in the interest of both parties and forbidding such a contract is likely to decrease welfare. Such a position is taken by Epstein (2010: pp. 503–511) who argues that there is no good reason to forbid contractual arrangements that restrict or put conditions on resale, unless a monopoly position is bolstered by them.

The arguments for and against such a position are very similar to other debates on vertical restraints, such as retail price maintenance or agency pricing, as introduced and abandoned for e-books. Under certain conditions, some such restraints can be welfare enhancing,20 but a general observation is that in a perfectly competitive market, a manufacturer will have neither the power nor the desire to push such contracts. Only in the presence of market power or other market failures such as information asymmetry, may a manufacturer be likely to want to restrict resale in downstream markets, which can in some cases be pro-competitive and in others anti-competitive. For instance, a publisher may exploit information asymmetries or myopia at the expense of consumers who are not aware the music file or e-book they buy cannot be resold or even be inherited or given away.21 Or publishers may all collude by orchestrating a contractual restriction on resale. In such cases, restrictions on resale are likely to be profitable for publishers but welfare decreasing for society at large. Downes (2013) suggests consumers might need time to lose the mindset of ownership of products bought, encouraged since the Industrial Revolution. It may take 're-education' for consumers to get used to buying content as a service, subject to certain conditions. However, the immense popularity of streaming services such as Spotify and Netflix shows that consumers are quick learners and easily accept temporary access-based models as long as it is clear what they can expect.

9.3.3 Conclusions

As a general response to the argument of contractual freedom, one can take the stance that – as in section 9.2.4 – control over a copy should not extend beyond its first sale as a default rule, while any contractual arrangements that aim to override this should be subject to general rules concerning fair business practices and competition law. For one thing, this implies that any market-wide contractual restriction on resale should be looked upon with much suspicion as it may very well be a sign of collusion – tacit or not. Also, a prohibition on resale should not exploit information asymmetries by hiding behind terms and conditions which no one reads or understands. There are no economic justifications for granting copyright-protected works a special status in these respects. Once a digital or physical copy of a work has been sold, the market failure that justified copyright protection has been resolved with respect to this specific copy and any profits on resale do not derive from non-excludability or external effects. To the extent that copyright grants monopoly power over a specific work, the risk that contractual arrangements and vertical restraints are used to exploit this further are likely to be larger than in many other industries.

The logic behind the CJEU ruling in UsedSoft – accepting a form of exhaustion and allowing resale for software clients could use for an unlimited period – as well as the ruling in Vereniging Openbare Bibliotheek v Stichting Leenrecht – allowing a public library to lend e-books under certain conditions without any additional contract – is in line with this economic reasoning for allowing resale as a general rule. Yet there is a need for refining the approach with regard to the possibilities for product and price discrimination, for which resale was required to be impractical, costly or outright forbidden (see section 9.2.4 above): it can be welfare enhancing for a company to aim to prevent discounted student licences for software being resold to companies. Similarly, preventing resale of promotional copies of CDs or student copies of books may well be welfare enhancing as a way to segment the market. Also, partial reselling of multi-user licences would constitute a serious threat to price discrimination, as it would undermine volume-based price discrimination.
However, in digital markets a publisher can try to uphold price discrimination without contractual arrangements, for instance by versioning or offering additional services or by offering subscriptions and streaming services instead of one-off fees for an unlimited time. In fact, this happens all the time. Versioning may seem wasteful at first glance, but often it is a welfare enhancing way to service both high- and low-end customers. Also, a publisher can offer a discount on a newer version if you hand back your earlier version. Under such business strategies, there is less need for contractual arrangements that prevent resale, let alone legislation which supports right holders in their efforts to price discriminate.

So far, it has been implicitly assumed in this section that digital resale really involves the transfer of a digital content file. That is, the initial buyer actually deletes the music file, e-book, game or video file from his computer. In practice, this may be problematic to ensure or to monitor. In section 9.2.4, it was observed that the public good market failure re-emerges if the secondary market can lead to market extension, where buyers can resell multiple copies or grant several new consumers access to the work, undercutting the original creator because they have no investment in the initial creation to recoup. Without TPMs that help guarantee that such market extension does not occur, a right holder has next to no opportunity to monitor whether the initial version is really deleted or uninstalled after resale.

There are two options to address this issue. The first is to accept this and still allow digital resale as a general rule. In this approach, right holders can regain control by implementing strong copy protection through TPMs or by contractually limiting or forbidding such resale, in which case such a contract is subject to general rules concerning fair business practices and competition law. A disadvantage of this approach is that it encourages right holders to use TPMs, despite the transaction costs and dead-weight losses this entails, because copy protected works are in many cases less user-friendly. A second option is to only allow digital resale for works protected by TPMs. As long as this condition is transparent on sale, it is not an obstacle for consumers, and market places can easily monitor to ensure that only TPM-protected works can be resold. For TPM-free material, monitoring the legitimacy of the secondary market is not possible and therefore control is exercised by having exclusive rights to the secondary market.

9.4 PRIVATE COPYING

Like in the case of digital resale, the key issue in the economic analysis of private copying is whether it is welfare enhancing for right holders to be able to control or be remunerated for certain uses of content after its sale.

9.4.1 LEGAL TREATMENT

Article 5(2)(b) of the Copyright Directive provides Member States with the option to implement a private copying exception to the exclusive right of authors, subject to payment of fair compensation:

[M]ember States may provide for exceptions or limitations to the reproduction right ... in respect of reproductions on any medium made by a natural person for private use and for ends that are neither directly nor indirectly commercial, on condition that the rightholders receive fair compensation which takes account of the application or non-application of technological measures referred to in Article 6 to the work or subject-matter concerned.

[M]ember States may provide for exceptions or limitations to the reproduction right ... in respect of reproductions on any medium made by a natural person for private use and for ends that are neither directly nor indirectly commercial, on condition that the rightholders receive fair compensation which takes account of the application or non-application of technological measures referred to in Article 6 to the work or subject-matter concerned.

In most Member States, such fair compensation is provided through a system of levies on blank media and equipment used for making private copies. Despite the shared legislative background – the Copyright Directive – there is much variation between Member States in the choices made concerning the equipment and blank media on which levies are imposed, the levy tariffs applied and the per capita revenues collected annually (WIPO/Wijminga et al., 2017: 3–27).

Since 2010, the CJEU has dealt with a series of cases in relation to private copying and private copying levies. For the purposes of this chapter, the most relevant judgments of the CJEU are: Case C-457/11 – Padawan; Joined Cases C-457/11 to C-460/11 – VG Wort; Case C-435/12 – ACI Adam; and Case C-463/12 – Copydan.

In Padawan the Court ruled that private copying levies should not compensate for copies made for professional use. The latter do not fall under the exception of Article 5(2)(b), and hence there can be no compensation for such copies, nor is a system allowed that accounts for this by reducing levies for both private and professional users (so-called mutualization).

In VG Wort and Copydan the CJEU dealt with the issue of licensed copies. The Court held that if the private copying exception is introduced into national law, a licence allowing consumers to make multiple copies for personal use is null and void. Therefore, it can have no impact on the levy that is due.

Finally, in ACI Adam the CJEU held that copies made through downloading from illegal sources are outside the scope of the private
copying exception. Hence, private copying levies cannot be due to compensa-
tion for such downloading.

9.4.2 Economic Analysis

Like the previous section on digital resale (section 9.3), the economic analysis in this section starts off with a brief assessment of the economic footprint of the phenomenon. Making private copies is something which an average person does almost every day, even without noticing: private copies in the legal sense are not only made when copying a CD or DVD or ripping it for playback on a smartphone, but also when making a backup of legally obtained e-books, transferring one’s digital music collection to a new smartphone, recording a film on TV to watch it the next day, etc.

In the Netherlands for instance, annual surveys are held to assess the number of private copies made in order to provide information for setting and redistributing levies. In the 2017 edition of the survey, the total number of works copied per person was estimated at more than six hundred per year, 80% of which were considered to require fair compensation through a levy. Of the latter, about 60% consisted of audio files such as music and radio programmes; about 20% were audio-visual material such as movies, TV series, documentaries and music videos; and the rest were images, e-books and material from publications (Verhue & De Gier, 2017: Tables 7–9). The value of all such copies for users and the potential damage to right holders are key issues in discussions on levy setting in any country.

Annual revenues from levies within a country tend to fluctuate much more than the number of copies made. This is partly due to the rapid changes in the markets for consumer electronics, as a result of which the equipment and media used for making copies change rapidly so that levy systems need constant maintenance to keep pace. A second driver of volatility is litigation concerning which levy systems are congruent with EU law and which are not. As a result, even total revenues collected in all EU Member States together fluctuate substantially: between 2007 and 2015, revenues grew from EUR 549 million to EUR 582 million, but amounted to only EUR 406 million in 2012, while reaching EUR 722 million in 2014. Per person per year, average revenues in the EU increased from EUR 1.37 to EUR 1.42 between 2007 and 2015. Between EU Member States, the differences are more than two orders of magnitude: in 2015 the average revenues per person were EUR 3.38 in France but less than EUR 0.01 in Estonia (WIPO/Wijmenga, et al., 2017: pp. 16–22).

For an economic analysis of private copying levies along the lines of this chapter, one needs to establish whether private copying affects the ability of a creator to control access to a work and to exchange it for something which is valuable to him and, if so, whether it negatively and significantly affects the current or future exploitation opportunities for the right holder. To answer these questions, it is useful to distinguish different kinds of private copies:22

1. Making ‘clone copies’ of or ‘format shifting’ CDs, DVDs and media files, or storing streaming audio and video for offline playback (also known as stream ‘ripping’ or ‘capture’).
2. Making backup copies of works.
3. Making copies of broadcast works for time shifting, such as storing radio or TV content on a recording device to watch it another time, and repeatedly if desired.
4. Making clone copies or format shifting to share works with members of your household, family and friends.
5. Making clone copies or format shifting of works from media rented or borrowed from libraries or commercial renters.
6. Downloading and storing works from unauthorized sources on the Internet (and making subsequent copies thereof).

Typically, private copies of types (1) to (5) are allowed under the private copying exception. However, types (1), (2), (4) and (5) may in practice be prohibited or restricted by TPMs and licence or rental agreements. Downloading from unauthorized sources on the Internet (type (6)) is explicitly prohibited following the ACI Adam ruling of the CJEU.

With regard to the question of whether private copies negatively and significantly affect the exploitation opportunities for the right holder, there are relevant economic differences between these types of copy.

Copies of type (1) enhance the utility that consumers derive from their legitimate purchase or subscription. Such copies enable them to consume this content on a more practical device or without carrying discs and devices around. For instance, they can keep a copy of their favourite CDs in their car or vacation home or play them on their computer, smartphone or mp3 player. In all these ways, such copies may generate additional consumer surplus, but one can dispute whether it affects the control of a creator to exchange access to a work for something which is valuable to him. Right holders could argue that such copies affect their ability to charge for access to copies offline or in a more convenient format (e.g., mp3 instead of a CD), but unlimited access to the works themselves had already been obtained by the users, for instance by buying the CD. The mere effect of copies of type (1) is that they make accessing these works more convenient for consumers or allow them to access the works under new circumstances, for instance when they do not have an Internet connection. The same goes for backup copies (2), which do not provide utility directly, but act as an insurance against mishaps.

This insight suggests that from an economic perspective, private copies of types (1) and (2) are largely copyright irrelevant and need not fall under an exclusive right or be compensated for by way of a copyright levy. The

22. The typology here and part of this section are taken from Poort & Quintais (2013).
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Joost Poort

Copies of types (4) and (5) differ from the former in that they extend the circle of consumers who derive utility from an original unit of content. Unauthorized downloading (6) resembles these types, with the notable difference that the extended circle of consumers is anonymous and potentially unlimited. These types of private copy do affect a creator’s control – new consumers gain access to the content – but there is a substantial difference between unauthorized downloading (6) and the other types of copy in respect of the extent to which it is likely to affect the current or future exploitation opportunities for the right holder.

This difference can be translated into the harm that private copying may cause to copyright holders. The crucial economic concept here is indirect appropriability. This term refers to the economic mechanism according to which, under certain conditions, the demand for originals will reflect the value that consumers place on both the originals and subsequent copies they may make. As will be discussed below, the value of private copies of types (4) and (5) can – just like (1) and (2) – largely be priced into the initial purchase and, by doing so, this value is indirectly appropriated.

A seminal contribution to this issue is provided by Stan Liebowitz (1985), who studied the effect of photocopying on the demand for journals and writes: ‘The evidence indicates that publishers can indirectly appropriate revenues from users who do not directly purchase journals and that photocopying has not harmed journal publishers.’ The value consumers (or scholars) derive from copies contributes to libraries’ willingness to pay. Hence, publishers end up selling fewer originals at a higher price, which may even raise profits. If the number of copies per original varies substantially, such indirect appropriability depends on the ability to price discriminate: charging a higher price for users who are likely to enable extensive copying while preventing arbitrage through a secondary market or other ways of circumventing price discrimination. In practice, this is done by setting a higher price for libraries and a lower price for individuals.

In general, selling fewer originals at a higher price introduces two opposing effects which may lead to both higher and lower profits. This issue was further studied by Besen and Kirby (1989), who model private copying while distinguishing: (1) the extent to which originals and copies are perfect substitutes, and (2) whether private copying has constant or increasing marginal costs. Increasing marginal costs may stem not only from the

24. Alternatively, one could argue that making copies of legally borrowed or rented content – type (5) – is a form of time shifting (beyond the rental period) rather than an extension of the circle of consumers.

25. This is very like the argument in section 9.3 that the value consumers may derive from the resale of digital content can also be priced into the purchase as well as the central argument in Boldin & Levine (2002–2008).

26. Besen and Kirby’s models ignore possible positive dynamic effects of the consumption of copies on future sales (the so-called sampling effect) and negative effects of lost sales on the future production of content.

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Empirical evidence on the effect of copying from illegal sources (type (6)) will be processed in various countries (such as Verhue & De Gier, 2017) typically focus on the number of private copies and sometimes the self-reported substitution rate, but ignore the effect of private copying on the demand for distribute it illegally over the Internet. 

27. Empirical evidence on the effect of copying from illegal sources (type (6)) will be discussed briefly in section 9.5 below.

Economic analysis has shown that the utility consumers derive from offline private copies can to a large extent be appropriated indirectly. Hence, the harm caused by these acts will be substantially smaller than the utility consumers derive from private copies or even the sales forgone by such copying. For format shifting and clone copying for personal use – copies that do not lead to a proliferation of content – this is likely to be the case almost entirely, after an initial shock wave caused by the introduction of cheap digital copying and ripping technology for consumers. Now that both consumers and producers are aware of this technology, indirect appropriability will apply and harm will be minimal. In such cases, levies aimed at compensating for this minimal harm are ill-advised, given the administrative and transaction costs they incur and their potential to take away incentives for smart pricing.

28. Alternatively, lending rights can serve this purpose.

28. Alternatively, lending rights can serve this purpose.
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The argument of indirect appropriability does not apply to unauthorized online file sharing, as there is no relation between the uploader (including any unlawful content provider) and the downloader. Also, the number of copies made from an original will vary dramatically, which makes it impossible to price such copies into the purchase. Hence, there are sound economic arguments for such copies falling under the exclusive right of the creator, or for introducing some form of compensation system to the extent that such copying cannot be controlled. 29

9.5 HYPERLINKING AND EMBEDDING

The third case to be discussed concerns what is arguably the essence of the World Wide Web: hyperlinking to web pages and embedding content from other web pages on one’s own.

9.5.1 LEGAL TREATMENT

The legal nature of hyperlinking and embedding, and subsequently the question of whether or not such linking without prior authorization constitutes a copyright infringement, has been debated in four CJEU cases: Case C-466/12 – Svensson, Case C-348/13 – Bestwater, Case C-279/13 – C More Entertainment, and Case C-160/15 – GS Media. It is generally acknowledged that linking or embedding does not concern acts of reproduction, rather disputes focus on the question of whether or not it involves a communication to the public under Article 3 of the Copyright Directive and, if so, whether it requires the prior authorization of the right holder.

In Svensson, the CJEU ruled that hyperlinking can be considered a communication to the public and thus fall within the scope of copyright. However, unless hyperlinking results in the circumvention of access restrictions, it does not lead to works being communicated to a new public, i.e., a public which the right holder did not consider when making the work available online. Given these considerations, hyperlinking is not considered an infringement and in this respect no difference is made between hyperlinking, framing or embedding. 30

In a later decision, Bestwater, the CJEU confirmed that hyperlinking and embedding were to be considered equivalent as regards their copyright relevancy. In the case at hand, sales representatives had embedded a

promotion video made by Bestwater on their website. The video had been posted on YouTube, allegedly without the consent of Bestwater.

Another five months later, the CJEU delivered its ruling in C More Entertainment. Of the five initial questions, four had been withdrawn by the referring court after the Svensson judgment, leaving only a question on the issue of linking to or embedding of live broadcasts. The CJEU ruled that national legislators can implement the protection of these rights in such a way that such linking or embedding without authorization is an infringement. As a consequence, linking to live broadcasts may be allowed in some Member States and an infringement in others, regardless of whether technical protection measures are circumvented in doing so.

In September 2016, the Court delivered its judgment in GS Media, a case that dealt with linking to unauthorized content. It concerned a Dutch website operated by GS Media BV that posted links to an Australian site hosting nude pictures of a Dutch woman without authorization, and even prior to their official publication in Playboy magazine. The Dutch Supreme Court asked the CJEU whether linking to unauthorized content constitutes a communication to the public; whether it makes a difference if the linked to content has been previously communicated with the right holder’s consent; whether it makes a difference if the hyperlinker is aware of these things; whether it makes a difference if the site communicating the unauthorized content is not easily locatable without the link; and whether any other circumstances are relevant regarding linking to content communicated without consent (CJEU, GS Media, paragraph 24).

In its decision, the CJEU reiterated that linking to authorized content is not a communication to a new public. Regarding unauthorized content, the Court makes a distinction based on the nature and knowledge of the linking party, due to the complexity involved in ascertaining whether content is posted with authorization. If the party linking to unauthorized content is a person who does not act for profit, he or she is not assumed to have knowledge of the authorized or unauthorized nature of the content linked to. Therefore, the link is not considered a communication to the public.

However, if a person knew the content was unauthorized, or ought to have known this, the link is considered a communication to the public (CJEU, GS Media, paragraphs 44–49). Also, if the posting of links is carried out for profit, ‘it must be presumed that that posting has occurred with the full knowledge of the protected nature of that work and the possible lack of consent to publication on the internet by the copyright holder’ (CJEU, GS Media, paragraph 50). Hence, linking to unauthorized content by a for-profit website or entity is a communication to the public and requires authorization from the right holder. 31

29. See the chapter by Quintais and Hugenholtz in this volume.
30. ALAI (2013) suggests no difference between framing and linking, but a difference between referring links and links that provide access. It suggests that site owners can program so as to decide if deep linking/embedding is possible.
31. Relatedly, in April 2017, the CJEU delivered its ruling in Case C-527/15 – Filmpjesler. In the case, Brenn opposed a provider of a media player with add-ons containing pre-installed links to unauthorized content (Filmpjesler). The questions referred to the
9.5.2 Economic Analysis

To start an economic analysis, it is important to realize that hyperlinking and embedding are key features of the web. The number of unique websites is estimated at more than 1.2 billion, while the number of individual pages indexed by Google in 2014 was reported to be 30 trillion. Another source mentions an average of 60 links per page, which would imply a total of around 2 quadrillion (2×10^15) links on the Internet. In addition, hyperlinks are included in word files, pdfs, etc., which can also be made available on the Internet. This implies that any legal decision which curtails the practice of linking as the GS Media ruling (C-160/15) does may not just affect the nature of the web, but may also have massive economic effects in terms of transaction costs and dead-weight losses.

To assess the optimum scope of copyright with respect to linking and embedding from a welfare economic perspective, the first question is to determine whether and to what extent linking and embedding affect the ability of a creator to control access to a work and exchange this for something which is valuable to him, against the background of the public good market failure of works. If control is affected, the next question is whether it negatively and significantly affects the current or future exploitation opportunities for the right holder.

9.5.2.1 Linking to or Embedding of Authorized Sources

Focusing first on the issue of linking to or embedding of authorized sources (as dealt with in Svensson), it is relevant to distinguish different types of hyperlinking and embedding on the Internet, which can have different effects on the control, and hence the exploitation opportunities of the right holder.

(1) Linking:

- Link to homepage, the primary domain where content can be found (e.g., www.abc.com). People following this link will generally need to navigate further on this homepage to the actual information referred to.

- Deep link to a subpage, which contains the information referred to (e.g., http://abc.go.com/shows/the-muppets).

- Deep link to image, which does not contain any of the context in which the image is shown or for instance advertisements surrounding it (e.g., http://cdn1.edgedatg.com/aws/v2/abc/TheMuppets/person/857714/535c2ae0b818dc2da74266fca8e73046/512x535c2ae0b818dc2da74266fca8e73046/512x288-Q90_535c2ae0b818dc2da74266fca8e73046.jpg).

- Note that all these links can be presented as a URL or as text or even a symbol which does not immediately reveal the address or nature of the referred content (e.g., kermit or even %).

(2) Embedding or framing: this is a quite different technique, which can be used to present content on a site while it is hosted somewhere else. This technique was utilized for instance in the Bestwater case.

Note that the typology presented here is time and technology specific. A robust proposal for copyright legislation should stay away from being technology specific but set out general principles. Having said that, the main demarcation here lies between the various types of linking on the one hand, which push the visitor to a different location, and embedding or framing on the other, which pull information from another location (see also Tsoutsanis, 2014: 497).

The relevance of the distinction between linking and embedding or framing can be illustrated by an offline analogy, referring to content in a book. Linking to a homepage would correspond to mentioning a book where certain information can be found. Deep linking would correspond to citing the book and the page number where the information can be found. An analogy to deep linking to an image is harder to find: it would involve referring to a clipping from a book on an otherwise blank page. This analogy leads some commentators to conclude that hyperlinks are ‘nothing more than a reference or a footnote’ (e.g., Tim Berners-Lee and Jessica Litman cited in Bently et al., 2013).

In all of these cases, a relevant difference between referencing or footnoting on the one hand, and linking on the other, is that through linking, clear and highly convenient directions are given to where the referenced information can be found: as long as the link is working, a website visitor is no more than one click away from the information referred to, which implies that the transaction costs of following up on the reference are dramatically lower than in the offline world. Obviously, such a dramatic decrease in transaction costs compared to footnoting will have significant consequences.

A website visitor will be much more likely to follow up on a link and visit the website with the work which is referred to, than he would be to go to a library or bookstore to follow up on a footnote. Hence a ‘simple’ decrease in
transaction costs will have significant and positive effects on the consumption of a work.

Embedding or framing is quite different again. The analogy might be to show a picture from a book page, without making clear which book it is or where it can be found. The picture may even appear to be part of the source referring to it instead of a separate source. Like linking, this can have significant and positive effects on the number of people viewing the embedded picture (or watching the video or listening to the stream), but consumers of the work may be much less aware which work they consume, who the author is and in what context it is presented.

For both linking and embedding, the right holder remains in control of the availability and integrity of the relevant content. This is the catch of the condition 'as long as the link is working' above: if the right holder removes the content from his site or introduces some form of access restriction, the content will no longer be available through linking and embedding. If the right holder decides to make changes to the content, the changes will immediately extend to the linking or embedding sites. This is a fundamental difference between linking or embedding, and downloading content to send it to someone else by email or post it on a different site. In the latter case, the right holder's control over the availability and integrity of the content is lost. This is why it can be disputed whether the work is communicated/made available to the public by linking or embedding as the CJEU argues. Control over the availability and integrity of the information continues to lie exclusively with the referred site.

In section 9.2, the general principle was laid out that resolving the public good market failure of creative works could require giving a creator certain exclusive rights with respect to acts that negatively and significantly affect his current or future exploitation opportunities and hence negatively interfere with his incentives to create or to exploit. In light of this principle, there is a substantial difference between linking and embedding. In the case of linking, the right holder cannot only control the availability and integrity of the work, but also the environment in which the work can be accessed.

It was also stressed in section 9.2 that exploitation of a work in the digital environment can take many forms, and linking does not seem to affect any of these negatively. Linking can have significant and positive effects on the consumption of a work, if the linking page has a large number of visitors. Thus, it is hard to see how linking to a homepage or deep linking may negatively and significantly affect the current or future exploitation opportunities for the right holder. The contextual information and advertisements surrounding a link will still be seen. The right holder remains in control of the information that is made public and the conditions under which it is made public (e.g., payment, registration, advertisements). Hence, it seems that linking to a homepage or deep linking can only positively affect the current or future exploitation opportunities for the right holder, if it affects them at all. Therefore, there seems very little room for making the case that linking to authorized content should amount to copyright infringement.

From an economic perspective, embedding and framing are fundamentally different. Embedding is much closer to the exploitation of a work than linking; also, contrary to linking, embedding can be a substitute to licensing. In such cases, the right holder still has control over the availability and integrity of the work, but loses most of his control over the environment in which the work is accessed. This can negatively and significantly affect the exploitation opportunities for the right holder, as they entail that the right holder's site does not need to be visited, and so advertisements or other information on this site are not seen and the page visit may not be counted properly. Depriving right holders from a certain exclusivity by doing this could negatively affect their exploitation opportunities.

However, before jumping to the conclusion that embedding might therefore be an act that should fall within the scope of copyright and hence require a licence, the transaction costs and dead-weight losses of doing so need to be taken into consideration. It goes without saying that the majority of right holders do not mind if their content is embedded, or even encourage it. Hence, it would entail enormous transaction costs to require a licence for any such embedding. As a result, many sites would refrain from embedding certain content, leading to weight losses. The total number of links on the world wide web was estimated above at around 2 quadrillion (2x10^15). Assume that this estimate—which is very rough—overestimates the number of links by a factor of 100, and that for every 10,000 links there is one instance of embedding. This would still yield a staggering 2 billion embedded links (2x10^13 / 100 / 10,000 = 2x10^6). The point here is not to claim that this number is accurate, but rather to give a ballpark figure for how large the number is likely to be. As a consequence, the transaction costs and dead-weight losses of licensing or otherwise actively acquiring authorization for linking, or even embedding, will be enormous. Likewise, the transaction costs and dead-weight losses of the CJEU ruling in GS Media—at least upon—it could be overwhelming.

A way to minimize transaction costs would be to implement a technical solution which precludes embedding a website that does not want to be embedded. In fact, such a technical solution already seems to exist, even though in the context of this study it is not possible to judge how robust such a solution is against new ways of embedding or wilful circumvention. Alternatively, some standardized information in the meta-text of a web page could state whether the information can be embedded without consent. This

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could be either a ‘do not embed’ line (opt-out), or an ‘okay to embed’ line (opt-in). The preferable choice from an economic perspective is the one which involves the lowest transaction costs. Taking into account the vast number of instances of embedding that currently exist, and assuming that a large majority of the website owners do not mind being embedded, an opt-out or the application of a technical measure that prevents embedding would be preferable.

Note that this proposal involves a (light) form of private ordering and therefore could be considered outside the scope of copyright, as long as the ‘do not embed’ line is legally enforceable. Either way, if a website were to ignore such an opt-out, or wilfully circumvent a technical measure, it could be held liable for copyright infringement and therefore subject to enforcement measures, such as a notice and takedown, blocking or fines. In an opt-out scheme that does not involve a technical solution precluding embedding, a subsequent issue would be how to deal with a source that changed its mind and no longer wants to be embedded. It may take time and notifications for linking sites to become aware of that. Of course, an immediate way for the source to invalidate existing instances of embedding would be to change the exact location of the embedded content. In principle, the solution described here could also be applied to linking, but as discussed, in the case of linking it is much less likely that a right holder has legitimate reasons to prevent linking on the ground of reasonable exploitation.

In C More Entertainment, the CJEU considered circumvention of an access restriction in the act of linking or embedding to be a relevant criterion. From the perspective of control and the effect on the exploitation opportunities for the right holder, circumventing an access restriction such as a login or registration can indeed be relevant. The application of an access restriction suggests that the right holder intends to rely on access restriction (e.g., a subscription or pay-per-view model) as an exploitation model and circumventing it could deprive a right holder of the necessary control.

However, taking transaction costs into account suggests otherwise. The C More Entertainment case shows that it is rather simple to implement an access restriction to prevent deep linking or embedding by unauthorized users. Between the first and second sports matches at stake, C More installed such restrictions (CJEU, C More Entertainment, paragraph 14). Rather than having a linking party check whether an access restriction may be circumvented by deep linking or embedding, it does not seem unreasonably onerous to hold a right holder responsible for implementing the access restriction in such a way that it cannot be circumvented by deep linking.

One could consider stretching this point further and requiring a website owner to install an effective access restriction whenever he does not appreciate linking to or embedding of his content. This would probably be more effective than a ‘do not embed’ line in the meta-text of a webpage, but the transaction costs and dead-weight losses of this suggestion will be very large, making it a less efficient solution: It would deprive the website holder of the possibility of offering users hassle-free access without having to set up an account and log in, which will have a dramatically negative effect on website traffic.

9.5.2.2 Linking to or Embedding of Unauthorized Sources

Having dealt with the cases of linking to and embedding of lawful sources and of linking to sources behind some faulty form of access restriction, it is time to consider linking to unauthorized sources. This is the central matter at stake in GS Media.

Starting with the unauthorized source which is embedded or linked to, this clearly affects the control a creator has over exchanging access to a work for something which is valuable to him. This is the essence of the public good market failure, that without protection, works of literature, science and art are non-excludable if the costs of copying are low. GS Media illustrates an even more striking loss of control, since the pictures relevant to this case were uploaded and subsequently linked to without permission, prior to their publication in Playboy magazine.

The empirical question of whether unauthorized publication negatively and significantly affects the current or future exploitation opportunities for the right holder, has proven to be more cumbersome. Over the past ten years, a large body of literature emerged on the effect of unauthorized file sharing on the legal sales of music, and to a lesser extent video content and games, albeit to no general consensus. In theory, file sharing can have several opposing effects on legal sales and the sales of related products and services. Van Eijk, Poort and Rutten (2010) distinguish nine different interactions. Perhaps the most obvious, and certainly the one that is stressed most by copyright holders, is substitution: file sharing may substitute for the online or offline purchase of recorded music, films or series, books, games or for cinema visits. Opposing this is the so-called sampling effect: file sharing may introduce consumers to works, artists and genres which increases their demand for these works or other works by the same artists or in the same genre. Another positive effect may be an increased demand for related products or services, such as concerts or merchandise (e.g., Dewenter, Haucap & Wenzel, 2012; Mortimer, Nosko & Sorensen, 2012). Neutral effects with respect to sales occur when file sharing meets the demand of consumers with insufficient willingness to pay, or who have demand for a work (or a work in a specific technical quality or file type) that is not on offer.

This variety of different and opposing interactions is one of the reasons why the effect of file sharing on sales is hard to determine empirically. Early contributions focus on the music industry – e.g., Peitz & Waelbroeck (2004), Rob & Waldfogel (2006), Zennner (2006), Liebowitz (2006) and Oberholzer-Gee & Strumpf (2007). A smaller number of studies deal with the effect for movies – e.g., Bounie, Bourreau & Waelbroeck (2006), Hennig-Thurau,
The effect from recorded music that the industry has experienced since the late 1990s. Smith & Telang (2012) conclude media sales'. However, this evidence generally suggests a much smaller effect than a one-to-one displacement of sales by illegal copies. The effect most studies report is also substantially smaller than the loss of revenues from recorded music that the industry has experienced since the late 1990s.

From the analysis above, it follows that in general there is justification for the claim that unauthorized publication of works negatively and significantly affects the current or future exploitation opportunities for the right holder. As a consequence, linking to content that has been made public without authorization can have the same effect, irrespective of the fact that the linking (or embedding) party may not himself be hosting this content without authorization. Quantitative estimates of this vary largely and are likely to differ between types of works (music, films, games, books), between genres and between right holders within genres. In GS Media, it is safe to say that without the links on the Dutch website, the mere posting of the pictures on an Australian site (which was not even indexed by search engines) would not have generated any interest anywhere and would have had no effect whatsoever on the exploitation opportunities for the copyright holder in the Netherlands.

This suggests that linking to or embedding of unauthorized content should be deemed infringing. Yet before arriving at such a conclusion, the societal costs it involves need to be considered: holding any linking party liable for infringement without prior warning would entail enormous transaction costs and potential dead-weight losses. The linker would have to make sure that the linked content is made available with authorization. Recall the enormous number of links on the Internet; requiring linking websites to assess whether or not the content they link to is lawful would generate equally enormous welfare losses. Assuming again that the number of hyperlinks is overestimated by a factor of one hundred and assuming transaction costs or dead-weight losses of EUR 0.01 cent per link, the welfare costs of ‘clearing the rights’ for all current hyperlinks would be EUR 200 billion. This dwarfs even the highest estimates of the global losses resulting from the unauthorized consumption of copyright material.

Limiting the obligation to ascertain the legality of the linked content to parties that pursue financial gain, as the CJEU does, hardly makes things any better. For one thing, the concept of financial gain is very wide and open and can be argued to include all news media, politicians, academics and any blogger with the slightest professional ambition. Thus, linking to unauthorized content may have a significant negative effect on the exploitation opportunities for creators and hence on creation itself, but making such links ex ante infringements would involve even more significant welfare costs through transaction costs and dead-weight losses.

A way to partially resolve this would be a procedure of notice and take down for links to illegal content (in line with the legal doctrine of contributory or secondary liability). The idea would be that in general linking and embedding are acceptable and do not require consent or a licence, nor do they require any ex ante knowledge of whether the linked content has been made available with authorization. Only if the copyright holder alerts the linking site that the content on the linked site is made available without authorization, would there be an obligation to remove the link. For a careful procedure and to make sure links are not removed unjustly, one could require a court order for this. However, this would increase the transaction costs and the response time of such a procedure substantially, and by doing so thwart its effectiveness and efficiency. In practice, a simple procedure without any court intervention necessary, but with a procedure to reinstall links that have been removed unjustly could work, much like the procedure YouTube has in place for removing unauthorized content.

9.5.3 Conclusions

From a welfare economic perspective, it is useful to distinguish between hyperlinking, embedding and linking to unauthorized sources. An ‘outward’ or ‘push’ link to an authorized source, whether a link to a homepage or a deep link, can hardly be argued to have a negative effect on the exploitation opportunities of the right holder of the linked content. Therefore, from the framework established in this chapter, there is no economic justification for such links to fall within the scope of copyright.

Embedded or ‘pull’ links can be different in that respect, as through the use of such links right holders lose most of their control over the environment in which the work is accessed. Indeed, this can negatively and significantly affect the exploitation opportunities for the right holder, e.g., by depriving them of advertising revenues. However, the transaction costs and dead-weight losses of requiring a licence or explicit authorization for every embedded link are expected to be enormous. That suggests alternative ‘opt-out’ solutions, such as technical measures to be taken by websites that

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38. Some studies find indications that more popular musicians and albums (Blackburn, 2004; Mortimer et al., 2012) and blockbuster movies (Peukert, Claussen & Kretschmer, 2013) suffer more from the substitution effect, while less well-known productions may even benefit as the opposing sampling effect prevails. However, other studies find an opposite effect (Bhattacharjee, Gopal, Lertzowacha, Marsden & Telang, 2007; Hammond, 2013).

do not want to be embedded, or a 'do not embed' line in the meta-text of web pages, which linking sites need to respect.

Linking to unauthorized sources is different: there is substantial empirical evidence that linking to such sources can have a significant and negative effect on the exploitation opportunities and indeed on the revenues of right holders. This would suggest making linking to unauthorized content a protected act within the scope of copyright. However, the transaction costs and dead-weight losses of a general ex ante prohibition of linking to unauthorized content are expected to be overwhelmingly large and the same holds for presuming knowledge for any for-profit linker. From a welfare economic perspective, a procedure of notice and take down for links to unauthorized content is preferable.

As GS Media illustrates, this will not resolve the issue of linking to unauthorized content entirely, as a stubborn or malicious site owner may link to a new unauthorized source each time a link is removed. In such cases, it would be for courts to decide whether in practice such behaviour of persistent linking to 'obviously unlawful sources' is equivalent to a refusal to remove a link, and therefore should be considered an infringement ex ante.

A final issue remains what can be done about linking sites and linked sites that are outside the jurisdiction of copyright legislation. Taking down such sites has proven to be legally difficult as well as rather ineffective: mirror sites are easily created once a site is taken down. Ordering Internet service providers (ISPs) to block access to such sites is often proposed and even implemented as a remedy, but - apart from any legal objections one may have related to e.g., freedom of speech and censorship - is rather ineffective as well (Poort et al., 2014). It can easily be circumvented by using mirror sites and by using Virtual Private Networks for instance.

Hence, it is illusory to think that linking to and (more importantly) downloading and streaming from unauthorized sources can be eradicated entirely. Acknowledging this, several academic authors have proposed introducing some form of 'statutory licensing scheme' with a levy system to compensate for this practice (e.g., Ku, 2002; Netanel, 2003; Fisher, 2004; Litman, 2004; Gratz, 2004; and Oksanen & Valimaki, 2005). For an extensive analysis of this literature, see also Quintais (2017: Chapter 3). Such proposals are also known as for instance 'content flat rate' or 'alternative compensation schemes'.

9.6  RETRANSMISSION

The next case study is considerably more concise. It outlines how the economic framework developed in this chapter applies to instances of retransmission of radio or television broadcasts. The argument will be made that, in hindsight, the analysis is rather similar to that of hyperlinking.

9.6.1  LEGAL TREATMENT

Several CJEU cases concern such retransmission of television or radio broadcasts. Only some of these cases are relevant for the purposes of this section. In Case C-306/05 - SGAE, the owner of the Rafael hotels was sued for 'retransmitting' television broadcasts picked up with one central hotel aerial to the individual hotel rooms. Joint cases C-403/08 and C-429/08 - Premier League concerned a pub owner who had acquired a Greek smart card for decoding satellite broadcasts of Premier League football matches and used it to display those matches in a pub in the UK. Case C-135/10 - Del Corso concerned a dentist who played radio in his waiting room to ease the sound of drilling. Case C-607/11 - ITV Broadcasting involved a company (TVCatchup) live streaming a number of British television channels over the Internet. Finally, Case C-325/14 - SBS concerned the question of whether a broadcasting organization is communicating to the public if it broadcasts its programmes by 'direct injection', meaning signals are transmitted exclusively to distributors such as cable networks, without being accessible to the general public at this stage.

In a nutshell, the central legal question in all of these cases is whether these acts qualify under the exclusive economic right of communication to the public. To make that assessment, the CJEU typically identifies two cumulative criteria. First, that there is an active intervention that qualifies as an 'act of communication'. Second, that the act of communication is made to a public, in which case the communication can either be made through a specific technical means (e.g., in ITV Broadcasting), or to a new public, i.e., a public which the right holder did not consider in its initial communication (like in SGAE). If the answer to these questions is affirmative, then the acts in question require the authorization of the copyright holder. In Del Corso and SBS, the Court ruled that the acts under analysis did not meet these requirements, and therefore did not constitute restricted communications to the public. In all other cases, the CJEU's answer to both questions was 'yes'.

In ITV Broadcasting, the CJEU noted that the act involved a communication to the public, even though subscribers of TVCatchup 'are within the area of reception of that terrestrial television broadcast and may lawfully receive the broadcast on a television receiver'. Moreover, the Court noted that this decision 'is not influenced by the fact that a retransmission, such as that at issue in the main proceedings, is funded by advertising and is therefore of a profit-making nature'. (CJEU, ITV Broadcasting, paragraph 48).

It is noteworthy that this case strongly resembles the Aereo case in the US, which also involved centralized reception and subsequent online transmission.
transmission of free-to-air television signals which the subscribers of Aereo, Inc. could have received for free with a rooftop antenna. A notable technical difference is that Aereo used a large number of tiny antennae – one dedicated antenna per user at the time – to avoid having to pay transmission fees. Both Aereo and TVCatchup lost their cases.

As regards the concept of a ‘public’, Hugenholtz (2013a) stresses that this seems to be rather blurry in these rulings: in SGAE, the individual hotel guests were considered to be a public, while in Del Corso the dentist’s patients were not. In ITV Broadcasting, individual streams were considered by the Court to add up to a public, while not deeming it relevant whether or not this was also to be considered a ’new public’. However, Hugenholtz (2013a) criticizes this argument for being unclear and argues that the whole concept of ‘new public’ is flawed and circular. Instead, he suggests considering the question whether a communication is to a ‘separate public’, i.e., reaching a separate market (segment).

9.6.2 Economic Analysis

Without a doubt, the economic significance of retransmission of television broadcasts (and to a lesser extent radio broadcasts) is large, in particular when including retransmission by cable companies and other telecommunications networks. Television sets are a standard item in most hotel rooms and can be expected on average to add value to the offer. Also, the market for live-streaming television broadcasts over the Internet is presumably substantial and will grow as more households cancel their TV subscription (‘cut the cord’). Likewise, there is substantial commercial value in displaying football matches or other sports in pubs.

However, the economic value that may be created by retransmission does not automatically imply that it should fall within the scope of copyright from an economic point of view. In the legal treatment discussed above, as well as in an economic analysis, there are strong resemblances between retransmission and hyperlinking. The legal analysis by the CJEU focused on the question of whether or not the acts discussed here involve a communication to a (new) public. In general terms this ‘new public’ criterion is congruent with the economic observation that both hyperlinking and live retransmission do not in themselves affect a right holder’s control over the broadcast, provided access restrictions are not circumvented implying subscription fees are forfeited and that retransmission occurs within the reception area of the broadcast.

First, consider free-to-air radio or television, which anyone with the proper hardware in the reception area can receive without a smart card or subscription. Such broadcasts either receive their revenues from commercial sources such as advertisements, product placement, sponsored content, texting, etc. or from public funding, or from a combination of these. In either case, having a larger audience will be in the commercial or societal interest of the broadcaster, which implies that linear live or near-live retransmission within the reception area will not negatively affect the exploitation opportunities for the broadcaster.

On the contrary: the more viewers or listeners, the better, and there is no market failure to justify control over a downstream market, regardless of whether this is a single household with a rooftop antenna, a hotel with twenty rooms or a cable company with one million connected households. Such broadcasts are free to all by choice, not because of a market failure. This is analogous to linking to a website without access restrictions, which in general will only benefit from more visitors. Of course, surplus may be created by the party involved in the retransmission, just as a website providing links to other sites may create surplus and a car owner may create surplus with a car. But in this free-to-air scenario, this does not entitle the initial broadcaster to a share of this surplus, any more than it does the linked website or the car manufacturer. It is not an external effect that warrants ‘internalization’ through transmission fees. Like in the case of digital resale, claiming a share in these downstream profits would be akin to a jealousy tax.

It goes without saying that abolishing retransmission fees will affect the financial agreements upstream: if creators, performers and other right holders of audio-visual content no longer receive retransmission fees, this will change the deals they make with broadcasters. Broadcasters in turn may reconsider the viability of free-to-air television, which is currently partly financed by cable companies through retransmission fees. They may renegotiate their deals for injecting their signal directly into cable networks. The argument here abstracts from such effects in the value chain by making the point that free-to-air television is free-to-air by choice and hence ought to be self-sufficient as a business model. Put differently, it is hard to see the economic logic of why a cable subscriber should pay for retransmission of a free-to-air channel via his cable fee, while someone who uses a rooftop antenna to pick up the same channel at the same location should not.

The argument above applies to the SGAE, Del Corso and ITV Broadcasting cases. It is different in SBS, since in that case the signals had not been made publicly and freely accessible before distribution to the networks, which implies that the argument above that the broadcasts are a public good by choice does not apply. Also, it does not hold for broadcasts that are not free-to-air. Such broadcasters can negotiate a fee themselves for transmission to the subscribers of cable networks or any other platform such as satellite or digital terrestrial television. These contracts make additional retransmission fees obsolete. In their contract with end users, they can opt for a subscription or pay-per-view model. In such cases, the exploitation model
This situation is much like the initial market failure discussed in section 9.2 above; that without protection, the rents of copying are not excludable by the creator. Contrary to free-to-air broadcasts, a subscription will involve contracts between the broadcaster, the network and the recipient, which can contain clauses forbidding retransmission of the unscrambled signal by the network or a hotel owner. From an economic perspective, such a clause can be justified as second degree (volume-based) price discrimination, which is common in many industries and may very well pass the test of being beneficial for aggregate welfare. Hence, if a hotel were to unscramble the signal using one smart card and to retransmit the unscrambled signal to all rooms, this would not be a copyright issue but a breach of contract. It could be left to general competition law and unfair business practices to decide if such a clause is acceptable and the hotel owner liable.

Premier League also boils down to the issue of what is permissible to circumvent price discrimination, and what to enforce it. In these cases, price discrimination is not volume-based but geographic. Starting from the observation that the willingness to pay for TV subscriptions for British football matches is much lower in Greece than in the UK, licence fees had been set accordingly. The issue at stake was whether arbitrage of the ensuing user fees – by using Greek smart cards in the UK – can be prohibited. The CJEU ruled that competition policy and free trade in the internal EU market should prevail, in the sense that legislation which prohibits arbitrage is denounced. Note that this case does not concern unauthorized retransmission of a signal outside the original reception area, but circumvention of price discrimination by consumers. Against that background, the CJEU ruling makes much sense from a welfare economics perspective: as the welfare effects of price discrimination are highly ambiguous (see section 9.2), categorical legislative support for it is ill-advised. Rather, it is left to suppliers to try to use smart pricing, and to consumers to outsmart suppliers by finding the best deal.

Note that the arguments here do not hold for catch-up services. Similarly, recording live television and offering a (large scale) catch-up service that might even skip or replace advertisements undermines the exploitation model of the initial broadcaster and takes away control or opportunities to make money on reruns. This is analogous to the distinction between linking to a document on a website on the one hand, and downloading and sending it out on the other. In the latter case, the right holder no longer has any control over the exploitation environment and hence his exploitation opportunities are negatively affected.

9.7 TEXT AND DATA MINING

A final brief case study in this chapter deals with the issue of text and data mining. Text and data mining, often referred to as ‘TDM’ (or ‘DM’ for data mining), is a rapidly up-and-coming technology. Hand et al. (2001) define it as ‘the discovery of interesting, unexpected or valuable structures in large datasets’. Over the past few years it has become a promising branch of research, as can be illustrated by an article in Nature Genetics: ‘Big data mining yields novel insights on cancer’ (Jiang & Liu, 2015).

9.7.1 LEGAL TREATMENT

There are no CJEU references that deal specifically with TDM, although the Infopaq cases could be considered relevant. In Case C-5/08 – Infopaq I, the CJEU ruled that the use and printing of extracts of only eleven words, resulting from data capture by the media analysis company Infopaq International A/S does not qualify as a transient copy under Article 5(1) Copyright Directive, and might amount to copyright infringement unless prior consent from right holders has been obtained. Two and a half years later, in Case C-302/10 – Infopaq II, the CJEU ruled that, provided certain conditions are met, data capture ‘may not conflict with a normal exploitation of the work or unreasonably prejudice the legitimate interests of the rightholder’ and therefore could be allowed without prior authorization. On the other hand, one of the conditions mentioned, in line with Article 5(1) Copyright Directive, is that it ‘must not have an independent economic significance’. A second condition is that it ‘does not enable the generation of an additional profit going beyond that derived from the lawful use of the protected work’.

Be that as it may, whereas TDM does not seem to require authorization in fair use countries such as the US, it is often believed to fall within the scope of the exclusive economic rights in the EU and for that reason licensing solutions have been sought. In Article 3 of the proposal for a Directive on copyright in the Digital Single Market (COM (2016) 593), a mandatory exception is proposed for research organizations to perform ‘text and data mining of works and other subject-matter to which they have lawful access for the purpose of scientific research’. Contractual provisions contrary to this shall be unenforceable.

9.7.2 ECONOMIC ANALYSIS

As already mentioned, TDM is an up-and-coming and promising field of research. McDonald (2012: p. 4) stresses the benefits, which include

42. Compare how Netflix or Spotify subscriptions differentiate in the number of streams that are allowed simultaneously.

increased researcher efficiency and unlocking hidden information and developing new knowledge, which lead to ‘cost savings and productivity gains, innovative new service development, new business models and new medical treatments’. Hence, the dynamic dead-weight losses due to licensing requirements or uncertainty about such requirements could be substantial. In fact, Handke, Guibault & Vallbé (2015) have found that academic researchers in the EU/EEA have a weaker performance in this kind of research, which suggests such losses are currently incurred. In their economic assessment of TDM for the European Commission, Boulanger et al. (2014: p. 67) also mention the transaction costs that may be involved in licensing, but suggest these transaction costs have diminished as a result of standardized contracts, while licences may also give incentives to right holders to facilitate effective access.

The economic arguments for retrospectively placing TDM within the scope of the economic rights are weak. In Infopaq II, the CJEU seems to reason that any unlicensed use which has economic significance and generates additional profits as a consequence unreasonably prejudices the legitimate interests of the right holder and therefore should be licensed. Such reasoning resembles the argument criticized in previous sections, for instance in the case of digital resale, that authors should somehow be entitled to a share of any surpluses created by or with works in downstream markets.

However, while in the case of digital resale the market failure can be considered resolved for any physical or digital copy that is sold (as long as it is not subsequently copied and redistributed, see section 9.3), in the case of text and data mining, it can be observed that there never was a market failure in relation to TDM that needs to be resolved, provided access to articles or data to engage in TDM is lawfully obtained. The additional profits generated by it have never been part of the incentive system of the authors. Now that TDM is an emerging field of research, it may have become part of the incentive system for publishers aggregating large databases of articles. But to the extent that TDM was unforeseen in existing contracts for accessing such databases, this can be assumed not to have been the case.

Retrospectively providing rights that require licensing would create windfall profits for publishers without any incentive effect, while imposing dead-weight losses on text and data mining, as well as transaction costs of licensing. For future contracts, the value users derive from TDM can largely be priced into ordinary access contracts without specific contractual clauses. Thus, a mandatory exception, as proposed by the European Commission, is in line with the economic framework of this chapter. The unenforceability of contractual provisions that forbid TDM could serve as a safeguard against windfall profits for publishers. Having said that, one can dispute whether a right to engage in TDM should be phrased as an exception or a rule. Moreover, limiting this right to non-profit or public interest research organizations, as the proposal does, seems to be hard to defend from a welfare economic point of view.

9.8 CONCLUSIONS

This chapter has explored the avenues for redefining the scope of copyright from a normative, welfare economic perspective, to bring copyright more in line with today’s digital world. A welfare economic analysis of copyright sees it as a tool that aims to provide incentives for the creation and exploitation of works, by resolving the public good market failure associated with creative works. In this framework, the optimum scope of copyright follows from the optimum long-term effect it has on total social welfare, taking account of the dynamic effects of copyright on the creation and quality of works, and on the incentives it provides for their active exploitation. Transaction costs and dead-weight losses generated by copyright protection need to be taken into account to determine that optimum.

On the one hand, digitization has strengthened the need for copyright protection through the reduced cost of copying – not just for right holders but also for infringers – and the increased substitutability of originals by copies. On the other, contractual arrangements supported by technical protection measures that determine what can and cannot be done with the content acquired are a powerful counterforce to protect the interests of right holders.

To redefine the scope of copyright from an economic perspective in this digital world, the technology-neutral principle is formulated such that the public good market failure requires giving a creator and follow-on right holders exclusive rights with respect to acts that, as a consequence of this public good market failure, negatively and significantly affect his current or future exploitation opportunities and hence negatively interfere with his incentives to create or exploit, while taking account of the transaction costs and dead-weight losses generated by protection. On top of that, resolving the public good market failure must not generate new market failures by granting more or stronger rights than a creator would have in the absence of the initial market failure.

From the case studies in this chapter, it can be observed that digitization has caused ‘mission creep’ for copyright, extending to acts that lack the underlying market failure to justify protection and that would not be accepted in ‘ordinary markets’, such as controlling or extraction rents generated in downstream markets – criticized here as a ‘jealousy tax’ – or legislative backup for price discrimination. This is the case for digital resale, most copying for private use, linking to authorized content, text and data mining in databases a user has legitimate access to, and even retransmission of free-to-air television and radio stations within the reception area of the signal. In general, the analysis in this chapter suggests treating content markets no differently from other markets, once the public good market failure has been resolved, and to apply competition law and regulations concerning unfair business practices accordingly.

All this should not be mistaken for a plea against copyright in the digital domain. For instance, economic arguments remain valid to somehow prevent
linking to unauthorized content. Also, the potentially negative effect of embedding on the exploitation opportunities for a right holder is acknowledged. However, a solution to counter this negative effect should take account of transaction costs and dead-weight losses, which dictates opt-out solutions for right holders that do not want to be embedded.

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