Assessing the economic impacts of adapting certain limitations and exceptions to copyright and related rights in the EU

Analysis of specific policy options
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LIST OF ACRONYMS

CHIs: Cultural heritage and educational institutions
CMO: Collective Management Organisation
DRM: Digital Rights Management
MoU: Memorandum of Understanding
OA: Open Access
PLR: Public Lending Right
TDM: Text and data mining
EXECUTIVE SUMMARY

Background and aim of the report

This report is the second part of a wider study, commissioned by DG Internal Market and Services, that aims at assessing targeted changes in European copyright law, with a focus on exceptions and limitations to copyright, as a response to technological advances.

The first part of the study is the report by Charles River Associates “Assessing the economic impacts of adapting certain limitations and exceptions to copyright and related rights in the EU” (Langus et al., 2013, henceforth “CRA Methodology Report”), which establishes a methodology to assess exceptions and limitations to copyright. While the report identifies the channels through which copyright exceptions affect total welfare, it argues that on the basis of theory alone, one cannot make a case that technological advances (resulting for example in a decrease in the cost of copying and extended consumer uses) call for broader or narrower exceptions. Indeed, there are opposing effects at play and only a detailed assessment of the trade-offs involved taking into consideration the specificities of the exceptions considered can lead to such a conclusion.

In turn, the present report uses the aforementioned methodology to assess the economic impacts of specific policy options in several topics of interest, in view of providing policy guidance on these topics. This report focuses on the following topics:

- Digital preservation by cultural heritage and educational institutions;
- The provision of remote access by cultural heritage and educational institutions to their collections for the benefit of their patrons;
- E-lending by publicly accessible libraries;
- Text and data mining for the purpose of scientific research;
- Reproductions made by natural persons for private uses.

For each of these topics, we first provide a general assessment of the current landscape (the Status Quo). As discussed in detail in the CRA Methodology Report, free markets for copyrighted works may or may not deliver socially efficient outcomes. When markets perform efficiently, there is no reason for a market intervention. But when markets for copyrighted works are likely to be inefficient, an exception can, in principle, provide a partial remedy. We thus view exceptions as partial remedies for potential market failures and assess the rationale for an exception on the basis of our assessment of the Status Quo. We close each section with the assessment of specific policy options for the topics considered.

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1 For the purpose of this report, total welfare is defined as the sum of welfare of all the participants in the economy.
Summary of the main findings of the report

Preservation and the provision of remote access by cultural heritage and educational institutions

The advent of digital technologies offers new ways to preserve and communicate European cultural heritage to the public. Cultural heritage is a very broad concept that may include works which are both in the public domain and in copyright (and of the latter, include works which are orphaned, works out of commerce or distribution and works in commerce, including the latest bestsellers). Cultural heritage and educational institutions have started to build digital collections in order to preserve and make their collections available, but significant part of their collections have not yet been digitised. For preservation purposes, a specific EU-wide (optional) exception allowing cultural heritage institutions to reproduce copyrighted items exists, but has been implemented in various, and generally rather narrow, ways across member states. A particular drawback of the current EU legal landscape for digital preservation is that cultural institutions cannot engage into “mass preservation”\(^2\) projects, unless they acquire rightholders’ explicit consent. As for remote access, cultural heritage and educational institutions do not currently benefit from an exception allowing them to make their collections remotely available without the prior authorisation of rightholders.

Some member states (most notably, Scandinavian countries) have established Extended Collective Licensing schemes allowing cultural heritage and educational institutions to clear the rights for certain parts of their collections through a “one-stop-shop”. However, this system generally prevents these institutions from making their collections available on an EU-wide level. Absent collective licensing solutions, cultural heritage and educational institutions must clear the rights on copyrighted works individually, which has proven to result in non-negligible transaction costs. Broader exceptions to copyright for cultural heritage and educational institutions could in principle offer partial remedies to the said problems.

Regarding the rationale for an exception for remote access by cultural heritage and educational institutions, we find that, on the one hand, such an exception could in principle be justified on the grounds that it could decrease transaction costs and reduce the risk of hold-up faced by these institutions, and that it could broaden access to creative works, potentially further releasing in this way positive externalities associated with education and research. On the other hand, with a broad exception the revenues of rightholders and thus the incentives to produce new works could be hurt.

In general, a collective licensing system weakens the case for exceptions as it reduces transaction costs and thus the risk of a market failure. Rightholders’ ability to price discriminate in the market for access licences also seems to weaken the case for an exception, as it would often result in broader access than absent the ability to price discriminate, in particular when the rightholders have significant market power. However, this potentially positive effect of price discrimination is limited to sectors which feature well-functioning markets for access licences, such as the scientific publishing sector.

Regarding the specific policy options, we note that there is a significant degree of uncertainty with respect to the scope (as would be implemented in practice) of the

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\(^2\)“Mass preservation” refers to the preservation of the entirety or substantial parts of a cultural heritage or educational institution’s collection.
"closed-network" exception for the benefit of specific establishments. In particular it is not clear that the incentives for content creation would be sufficiently preserved under the scenario considered. Further considerations may need to be given as to which conditions could be clearly defined so as to ensure the proper balance. In particular, there is a trade-off between the savings in transaction costs which such an exception might enable and the preservation of incentives for content creation which such an exception might hurt.

We also find that an open-internet exception is not warranted, because it would reduce the incentives for content creation in the long-run, leading to too few new works and could also, in turn, narrow access to creative content in the future. While the open-internet exception would lead to short-term benefits for cultural heritage and educational institutions and final users, the costs associated with decreased incentives for rightholders are likely to exceed those benefits. We therefore currently favour the Status Quo.

With respect to the rationale for an exception for the purpose of preservation by cultural heritage and educational institutions, we argue that a preservation exception appears to be justified on the basis of externalities, missing markets for preservation, relatively high transaction costs and a risk of hold-up for cultural heritage and educational institutions. The existing exception does not allow for mass preservation projects, and economies of scale in digital preservation could be achieved under a broader exception that would not be restricted to specific acts of reproductions for the purpose of preservation.

However, we believe that acts of distribution and communication to the public should be excluded from the exception in order to preserve incentives for content creation. Under this condition, the introduction of a "mass preservation" exception that allows cultural heritage and education institutions to make (digital) reproductions of their collections could be warranted. Such an exception would very likely increase the rate of preservation of European cultural heritage without significantly affecting rightholders’ incentives.

If in-commerce works are covered by the mass preservation exception, rightholders might suffer some loss of revenue from replacement sales, though this effect would appear to be limited (as the exception would not include acts of distribution and communication to the public). For in-commerce works a fair compensation might then be warranted to avoid adverse effects on rightholders’ incentives to create new works. While there does not appear to be a strong need to mass-preserve in-commerce works (and these could be preserved at the point in time when they are no longer in-commerce), the economies of scale and the costs involved in determining whether a work is in-commerce or out of commerce might still justify it. Nevertheless, fair compensation may not fully and efficiently compensate rightholders of in-commerce works for lost replacement sales, and, taking into account the fact that in-commerce works might not be in urgent need of preservation as well as that fair compensation will be associated with some administrative costs, we believe that in-commerce works could be excluded from the scope of the proposed "mass preservation" exception.

With such an exception, we expect benefits to emerge from economies of scale being achieved, lower transaction costs and risk of hold-up, and higher rates of preservation.
while incentives would be largely preserved and the harm to rightholders would likely be limited.

**E-lending by public lending libraries**

The lending of e-books by public libraries is at the forefront of the current debate on library e-lending. On the one hand, library e-lending could offer an improved access to libraries’ collection. On the other hand, rightholders are concerned about the possible effects of e-lending on their revenue (due to its apparent frictionless nature), and it appears that they have been rather restrictive in dealing with libraries over the past years. No middle-ground has been found yet, and library associations are advocating policy changes in order to promote e-lending by public libraries.

Our analysis of an exception for library e-lending (amounting to an extension of the existing exception to the “Public Lending Right” to e-lending services by public libraries) does not result in a clear-cut conclusion regarding the desirability of an exception for the purpose of e-lending due to several potentially opposing factors at play. First, there clearly are some transaction costs in the market for library e-lending licences, but these do not appear to be prohibitively large. Therefore, a case for missing markets could hardly be made. Second, rightholders often have a significant degree of market power, but they can tailor licences to different types of libraries, which indicates their ability to price discriminate. In such circumstances the costs to total welfare of market power are often reduced, thus weakening the case for exceptions. The third relevant factor are the positive externalities that both the consumption and the production of new books feature. While an e-lending exception may be a partial remedy for the under-provision of access to existing e-books in the presence of externalities, it can aggravate the under-investment in new ones which is particularly harmful when there are positive externalities associated with access to (new) books.

We note that a constrained e-lending model, which introduces a set of artificial frictions associated with library e-lending, could preserve the incentives for creation of new works. However, a constrained model is unlikely to effectively broaden access to copyrighted works in the first place. Furthermore, an exception which allows e-lending by public libraries may decrease incentives for private investments in innovative e-lending services. Taking administrative costs into account (resulting, for instance, from the implementation of fair compensation to rightholders), the case for such a constrained e-lending model appears to be weak.

An alternative solution could be to induce rightholders and libraries to negotiate e-lending terms and conditions in view of establishing a Memorandum of Understanding. However, such a solution would improve upon the Status Quo only insofar as it resolves a coordination problem between the relevant market players, to the extent it exists. Administrative costs of such an initiative could ultimately outweigh its benefits and the Status Quo would then seem to be the preferred option. This would particularly likely be the case if coordination problem is absent.

**Text and Data Mining for the purpose of scientific research**

Text and data mining is generally thought of as a computational process that aims at discovering patterns in large databases and/or collections of textual content. For the purpose of our analysis, we focus on text and data mining which is conducted for the purpose of scientific research on content published in scientific journals.

Text and data mining is currently not covered by a specific exception to copyright. Given the absence of a clear legal situation for TDM, the relevant actors have had to resort to
licensing solutions. Licensing can in principle lead to significant transaction costs and some have argued that these are an impediment to the proper development of text and data mining for the purpose of scientific research. While this may be the case in some circumstances, recent developments in licensing suggest an increasing reliance on standardised licences for text and data research mining (at least as far as non-commercial research is concerned) and on services that offer “one-stop-shop” solutions to acquire the proper (text and data mining) licences. These developments are likely to further reduce transaction costs in the future, resulting in a more favourable environment for the development of text and data mining on content published in scientific journals. It should also be noted that licensing encourages rightholders (e.g. publishers) to make specific investments that are needed to facilitate effective access to content for the purpose of text and data mining. For these reasons, we believe that an introduction of a specific exception for the purpose of text and data mining for scientific research that would completely replace the current licensing mechanism is not warranted.

We then turn to the analysis of specific policy options and consider several exceptions whose scopes differ. Our analysis supports the introduction of an exception to copyright for TDM: (1) which is conducted for the purpose of scientific research; (2) which is conducted for non-commercial objectives; (3) which covers only TDM activities carried out on content to which there is a “lawful” access; (4) which allows rightholders to implement minimal technical conditions to ensure secure access and a stable platform; and (5) which would kick in only when a rightholder does not offer licences for text and data mining. This exception may facilitate text and data mining for the purpose of scientific research, as compared to the Status Quo, without significantly adversely affecting rightholders’ incentives for content creation, content quality and TDM-specific investments.

Reproductions made by natural persons for private uses

Private copying relates to the reproduction of creative content for use in the private sphere. An exception is already in place for private copying in most member states. Rightholders are often financially compensated for this exception when it is assumed that private copying implies a loss of revenues for them. We however argue that harm does not necessarily arise as a result of private copying. In particular, there is no market failure if the price of original content already reflects the value attached by consumers to copying or if there is no substitution between original content and copies because of the valuation of consumers and the difference in cost of production.

The implementation of the exception varies between member states, although it generally consists of a levy charged on the purchase of blank media and equipment. We discuss the consequences of the emergence of digital innovation, such as streaming and cloud computing on the suitability of the current levies policies and show that they reduce the need for compensation. More generally, we discuss the benefits but also the issues raised by levies, such as the distortionary effect on consumers’ choices or the potential discrepancies between their objective and their implementation.

With respect to the rationale for a private copying exception, we explain that transaction costs, missing markets and potentially market power can justify it. However, since consumers do not necessarily possess a copy, as in the case of streaming for instance,

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4 That is, the miners must either already possess or acquire an access licence on the content they wish to mine.
the need for levies must be assessed according to the changes in the consumption of content. We identify two alternative policy options to the Status Quo: the adjustment of the levies fees or the absence of compensation. Although the two options would have positive effects on all stakeholders in the long run and given the recent trends observed in digital markets, they would likely be higher by entirely removing levies.
1. INTRODUCTION

1.1. Objective of the report

The objective of this report is to provide an economic assessment of specific policy options regarding limitations and exceptions to copyright and related rights. We conduct analyses of the following five subjects:

- Reproductions made by cultural heritage and educational institutions for preservation purposes;
- Remote access to the collections of cultural heritage and educational institutions;
- E-lending by publicly accessible libraries;
- Text and data mining on scientific journals for the purpose of scientific research;
- Reproductions made by natural persons for private use.

The assessment of the proposed exceptions and of the various policy options is carried out broadly following the methodological framework proposed by CRA in the report "Assessing the economic impacts of adapting certain limitations and exceptions to copyright and related rights in the EU", prepared for DG Internal Market and Services ("CRA Methodology report").\(^5\) We identify the relevant economic mechanisms and trade-offs at play, along with the potential effects that the proposed changes may have on the various stakeholders.

Due to lack of data and the broad scope of the assessed measures, we do not undertake a quantitative analysis of the impacts of proposed changes. However, a qualitative assessment of the considered changes, informed by survey-based or other available empirical evidence, is provided.

The policy options that are subject to an assessment in this report were provided by DG Internal Market and Services and are described in detail at each of the sections.

1.2. Methodology

The CRA Methodology report sets out some key considerations for assessing the impact of specific exceptions and policy options. In line with those considerations, the starting point of our analysis is that exceptions can be seen as partial remedies for observed inefficiencies in markets for copyrighted works. Indeed, copyright may, in specific instances, excessively constrain access to creative works, and then an exception may be warranted.

\(^5\) Langus et al. (2013).
The CRA Methodology report identifies three main sources of market failure in markets for copyrighted works:

- **Transaction costs**, which arise as a by-product of market (or bilateral) transactions, are a fundamental source of inefficiency. Large transaction costs may erode the potential gains from trade between transacting parties, in which case markets for copyrighted works may fail to form altogether. In principle, in such circumstances an exception can increase total welfare if it enables certain uses without (significantly) reducing incentives to create new works. Note, however, that even when transaction costs are relatively low and do not prevent markets from forming, markets may fail to function efficiently.

- **Market power** may strengthen the case for an exception. Indeed, market power can lead to welfare losses by preventing some socially valuable exchanges to take place, as it often leads to a price above the efficient level, resulting in inefficiently low levels of access. Once more, as long as the incentives for content creation are preserved, an exception may be justified in such circumstances as it broadens access. However, it has to be noted that a certain degree of (ex-post) market power (in the sense that the price for access to a copy is above marginal costs) is in fact required for the rightholders to be able to recover the costs of creation. Moreover, in some circumstances price discrimination can lessen the adverse effect of market power on total welfare and market power in itself is not necessarily a concern.

- **Externalities** may also support the introduction of an exception. When a transaction generates externalities, the price agreed by the parties will not reflect the full costs or benefits of the transaction. In other words, free markets do not align private returns from transactions with social returns and a necessary condition for social optimality is, in turn, not satisfied. Broadly speaking, free (copyright) markets with positive externalities lead to under-provision of access to creative content, a market failure which exceptions may provide a partial remedy for. However, note that in the presence of positive externalities not only access is under-provided in free markets, but too few new works are created as well. While an exception could increase access to existing works, it might also at the same time exacerbate the problem of under-investment in new works if it undermines the incentives for content creation.

Additionally, the creation of new works may also, in some cases, be “chilled” by copyright. This is the case with some transformative uses, which necessitate access to (collections of) existing copyrighted works. Such uses can be prevented by rightholders or by high transaction costs, in which case an exception may also be justified.

Exceptions are not, however, costless for society. A fundamental source of social costs from exceptions is the potential reduction in incentives for the creation of new works and for the provisions of access to current and future works by rightholders. Furthermore, technological changes may lead to the creation of new, efficient markets and exceptions may slow down or prevent these changes altogether.

When assessing proposed policy changes, we broadly follow the Decision Chart proposed in the CRA Methodology report, which is depicted in Figure 1. This chart does not provide a “Yes” or “No” answer – it is only a rough guideline for the assessment of proposed changes, which is used in this report to identify the key mechanisms that
strengthen or weaken the case for an exception and to evaluate the effects of different policy options on stakeholders against the Status Quo.

Figure 1: Decision Chart for the assessment of exceptions

Source: CRA Methodology report (Langus et al., 2013)

1.3. Structure of the report

For the five subjects listed in section 1.1, we provide an independent assessment of exceptions and policy options. However, we address “Reproductions by cultural heritage institutions” and “Remote access to collections of cultural heritage institutions” in a single section because of the high degree of overlap between these two subjects. Within this section, we nonetheless conduct separate assessments for each subject.

Each section covers a separate exception (although, as explained above, subjects pertaining to cultural heritage institutions are addressed in a single section) and follows a 4-step process, outlined in Figure 2.
Each section starts with a description of the problem and of the nature of the relevant works and uses. An outline of the current EU context (Status Quo) follows. In this step, we provide a description of the markets and players involved, along with a brief account of the current legal and, if applicable, licensing landscapes. We then investigate whether the Status Quo provides a strong rationale for an exception. Finally, we assess several policy options against the Status Quo.

Figure 2: Generic structure of sections

For each of the policy options, as provided by DG Internal Market and Services, we consider the following issues, when relevant to the assessment:

- Short-run effects on rightholders’ revenues;
- Long-run incentives for the creation of new works and for the provision of access to these works;
- Implications for the distributors and intermediaries of copyright works and services;
- Short-run and long-run effects on final users/consumers (taking into account prices, as well as utility derived from quality of entertainment and available choice);
- Administrative costs of legislation and enforcement.
However, we do not always explicitly analyse all of the issues in the list above. Instead, in the assessment of the policy options for any given subject, we only focus on those which we believe are most relevant.

The likely effects that we identify are then summarised in annotated tables to provide a picture of the desirability of the considered policy options. Table 1 shows a generic annotated table, as those produced in the subsequent sections of this report. Rows contain the relevant stakeholders for the assessment of policy impacts, which are evaluated in the short-term (static effects of the policy) and the long-term (dynamic effects of the policy).

Effects resulting from the considered policy options are evaluated on the following scale:

<table>
<thead>
<tr>
<th>Sign</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Positive effect</td>
</tr>
<tr>
<td>?+</td>
<td>Possible/Limited positive effect</td>
</tr>
<tr>
<td>0</td>
<td>No effect, or negligible effect</td>
</tr>
<tr>
<td>?</td>
<td>Ambiguous effect</td>
</tr>
<tr>
<td>?-</td>
<td>Possible/Limited negative effect</td>
</tr>
<tr>
<td>-</td>
<td>Negative effect</td>
</tr>
</tbody>
</table>

Hypothetical policy options are evaluated against our benchmark scenario, the Status Quo, for each treated subject. A “+” in a cell then indicates that a policy option is likely to have a positive impact on the given stakeholder for the given time-span considered (short- or long-term). In some instances, it is difficult to conclude on the sign of an effect. We highlight such cases by preceding the likely direction of a sign (“+” or “-”) by a question mark “?”. The signs “?+” and “?-” should therefore be interpreted as either limited or possible, respectively, positive and negative effects. A solitary question mark indicates a sign ambiguity. A “0” indicates our assessment that the opposing effects are likely to (near) cancel out or, in most cases, there is no mechanism that would generate a strong effect. In our tables, each effect is accompanied by a brief description, in order to make tables as self-sufficient as possible.

**Table 1: Illustration of a typical table summarising the assessment of a policy option**

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+</td>
<td>?+</td>
</tr>
<tr>
<td></td>
<td>[Description of effect]</td>
<td>[Description of effect]</td>
</tr>
<tr>
<td>Stakeholder 2</td>
<td>0</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>[Description of effect]</td>
<td>[Description of effect]</td>
</tr>
<tr>
<td>Stakeholder 3</td>
<td>-</td>
<td>?-</td>
</tr>
<tr>
<td></td>
<td>[Description of effect]</td>
<td>[Description of effect]</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.
2. REMOTE ACCESS AND PRESERVATION BY CULTURAL HERITAGE AND EDUCATIONAL INSTITUTIONS

2.1. Introduction

Many creative works, such as books, photographs or musical sheets, depreciate through time and necessarily face a risk of falling into disrepair. As many such works tend to be a part of collections that belong to libraries or other institutions, such as museums and archives, one of the traditional roles of these institutions has been to preserve our cultural heritage. With improved technologies and, in particular, the advent of digital technologies, cultural heritage and educational institutions (henceforth, “CHIs”) have started to preserve their collections by digital means to ensure their long-term preservation.

Another fundamental role of CHIs is to make creative works available to the public. In view of the increased importance of digital technologies and, in particular, the internet, CHIs now have the possibility to make access to their collections as wide as possible, by means of digitisation, for the greater benefit of the general public. However, some have argued that the digitisation of cultural heritage in the European Union is far from being accomplished and that, currently, too little of our CHIs’ collections is available to European citizens.\(^6\)

In practice, digital preservation consists in the making of a digital reproduction of a work while the provision of remote access requires digital reproductions to be made and these digital copies to be then “made available” to the public.\(^7\) A potentially large part of CHIs’ collections is protected by copyright and, hence, cultural institutions cannot, in principle, engage into the digitisation and making available of their collections without the prior authorisation of rightholders. If the market for licences that allow such uses by CHIs is not efficient, CHIs’ digitisation activities could be slowed down or prevented altogether. In that regard it should be noted however that the cost of licensing itself is small in the overall cost of digitisation projects, when such projects are undertaken individually by each CHI (in which case the cost of the actual digitisation would presumably be by large the highest).

This section first establishes the current European contexts for preservation and the provision of remote access by CHIs. We then study the rationale for exceptions for these uses of copyrighted works by CHIs. When considering the provision of access to creative works by CHIs, we focus on access provided for the purpose of education and research. When looking at preservation by CHIs, we focus on preservation by digital means. Lastly, we carry out assessments of several hypothetical policy options for the considered uses by CHIs.

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\(^6\) See, for instance, Comité des Sages (2011).

\(^7\) In our analysis, we differentiate between “mass reproduction”, “mass preservation” and “mass digitisation” by CHIs. We refer the reader to footnote 9 for an explanation of these notions.
2.2. The current European landscape

2.2.1. Legal context

The current EU legal framework enables member states to provide for an exception to the reproduction right in respect of “specific acts of reproduction made by publicly accessible libraries, educational establishments or museums, or by archives, which are not for direct or indirect economic or commercial advantage.” This exception, being optional, has been implemented in various ways across member states. Typically, cultural institutions are allowed to make copies of the works which form their collections for the specific purpose of preservation. However, CHIs are, in some member states, not able to engage in the digitisation of their collections because, for instance, the making of digital copies is not permitted by national laws (e.g. because format-shifting or digital copying is not allowed). Furthermore, CHIs are typically not allowed to engage into “mass preservation” of their collections, because the optional exception has typically been narrowly implemented across member states (only “specific” acts of reproduction are covered). CHIs may then be required to ask the permissions of rightholders to digitise their works, especially in large preservation projects which involve the copying of works that are not in need of preservation (implying certain acts of reproductions that do not fit the “specific” nature covered by article 5(2)(c) of Directive 2001/29/EC).

Some member states (e.g. Nordic countries) have instead relied on a system of Extended Collective Licensing and Ireland has chosen not to implement the exception and to leave the relevant parties find agreements on permissible uses.

As for remote access, the current legal framework authorises CHIs to communicate protected works to the public on dedicated terminals situated within their premises. As such, CHIs are generally not in a position to provide their collections online without the prior consent of rightholders. More specifically, having a full-fledged online collection would require a cultural institution to clear the rights of all individual rightholders of the (protected) works held in its collection.

Sizing the problem

The lack of appropriate legal solutions regarding digital preservation and remote access could be problematic because, as we illustrate below, a potentially large part of CHIs’ collections consists of copyrighted works. This implies that a large number of authorisations must be sought by CHIs prior to engaging in their digitisation activities, which may result in significant transaction costs.

In order to appreciate the extent of the problem, some data on how many works are copyrighted in CHIs’ collections would be useful. A way to get some suggestive evidence is to estimate the number of works belonging to the public domain in the EU. Indeed, as Pollock and Stepan (2009) put it, “the public domain begins where copyright ends.”

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8 Article 5(2)c of Directive 2001/29/EC.

9 We do not consider in this section “mass digitisation”, but rather “mass preservation” by CHIs. “Mass preservation” refers to the preservation of the entirety or substantial parts of a CHI’s collection. Typically, “mass reproduction”, the copying of the entirety or of substantial parts of a collection of creative works, will take place in both the processes of “mass preservation” and “mass digitisation”. However, “mass digitisation” refers to efforts by CHIs put into the digital copying of their collections (or significant parts of their collections) in view of subsequently making their collections remotely available to the public through the internet.

10 Article 5(3)(n) of Directive 2001/29/EC.
their paper, Pollock and Stepan provide quantitative estimates of the size of the public domain in the EU for specific sectors, using records from national libraries in EU member states. Because national libraries do not include all creative works produced (e.g. unpublished works), these estimates must, however, be considered as only lower bounds.

Although necessarily imperfect due to the complexity of the task, Pollock and Stepan’s estimates are instructive. They estimate that about 12% of books belong to the public domain in the EU. There are two main reasons for this strikingly low figure, which are illustrated in Figure 3. First, the rate of publication has significantly increased in the 20th century and, second, copyright extends up to 70 years after the author’s death date, implying that most of recently published books are still copyrighted. The authors also show that around 18% of the British Library Sound Archive is public domain material.

Finally, they estimate that about 30% of musical compositions in Cambridge University Library’s catalogue belong to the public domain. These figures are only meant to be suggestive, but they indicate that CHIs’ collections largely contain copyrighted works.

Figure 3: The in-copyright (black) and public domain (red) items in Cambridge University Library’s collection

Source: Pollock and Stepan (2009)
Note: This figure shows the total number of works per year of publication.

2.2.2. Digitisation and provision of access

The State of digitisation

The 2012 ENUMERATE survey (Stroeker and Vogels, 2012) provides some interesting results on the state of digitisation. First, it shows that 83% of the cultural institutions

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11 As the authors themselves argue, their analysis contains certain limitations. First, their computations are based on the number of items based in national libraries’ catalogues rather than the number of works. Thus, it contains some replications of original works which do not, per se, consist in pieces of original information (e.g. an item may simply be an updated edition of a given book with very little added value). Second, because of a lack of precise data on authors’ death dates, the authors must also adopt approximation methods to determine the copyright status of a work.
surveyed have a digital collection or are engaged into digitisation activities. However, only 20% of their full collections are, on average, digitised. Respondents have reported that they intend to digitise more of their collections. On average, the intended target is 57% of the institutions’ collections, representing an approximate 200% increase in the amount of content to be digitised in the future. Given the high costs of digitisation, CHIs might want to coordinate their efforts. Coordination problems between cultural institutions may, however, delay decisions to engage into digitisation, and lead to low amounts of digitised content.

**Provision of access by CHIs**

In terms of access, respondents to the 2012 ENUMERATE survey (that is, cultural institutions) have reported that, on average, 49% of their digital collections are accessible offline, against only 30% being accessible online. These figures point to the fact that CHIs face certain hurdles in making their collections available. While the costs associated with the digitisation of CHIs’ collections are known to be substantial, the clearance of rights by CHIs in copyrighted works is also frequently cited as a hurdle. The 2013 ENUMERATE report contains some insightful comments by respondents illustrating the latter issue. For instance, one respondent made the following remark: “We allow usage of our digital collections for free non-commercial downloads, sharing and reuse, except in the case of collections being subjected to author copyright.” Another said, “Only copyright free objects are published for external use […]”

**Provision of access by other market players**

When a work is still in-commerce, it will typically be offered by rightholders or distributors (including, possibly, in digital format). The recent spur in e-commerce has led these market players to consider digital sales as an additional stream of revenue. This is, in particular, the case for scientific journal articles and e-books (and variants, such as e-textbooks, although a proper market for e-books is only emerging in the EU). These items may be directly supplied by publishers themselves, on their online platforms, or by online retailers or so-called “aggregators”, who bundle content from various publishers. In the scientific publishing sector, it has become very common for libraries, in particular research libraries, to buy subscriptions in order to provide online access to publishers’ content for their patrons. These digital sales represent an important source of revenue

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12 The institutions involved in the survey are the following: National libraries, museums, audio-visual, broadcasting or film institutes, archives, special types of and higher education libraries and institutions for monument care. ENUMERATE is an on-going project. More detailed survey results should be soon available on the website of the project: http://www.enumerate.eu/

13 Note that the ENUMERATE survey did not specify a given time-span for future digitisation activities; it simply asked respondents whether they intended to further digitise their collections, beyond current levels.

14 See, for instance, Poole (2010) for a report on digitisation costs and DG Research and Innovation (2012) for survey-based evidence on the lack of coordination in digitisation activities in the sectors of scientific publication and scientific data.

15 Rights clearance or the clearance of rights both refer to the process which consists in asking for rightholders’ permissions and negotiating licence fees if necessary.

16 In-commerce works are works that are still available through normal channels of commerce.

17 See Ware and Mabe (2012) for a detailed exposition of the scientific publishing sector.
for publishers and an important incentive for content creation and the maintenance of content quality by publishers. Publishers are, in turn, important providers of access to content in the context of scientific research and education.

When a work is out-of-commerce, it will typically not be readily (and legally) available in digital format for the purpose of remote access. CHIs must turn to licensing solutions and request the explicit permission of rightholders to digitise and make their works available, as it is impossible for them to buy digital copies (or physical copies to be digitised) in view of making them available to the public. This will result in transaction costs, which in principle could be avoided.

**Long-term preservation**

For content in physical or analogue format, CHIs typically bear the responsibility of preserving the items in their collections. Indeed, preservation is generally not undertaken by rightholders.

For digital content, however, the role of CHIs in preservation is less straightforward. The problem of long-term preservation is particularly relevant in the context of scientific and scholarly publications. Educational libraries typically acquire access to publishers’ content rather than ownership over this content. As a result, such libraries are not in a position to preserve the items in their digital collections of journals and e-books, given that they do not own copies of these items. At the same time, they cannot rely on the presence of publishers in the long-term to ensure preservation of their digital collections.

Several initiatives have taken place and offer partial solutions to the problem. For instance, there are digital archiving services that store and manage the preservation of e-journals and e-books (such as Portico). National libraries may also offer digital archiving services, as is the case in the Netherlands with e-Depot.

### 2.2.3. Licensing context

Cultural institutions in the EU typically employ two methods for the clearance of rights on protected works. The method employed generally depends on the type of CHI and the type of work on which rights must be cleared. The first method, probably the most popular, consists in clearing the rights individually, for each work that a cultural institution wants to make available online or digitise. The second method (less used across the EU, but the major method employed in Nordic countries) consists in rights clearance through Extended Collective Licensing (henceforth, “ECL”) bodies, such as national Collective Management Organisations (henceforth, “CMOs”). Both methods have pros and cons, which we review below.

As explained by Stratton (2011), once works are selected to be digitised and/or made available, individual right clearance will generally require the following steps to be implemented:

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18 As defined by the European Commission, “out-of-commerce works are works that are still protected by copyright but are no longer available in customary channels of commerce.”

19 See Ware and Mabe (2012) for further details.

20 The required rights to make a work accessible online are the right to digitise, or make a digital copy, of a work and the making available right, for the communication of the work over the internet.
1. Searching for the copyright status of the selected works: in-copyright, out-of-copyright or unknown copyright status;

2. Determining the relevant rightholders;

3. Locating and contacting the relevant rightholders;


These steps can be potentially time-consuming and costly. The costs involved in steps 1, 2 and 3 are commonly referred to as “identification” or “search” costs, while those resulting from step 4 are commonly known as “bargaining” or “negotiation” costs. As explained in the CRA Methodology report, both search and bargaining costs arise as a by-product of transactions between parties, which is why they are known as “transaction costs”.

In member states in which there is no readily available collective licensing solution, CHIs must clear rights individually. This is also the case when such a solution is not available for specific types of works. Stratton (2011) studied individual right clearance in the UK, prior to the introduction of the UK ECL scheme in 2013.21 Her results are thus relevant for understanding the transaction costs associated with the clearance of rights absent an ECL. Stratton shows that it takes, on average, 4 hours per book to perform steps 1 to 4. 22 Thus, it would take 1,000 years for a single employee to clear the rights in 500,000 books. This seems to indicate that CHIs currently face transaction costs in trying to digitise and make their works available online and that total transaction costs at the EU level are potentially very large.23

Stratton (2011) also provides detailed information as to the composition of her random sample according to copyright status and in- or out-of-copyright nature of the works. The author reports that 29% of her sample consisted of public domain items, the remaining proportion (71%) being protected by copyright. Furthermore, orphan works represented 31% of her sample.24 Of the works for which permissions or licences were sought (the in-

21 Stratton (2011) draws a random sample of 140 works from the British Library’s collection. The sample runs over 14 decades between 1870’s and 2000’s and contains works written in English but published in (84%) and out (16%) of the U.K.

22 The average of 4 hours per book was computed by adding the aggregate time it took to clear the rights (steps 1 to 4) for all works divided by the total number of works (140).

23 This should, however, be moderated in the view of recent technological developments such as ARROW, an online platform that helps libraries and researchers identify whether a work is in-commerce or out-of-commerce and if it is in the public domain or not. ARROW only covers works in the print sector and such solutions for other types of works do not currently seem widespread. It is worth noting that in-between individual licensing and ECL there is voluntary collective licensing that when undertaken by highly representative CMOs can get to a very similar effect (via clauses protecting the licensee against claims by third parties for uses authorised by the license).

24 As defined in Directive 2012/28/EU on certain permitted use of orphan works, “Orphan works are works like books, newspaper and magazine articles and films that are still protected by copyright but whose authors or other rightholders are not known or cannot be located or contacted to obtain copyright permissions.” A work was considered orphaned in Stratton (2011) when a diligent search did not lead to the identification of the author of the work.
copyright works), the author received authorisations by rightholders in only 17% of the cases.

This brings out a significant problem associated with individual right clearance: “hold-up”. Generally, hold-up occurs when one party must incur relationship-specific investments. Search costs are an example of such an investment. Hold-up is discussed in more detail in the CRA Methodology report and as argued there, it may discourage investments in the provision of services or products. In the present context, hold-up might discourage investments in preservation and the provision of access to content by CHIs. And as suggested by Stratton’s results, CHIs do invest considerable resources in searching for rightholders, only to eventually receive relatively few permissions.

However, the Directive 2012/28/EU on certain permitted uses of orphan works (henceforth, the “orphan works Directive”) was recently proposed as a solution to the aforementioned issues related to orphan works in CHIs’ collections. It allows the unauthorised uses of certain types of orphan work by certain beneficiary institutions. The orphan works Directive applies to publicly accessible libraries, educational establishments, museums, archives, film or audio heritage institutions and public service broadcasters, provided they meet specific conditions listed in the Directive. It covers several categories of copyrighted works, first published in the EU, whose authors or other rightholders cannot be identified and/or located after a diligent search. These categories include works in the print sector (such as books, journals and newspapers), audio-visual works, phonograms and works embedded in other works.

The orphan works Directive provides a partial remedy to the problems faced by CHIs in trying to clear rights. It provides for fair compensation in case of reappearance of rightholders, which limits the extent of risk to which CHIs are exposed. Indeed, if a rightholder reappears, the cultural institution is only liable to compensate this rightholder on the basis of the use that has been made of the in-copyright work. However, the need to perform diligent searches prior to the digital copying and online making available of works implies that libraries still face search costs (transaction costs) under the orphan works Directive (but the risk of hold-up is significantly reduced).

Individual rights clearance also has some benefits. It may allow CHIs to obtain licences which do not require the payment of a fee and which allow CHIs to make works available online on a pan-European level. Furthermore, once an author is identified, knowledge of other works he produced can be more easily acquired and managed. Individual right clearance thus puts some clarity on the composition of CHIs’ collections, leading to potential cost-savings when carrying out further digitisation projects.

Extended Collective Licensing is, as defined by Strauwel (2011), “[…] a license agreement that is freely negotiated between a collective management organization and a user, and which is later extended by law to the works of outsiders.” It is a model which is particularly relied upon in Scandinavian countries. In the EU, the Memorandum of Understanding on Digitisation and Making Available of Out-of-commerce Works (MoU) provides a framework, acknowledged by publishers, authors and libraries that facilitates the collective licensing of copyrighted, out-of-commerce, books and learned journals for CHIs. It was specifically designed to allow CHIs, in particular research and higher

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25 For instance, Stratton (2011) reports that only one in the 17 rightholders that gave permissions asked for a licence fee.
education libraries, to digitise and make the out-of-commerce works in their collections available online against a licensing fee administered by national CMOs. The MoU also extends to non-members of CMOs and it allows rightholders to opt-out of the collective agreements.26

The clear benefit of such a system is that it is associated with significantly lower transaction costs than the individual right clearance method. Indeed, under the ECL, no search regarding the status of a work and no identification of the relevant rightholders are required. It could also provide a “one-stop-shop” for mass preservation projects, as CHIs may clear the rights over potentially large proportions of their collections at once. Also, royalties being fixed means that CHIs can more easily plan expenses and would generally operate in a more predictable environment.

However, the ECL model has some limitations. For example, it does not currently offer the appropriate framework for right clearance at a pan-European level. This is because for a CMO to engage into ECL, it has to be representative (otherwise ECL becomes a compulsory licence which in the case of digital right would be against the current state of law at international and EU level) and it is difficult to imagine that a national CMO (all are) could be seen as being sufficiently representative to authorise the use of content (beyond its domestic repertoire) in territories outside its own country. Thus, when a licence is granted, remote access is thus usually restricted to national borders, while the internet offers the possibility to CHIs to make their collections available over the entire EU territory. The second problem, put forward by Beunen (2013), is that CMOs only offer licences of limited duration, while CHIs may wish to make their collections available indefinitely. Thus, although transaction costs are often lower under the ECL model than the individual right clearance model, the former model offers less flexibility in licensing than the latter model.

Furthermore, books and learned journals only represent a fraction of CHIs’ collections and, so far, no collective licensing solution across Member States has been put forth as a model for other types of works and subject matters. The MoU is, however, meant to provide a benchmark for such agreements to be made in other sectors as well, such as the audio-visual sector, and may thus induce developments in those sectors.

2.3. Assessment of an exception for remote access by CHIs and proposed policy options

In this section, we assess an exception to copyright for remote access by CHIs for the purpose of education and research. First, we look at theoretical arguments for and against such an exception. Then, we assess hypothetical policy options on the basis of their likely short- and long-term impacts on stakeholders.

2.3.1. The rationale for a remote access exception

The CRA Methodology report identified a set of mechanisms and factors that are relevant when considering the introduction of an exception to copyright. We emphasise the following factors, which are particularly relevant in the context of remote access by CHIs:

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26 The fact that collective licences issued by CMOs extend to non-members is the difference between Extended Collective Licensing, which implements the extension of licensing, and Collective Licensing, which does not apply the extension to non-members. Note that the MoU could also be implemented at the national level through compulsory collective management, rather than extended collective management.
• The presence of transaction costs;
• Whether markets are missing, and possible positive externalities related to the provision of access by CHIs in the context of education and research;
• Whether rightholders have significant market power and whether its exercise is likely to lead to a significant loss of total welfare.

Below, we discuss these factors in more detail.

**Transaction costs**

When CHIs must resort to individual rights clearance in order to make their collections available online, they are likely to face high transaction costs and a risk of hold-up. This is due, in particular, to the high number of copyrighted works in CHIs’ collections, which lead to significant identification and bargaining costs.27

The orphan works Directive offers a limited remedy to this problem as it allows the unauthorised use of specific types of orphan works by specific users. Some CHIs may, however, still face issues related to orphan works if they operate in sectors that are not covered by the Directive.

CHIs operating in some member states may rely on a system of Extended Collective Licensing. While such a licensing system has its drawbacks, as explained earlier, it is effective at reducing transaction costs. Transaction costs are therefore generally not a significant problem when such licensing system is used.

Finally, some sectors feature well-functioning licensing markets for the provision of access by CHIs. The scientific publishing sector is an example. In this sector, licensing appears to be working efficiently and in particular it induces low transaction costs (although licensing fees may be significant). Aggregators typically bundle e-journals from a large number of publishers and offer access licences on behalf of publishers. The e-book market, which is discussed in more detail in section 3 (on e-lending) also features a rather well-organised, although still emerging, market.

Thus, high transaction costs are potentially problematic in member states that do not feature an Extended Collective Licensing system. Similarly, transaction costs might be problematic in sectors that do not feature such collective licensing systems and in which licences are granted individually by rightholders, rather than through aggregators or other intermediaries.

**A note on technological progress and transaction costs**

High transaction costs might support the introduction of an exception, provided alternative remedies are unlikely to emerge in the foreseeable future. However, technological progress may itself decrease transaction costs. It seems that there currently are some initiatives working in this direction in the EU. The ARROW project is an example of how improved technologies may help in decreasing transaction costs and, thus, may weaken the case for an exception. ARROW is a system that enables CHIs to search for rightholders’ information, copyright statuses and commercial availability of books. It is intended to have a pan-European dimension. Results of national pilots have shown that it

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27 For a more detailed discussion of hold-up associated with search cost (identification cost) and more generally transaction costs see the CRA Methodology report.
leads to significant time savings as compared to individual right clearance. For instance, in the U.K., the time savings amounted to 97%. Furthermore, Stratton (2011) compared her result using individual right clearance, which took around 4 hours per title on average, with an equivalent search using the ARROW system, which resulted in a search of 5 minutes per title. The time-saving is evident and Stratton also shows that the ARROW system and individual searches lead to globally similar results regarding authors and copyright/availability statuses.

If systems such as ARROW were to develop for other types of works in CHIs’ collections, then aggregate transaction costs could be substantially reduced. It is worth noting that technology in itself would not necessarily suppress transaction costs altogether, because bargaining with rightholders might still be necessary. However, along with the Directive on Orphan works and the MoU, technological progress in the form of improved means to do diligent searches could suffice to provide CHIs with a favourable environment to make their collections available online. A potential drawback is that initiatives such as ARROW for other types of works may never develop, or may take several years to take place (e.g. ARROW was initiated in 2008 and, although it is making significant progress, it is currently not operational at the EU level).

**Missing markets and externalities in the context of education and research**

The issue of missing markets is relevant in the context of orphan works, as their authors cannot be identified. The recent orphan works Directive can be seen as a partial remedy to this problem as it authorises CHIs to digitise and make available orphan works, albeit after a diligent search has been conducted.

Regarding externalities, it is recognised that education (and therefore study) provides both private and social benefits. For instance, there is some evidence that education has a positive impact on economic growth (Blundell et al., 1999). Governments invest in education in order to reap those social benefits, and access to works belonging to CHIs’ collections is considered crucial for releasing positive externalities from education effectively. Similarly, research which also in part relies on access to CHIs’ collections is often associated with positive externalities. For these reasons, broad access to the content held by CHIs also plays a role in releasing the positive externalities emerging from research efficiently.

Thus, the provision of a broad access by CHIs to their collections, in particular for the purposes of education and research, can be seen as a mechanism that helps internalise the positive externalities generated by research and education. Although the social benefits generated by research and education stem from the information and the ideas embedded in creative works, rather than the ways in which ideas are expressed, the transmission of knowledge, which is often dispersed, is effectively enabled by CHIs, which act as central points of access to information. CHIs’ collections typically also contain works that are no longer commercially available but are still protected by copyright. The online dissemination of works by CHIs improves access to these works in particular. An exception to copyright allowing CHIs to broaden the access to their

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collections could then help internalise positive externalities from access to content for the purpose of education and research.

**Market power**

The provision of access by CHIs is constrained by the exclusive rights that copyright grants to its owner. In some cases, rightholders may enjoy significant market power as a result of this exclusive right. For instance, the book publishing industry is dominated by a few large publishers that are often said to enjoy such market power. Market power can result in sub-optimal consumption and induce social costs, but this need not be the case, as we now argue.

First, if rightholders can price discriminate, then market power as a justification for an exception is less compelling as access will often be less restricted (and the social loss associated to market power will be lower) than absent price discrimination (see e.g. McAfee, 2008). There is indeed some evidence that rightholders tend to price discriminate in several sectors in which CHIs operate. For instance, in the sector of scientific publishing, publishers price discriminate by offering different kinds of bundles at different subscription rates, or per-usage prices. Similar price discrimination is taking place in the e-books sector, as we show in section 3 (on e-lending). The existing scope for price discrimination means that the provision of access by educational and research libraries may thus not be excessively constrained below socially optimal levels.

Second, when rightholders exploit commercially (either in analogue or digital formats) their works, an exception that authorises CHIs to make such works remotely available for free would probably cannibalise rightholders’ sales. This may, in turn, have long-term effects on incentives to produce new creative works. Indeed, lower remuneration for their works would be expected to lead to lower incentives for continued production of new content, and at the extreme, if rightholders can no longer be remunerated for their works, or if they expect a substantially lessened ability to recover investments in content creation, they would be discouraged from producing new content in the long-run. In other words, a degree of market power is needed in order to preserve the incentives for the original creators to produce new works and when an exception significantly threatens the incentives for creative work, it will hardly be justified.

2.3.2. The proposed policy options

In this section, we assess three policy options in the context of remote access by CHIs for the purpose of research and private study on the basis of short- and long-term impacts on the main stakeholders. More specifically, we consider the Status Quo, on the one hand, and two exceptions (whose scopes differ) on the other hand.

The following aspects are emphasised in the assessment of these policy options as we consider these to be most relevant:

- Short-run effects on revenues of rightholders;
- Long-run incentives for the creation of new works (original and transformative);

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30 Note that it could be argued that as long as remuneration exceeds the costs of creating a new work (including opportunity costs), incentives are preserved. If, prior to the introduction of an exception, the gap between the remuneration and the cost is large, an exception should significantly reduce remuneration for it not to be warranted.
• Short- and long-run effects on patrons/consumers;

**Option 1: The Status Quo on remote access**

We discuss the Status Quo according to the nature of works that typically belong to CHIs’ collections. There are four of such types that are relevant to our analysis: (1) Born-digital in-commerce works; (2) Physical (analogue) in-commerce works; (3) Out-of-commerce works and (4) Orphan works.

The orphan works Directive enables CHIs to make orphan works available online. This promotes access to works online in the short- and long-term, to the benefit of patrons and other relevant users in the context of education and research. As for rightholders, they can reappear and receive compensation for the making available of their works. This system of retroactive payments in case of reappearing rightholders ensures that rightholders are not significantly negatively affected by the provision of access by CHIs. However, diligent search is required prior to the making available of orphan works. While ARROW makes these searches effective and rapid, such an initiative does not currently exist for all EU member states, nor for other sectors apart from the print sector. Thus, costs associated with diligent searches will continue to be incurred by CHIs in sectors which do not have equivalent initiatives.

The MoU for out-of-commerce works facilitates the collective licensing of such works by CHIs. This facilitates making out-of-commerce works available in the short- and long-term. However, the MoU covers only books and journals. Some CHIs whose collections contain works in other sectors will thus still face high transaction costs as similar collective licensing systems are not in place. As for rightholders, they are remunerated for the use of their works (if voluntary agreements with CHIs provide for such remuneration). It is thus unlikely that the MoU could be harmful for rightholders.

In the context of born-digital in-commerce works, the provision of access by CHIs to their patrons usually takes place through licensing agreements with rightholders directly or through intermediaries, such as aggregators. The scientific publishing sector features a particularly well-rounded licensing scheme. Such schemes are slowly emerging in the context of trade e-books and e-audiobooks, as aggregators (such as OverDrive) are becoming increasingly important.

Physical works are the most problematic type of work in CHIs’ collections, because at the time of purchase, most of these (if not all) works were typically not subject to licensing terms governing remote access. As a result, CHIs must clear the reproduction and making available rights with rightholders directly. In many sectors and member states, collective licensing solutions for the clearance of rights are not available to CHIs. CHIs then generally face high transaction costs and may face a risk of hold-up. Regarding those sectors for which collective licences are available, CHIs may not be allowed to make the works available across borders. As a result, access is constrained and the benefits are thus limited.

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31 We expect the benefits of the Directive to be more pronounced in the long-term than the short-term, given that the Directive has only been established recently.

32 Similarly to the effects resulting from the Directive on orphan works, we expect the MoU to have greater long-term effects than short-term effects, given its recent establishment.

33 A more detailed analysis of trade e-books will be performed in section 3 (E-lending).
Option 2: Permitting specific establishments (e.g. university libraries, archives) to provide remote access over a closed network

In this section, we look at an exception to the reproduction and making available rights for the purpose of private study or research by enabling specific establishments (e.g. university libraries, archives) to provide remote access over a closed network. The network would be accessible either on the premises of the establishment or online but with a secure subscriber identification protocol. We first describe the hypothetical exception and we then conduct its assessment.

Description of the hypothetical “closed network” exception

(a) **Scope of the exception**

The scope of the exception would be restricted to the specific use of “research or private study” and would be for accredited users (e.g. enrolled in an education programme with the institution to which the library belong, being accredited as a researcher or undertaking a specific research project) of specific establishments.

(b) **Beneficiaries**

The beneficiaries would encompass specific establishments (e.g. university libraries, archives) to the extent that their collections are used in the context of “private study” or “research”. In addition, these institutions should meet the following requirements:

- Libraries and archives that are conducted for profit would remain excluded;
- The institution should pursue scientific/educational goals;
- There would be specific criteria to ensure that the persons gaining access to the library collection do so solely for the purposes of and to the extent required for the uses covered by the exception.
- Outsourcing of platforms to private companies or any other person acting on behalf of eligible institutions and where the use of the copies remain within the conditions applicable to the latter should be explicitly allowed.

(c) **Works covered**

The exception would apply to all types of works and other subject matter (orphan, out of commerce, in commerce), whether printed matter, audio, visual, or audio-visual, including “born-digital” works and other subject matter.

It could also apply, subject to an assessment of the possibilities to do so under the Berne Convention and other international agreements, to unpublished works (i.e. works that have not been put in circulation in the market; e.g. theses that have been deposited in a legal deposit).

(d) **The acts covered**

The exception to acts of reproduction and communication to the public would apply only in respect of those works and other subject matter not subject to purchase or licensing terms. In particular, it would not apply to new acquisitions and subscriptions made by specific establishments, such as journal subscriptions made by libraries, where the rightholder has offered terms governing remote access. Additionally, the act of communication to the public must be specific to consultations for purposes of research or
private study (for instance no permanent downloads or further communication of the works would be allowed).

The specific acts must not be for direct or indirect economic or commercial advantage and, thus, should not give rise to a payment which goes beyond what is necessary to cover the operating costs of the establishment including digitisation costs (e.g. charging a fee exceeding operational costs would be considered a direct commercial advantage).

(e) Further conditions and limitations

The acts of reproduction and communication to the public for online access for purposes of research or private study would not give rise to fair compensation to rightholders.

Finally, the beneficiaries would be responsible for maintaining a secure network and access protocol, providing access only to authorised users of that institution’s network.

Assessment of the “closed-network” exception

We first describe how the proposed hypothetical exception would help specific establishments to make their collections available according to the relevant types of works that were previously identified. We then assess the likely short- and long-term impacts resulting from this exception on the main stakeholders.

Since most born-digital content is subject to licensing terms and conditions, it would not be covered by the proposed policy option. Scientific journals, e-books, along with many other types of digital content would, therefore, typically be excluded from the scope of this exception.

Although some recent or new physical works may be subject to terms and conditions governing remote access by specific establishments, it is unlikely to be the case for the majority of the physical works that belong to their collections. Orphan and out-of-commerce works would also typically not have such terms and conditions. Thus, potentially large parts of these establishments’ collections would fall within the scope of the proposed exception.

This exception is likely to induce significant reduction in the transaction costs faced by these establishments given that the prior authorisation of rightholders is not required anymore for those works that are covered by the exception. For the same reason, this exception reduces the risk of hold-up that establishments may be facing under the Status Quo.

From a static perspective (ignoring the provision of new works), this exception is likely to benefit research and private study as it is likely to lead to an improved access over (potentially large) parts of specific establishment’s collections. More generally, from a static perspective, this exception would almost certainly generate social benefits. These social benefits may actually extend beyond national borders as cross-border access may, in principle, be implemented under the proposed exception.34 Furthermore, if there are

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34 Note that cross-border access would necessitate a system of mutual recognition of national exceptions at the EU level.
positive externalities from access to such works, the benefits could extend beyond the
direct users of access.

The exception is, however, going to have a negative impact on rightholders’ revenues.
Rightholders who own/control the rights on in-commerce physical works for which no
terms and conditions apply at the time of purchase are likely to be most affected. Indeed,
if specific establishments make such works available online, potential buyers of the
physical copies of those works may prefer to consult them online. The closed nature of
the network is likely to limit somewhat the negative effects on rightholders’ revenues,
because only accredited users of specific establishments can benefit from the availability
of these works, but it is unlikely to sufficiently inhibit these effects for some types of
works. In particular, the holders of rights over works which are unlikely to be made
available under the licensing terms governing remote access will be harmed. Trade books
(to the extent the use of them under the exception can be justified) may be one example.
Since no fair compensation is provided by the exception to compensate for sales
displacement effects, rightholders are likely to suffer a loss of revenues. Other
rightholders that may be affected are those who own the rights over orphan (in the case
they reappear) and out-of-commerce works, since the orphan works Directive and
national voluntary agreements based on the MoU provide (in the worst case,
retroactively) remuneration to these rightholders, unlike the proposed exception.

In the long-term, these sales displacements may (and are indeed likely to) reduce
incentives for the creation of new works, especially if these works cannot be sold or
licensed by rightholders under specific terms and conditions governing remote access by
specific establishments. As a result, while broader access in the long-term has some
benefits, a possible reduction in the quantity of newly produced works could partly or
completely off-set these benefits. This would be the case in particular if the exception is
interpreted broadly, so as to include many uses and users, which indeed is the risk.

We note that rightholders of new works would be able to avoid the exception by format-
shifting, or producing, their works in digital format, available to specific establishments
against the payment of a fee under certain conditions governing remote access by CHIs.
Because the exception can be avoided by some or even most future rightholders, it might
be argued that “closed-network” exception would not significantly affect the incentives to
produce new works, especially if trends in consumption and production shifting towards
digital content maintain their current direction and magnitude. For similar reasons, it could
be argued that is unlikely that the proposed exception could lead to decreased access in
the long-term. However, we believe that there is a significant risk that the exception would
be interpreted in a way as to include many uses and users. Moreover, there is a still a
significant degree of uncertainty as to the extent to which the rightholders might be able to
provide licenses governing remote access which would override the exception, thereby
avoiding its deleterious effect on revenues and incentives.
Table 2: Remote access exception for the benefit of specific establishments - Summary of the assessment of Option 2 (“closed-network” exception)

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Researchers and students</strong></td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>Orphan, out-of-commerce and other works without terms and conditions can be made available</td>
<td>Licences may override exception making a narrowing of access and a decrease in the quantity of new works unlikely – however, this is uncertain.</td>
</tr>
<tr>
<td><strong>Specific establishments</strong></td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>Lower transaction costs</td>
<td>New works likely to be increasingly licensed under terms and conditions governing remote access – however, this is uncertain.</td>
</tr>
<tr>
<td><strong>Rightholders</strong></td>
<td>-</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>Revenues are reduced for some rightholders</td>
<td>Ability to override exception with licences limits long-term negative effects on revenues of most rightholders.</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

Option 3: Remote access over the open internet
This section looks at a hypothetical exception to the reproduction and making available rights for the purpose of remote access over the internet by CHIs.

Description of the hypothetical “open internet” exception
The open internet exception is similar to the closed network exception, except on the following aspects.

(a) The acts covered
The open internet exception would cover the same categories of works and subject matters but, unlike the closed network exception, the open internet exception would apply to acts of reproduction and communication to the public whether or not terms and conditions apply with respect to online consultation. Thus, it would also apply to new acquisitions and subscriptions made by a cultural institution, where the rightholders offer terms governing remote access.
(b) Further conditions and limitations

Unlike for the closed network exception, beneficiaries would not be required to maintain a secure network and access protocol.

Assessment of the “open internet” exception

All relevant types of works, born-digital, physical, in- or out-of-commerce and orphan works are covered by the proposed exception.

This exception would therefore lead to a significant reduction in transaction costs and a reduction in the risk of hold-up situations potentially faced by CHIs under the Status Quo. As a result, the digitisation of CHIs’ collections would be facilitated.

In the short-term, this would result in an increase in online access to creative content (provided by CHIs over the internet). Positive externalities might be released through study and research, which both rely on such access.

Under the open internet exception, however, access may easily go beyond what is socially optimal, particularly for works that are in-commerce and, therefore, accessible by means of normal commercial channels. Indeed, we believe that the risk of this occurring is high. The open network nature of this exception actually fails to implement its own scope, the provision of access by CHIs for the purpose of research and private study, as it would likely lead to private uses other than those specified (which, unlike private uses, would presumably take place for education and research purposes).

Rightholders would be harmed by the proposed policy option. Those who control the rights on digital and physical in-commerce works will be particularly affected, due to the sales displacement effects generated by the free online accessibility of their works on CHIs’ platforms. No fair compensation is provided by the proposed exception to rightholders against these potential losses. This negative effect is stronger than under Option 2, the closed network exception, because the open internet exception covers more works and induces a wider access and types of uses (in particular, private uses other than for the purpose of study). Note that this is not a problem from the static point of view, as the gains to users are likely to outweigh losses to rightholders in a static framework. However, it is likely to be a significant problem when dynamic considerations are introduced.

Very broad free access will likely result in decreased incentives for the creation of new content in the long-run. Ultimately, then, the exception could also have countervailing effects on access to existing creative content. In particular, rightholders may decide to make their content inaccessible to libraries. This could take place in digital sectors in which CHIs typically buy access to rather than ownership of creative content. In the context of e-lending, for instance, libraries are currently not able to e-lend large parts of publishers’ collections, as publishers seem to fear possible sales displacements. It is easy to see that the same effect may take place in the long-term for other types of works under the proposed exception.
Table 3: Remote access exception - Summary of the assessment of Option 3 ("open internet" exception)

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>and students</td>
<td>Broader access for researchers and students;</td>
<td>Less works; possibly narrower access</td>
</tr>
<tr>
<td>CHIs</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Lower transaction costs; possibly no licence</td>
<td>Lower transaction costs on some content but the decreased</td>
</tr>
<tr>
<td></td>
<td>fee to be paid on rightholders’ content</td>
<td>incentives would result in fewer new works</td>
</tr>
<tr>
<td>Rightholders</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Reduced revenues for most rightholders</td>
<td>Lower revenues for rightholders of physical and digital</td>
</tr>
<tr>
<td></td>
<td></td>
<td>content;</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

Conclusion on the assessment of policy options for the provision of remote access by CHIs

Our assessment of the three policy options considered in this section favours, at this stage, the Status Quo. This is because there is a significant degree of uncertainty related to the scope of the "closed-network" exception for the benefit of specific establishments as would be implemented in practice. In this case, it is not clear that the exception would sufficiently preserve rightholders' incentives for content creation, despite the fact that in principle the rightholders could introduce terms governing remote access and avoid the exception from kicking-in. Further considerations may need to be given as to which conditions could be clearly defined and implemented to ensure the required balance. While the "open-internet" exception does lead to short-term benefits for cultural heritage and educational institutions and final users, the costs associated with decreased incentives for rightholders in the long-turn are likely to exceed those benefits. An "open-internet" exception is, therefore, not warranted either.

2.4. Assessment of an exception for preservation by CHIs and proposed policy options

In this section, we assess an exception to copyright for the purpose of preservation by CHIs and related hypothetical policy options. We first highlight mechanisms (described in more detail in the CRA Methodology report) that are relevant for the assessment of an exception in the context of preservation by CHIs. We then identify the impacts on stakeholders resulting from several policy options.

2.4.1. The rationale for an exception for digital preservation

In the Status Quo, CHIs currently benefit from an exception for the purpose of preservation in most member states. While this exception has been implemented rather
narrowly in most cases, it allows CHIs to make unauthorised copies (generally including digital copies) of works which are in need of preservation.

One of the policy options considered in this report allows CHIs to engage in “mass reproduction”.\(^3\) Such acts of reproduction are currently out of the scope of the existing exception, which covers only specific acts of reproduction (for the purpose of preservation). The considered exception excludes acts of communication and distribution by CHIs. We are therefore considering, in this section, a “mass preservation” exception rather than a “mass digitisation” exception. Preservation copies are presumed not to be subsequently made available to the public by CHIs in our analysis.

The assessment of a “mass preservation” exception takes into account the following aspects highlighted in the CRA Methodology report, given their relevance in the context of preservation by CHIs:

- The presence of significant transaction costs;
- The risk of missing markets and possible positive externalities related to the preservation of CHIs’ collections.

We also highlight the importance of the returns to scale in digital preservation as a factor that could strengthen the case for an exception.

**Transaction costs**

In order to engage in mass reproduction, CHIs must obtain a prior authorisation from the relevant rightholders. The discussion on transaction costs in the context of mass preservation therefore follows the lines established in section 2.3.1 on transaction costs.

The main conclusions of that section were as follows:

- If CHIs have to rely on individual rights clearance to obtain permission to make digital copies, they are likely to face high transaction costs and there is a risk of hold-up problem arising;
- When collective licensing systems are available to CHIs for the clearance of rights (such as an Extended Collective Licensing scheme, as in the Nordic countries for instance), transaction costs would appear to be relatively low and so is the risk of the hold-up problem;
- CHIs can rely on the orphan works Directive for the mass preservation of such works (at least in sectors that are covered by the Directive). This reduces transaction costs for such works;
- In the print sector, CHIs may benefit from the MoU on out-of-commerce works for the mass preservation of such works, provided voluntary agreements through collective licensing have emerged between parties;

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\(^3\) "Mass reproduction" refers to acts of reproduction of the entirety or substantial parts of CHIs’ collections. In this report, we consider "mass reproduction" for the purpose of "mass preservation". We reiterate that we do not consider here "mass digitisation", which consists in the digital copying of a collection of items for the purpose of subsequently making the copies available to the public over the internet.
While the orphan works Directive requires CHIs to perform diligent searches prior to engaging in mass reproduction of such works, the ARROW initiative greatly reduces the costs of such searches and is likely to further reduce these costs in the long-term as the system improves and becomes available in a greater number of member states.

**Missing markets**

This section highlights the role of CHIs as a remedy to a missing market problem in the context of preservation. Assume first that CHIs do not exist so that preservation must be organised through a market. A market may form only if some individuals attach a value to preservation.

From the point of view of economics, the value of a preservation copy comes solely from the benefits that this particular copy brings to its users. Conceptually, valuing preservation is then a difficult task. First, a preservation copy would typically take life when other copies of the work cease to exist, which, presumably, would occur in the future for many of the copyrighted works in existence today. Second, a preservation copy may also generate some value when the original work falls into the public domain and the preserved copy can be made available to the public. In most cases, however, given that copyright extends up to 70 years after the author’s death date, this will also occur in the future. Thus, we can conceive that the value of a preservation copy made today only emanates from its future uses.

Markets for preservation may then not form because future generations are unable to engage into transactions with present generations, implying that contracts for preservation activities cannot be made between potentially interested parties. In principle, one could hypothesise that intermediaries could emerge and assume the responsibility of making preservation copies of present and past works, to be subsequently resold to future generations. Given the presumably low profitability of and high risk associated with such preservation activities, it is doubtful whether such intermediaries would in fact ever emerge.

Preservation by CHIs can be seen as a remedy to this missing market problem. Indeed, CHIs bridge the temporal gap between transacting parties (present and future generations), removing the need for markets to form or intermediaries to emerge. However, a crucial input in the production of preservation services by CHIs is the permission of rightholders to copy their works. Rightholders can then potentially freeze preservation activities by CHIs by refusing the copying of their works by CHIs. They could, alternatively, choose to enter into negotiations but ask for prohibitively high licensing fees. When CHIs must clear the rights individually with rightholders, transaction costs are likely to be significant and can, therefore, lead to situations of under-investment in preservation by CHIs.

An exception for CHIs is a partial remedy to this problem and allows the preservation of present (and past) works for future generations, thereby delivering social benefits. A “mass preservation” exception is broader than the existing exception which is limited to specific acts of reproduction for the purpose of preservation, and would therefore likely increase the quantity of works being preserved by CHIs.

36 We operate here under the assumption, previously stated, that a preservation copy cannot be subsequently made available online or communicated to the public by any other means.
Returns to Scale in Digital Preservation

Economies of scale are cost savings that are generated when an activity (e.g. the production of a good, the copying of a work etc.) is carried out at a large scale. They typically emerge from a cost structure that features high fixed (initial) costs. When a large scale is attained, these high fixed costs are spread over more units of production, driving the unit-costs down.

Digital preservation is an example of an activity that features economies of scale. It exhibits large fixed costs (or semi-fixed costs), but relatively low variable costs. Setup costs would typically represent significant investments in both specific physical and human capital (e.g. scanning machines and training for employees). This cost structure implies that digital preservation is most efficiently carried out when large quantities of works are being copied, as the average costs of digital copying decrease at larger scale of copying. Significant costs savings may thus emerge when digital copying is conducted at large scales – that is, when CHIs engage into “mass preservation” of their collections.

However, the current European copyright landscape prevents these economies of scale to be achieved, at least to some extent, because it only allows CHIs to engage into specific acts of preservation which are typically limited to small parts of their collections. The case for an exception allowing mass preservation, regardless of whether there is an actual existing need for preservation, is therefore strengthened by the presence of cost savings at large scales of digital copying.

Conclusion

In this section, we have considered mechanisms that might justify the introduction of an exception to copyright for the purpose of preservation by CHIs. For mass preservation projects, CHIs are likely to face significant transaction costs, in particular when they must clear the reproduction rights individually with each rightholder. More specifically, CHIs operating in some member states and/or sectors (where no collective licensing system is available) might not be able to carry out mass preservation due to prohibitive transaction costs. Mass preservation by CHIs however solves several issues. First, it is a remedy to a missing market problem and, second, it allows CHIs to achieve economies of scale, generating significant costs savings which are often critical to make the preservation feasible. The introduction of an exception for the purpose of mass preservation by CHIs would therefore appear to be justified on these grounds.

2.4.2. The proposed policy options

In this section, we assess three policy options on the basis of their likely short- and long-term impacts on stakeholders. When conducting the assessment, we focus on the mechanisms identified in section 2.4.1 and on the following particular aspects:

- Short-run and long-run effects on the revenue of rightholders;
- Long-run incentives for the creation of new works;
- Effects resulting from the level of preservation on future generations.

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Note that any type of preservation would be a remedy to the missing market and externality issues. However, mass preservation is, in principle, more efficient due to the presence of economies of scale in digital copying.
**Option 1: The Status Quo on preservation**

The existing exception to the reproduction right for the purpose of preservation by CHIs has been implemented rather narrowly in most member states. As a result, in some member states, digital preservation is not allowed under the current exception. Furthermore, in most member states, mass preservation is not permitted.

Thus, CHIs that wish to conduct large scale preservation projects that do not represent specific acts of reproduction for the purpose of preservation must clear the reproduction rights individually with rightholders, unless collective licensing solutions exist. Individual rights clearance leads to high transaction costs and can potentially prevent CHIs from preserving parts of their collections in digital format and / or from achieving economies of scale.

The recent orphan works directive however authorises the copying of works whose rightholders are not identifiable. Similarly, the MoU on out-of-commerce works is likely to facilitate the licensing of these works and, in turn, their preservation by CHIs. The preservation of such works leads to benefits for future generations and these benefits are likely to be more significant in the long-run than in the short-run, given that the Directive and the MoU are recent initiatives. However, only specific sectors are covered by the orphan works Directive and the MoU. In the absence of efficient licensing systems, CHIs are likely to face significant transaction costs when considering sectors that are not covered by the orphan works Directive or voluntary agreements resulting from the MoU.

**Option 2: Reproduction for the purpose of preservation**

In this section, we consider an EU-wide exception to the reproduction right for CHIs that would allow them to engage in the digital reproduction of works for the specific purpose of preservation. Our assessment follows the description of the proposed exception.

**Description of the hypothetical “preservation” exception**

(a) **Scope of the exception**

The scope would be restricted to specific uses for the purpose of preservation of works in the collections of the beneficiary institutions. It would cover any act of preservation of works for which it is not practical (or possible) to purchase a replacement copy.

(b) **Beneficiaries**

The list of beneficiaries would encompass libraries, archives, educational establishments, museums and Film Heritage Institutions. Additionally, the institutions should meet the following requirements:

- The institutions should be accessible to the public (save for archives);

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38 We recall that some Member States (e.g. Sweden) have not implemented the exception and have established instead an Extended Collective Licensing system.

39 More specifically, preservation could include: Restoration of a work whose support has deteriorated or is missing some parts; replacement of a lost or decayed item; anticipative preservation of works in fragile support that threaten to fall in despair; copying often consulted works in a format that would better sustain regular viewings by library patrons; format-shifting, that is the migration of works from a format that is obsolete or for which there is a difficulty to find viewing or reading material, to a more stable format (not necessarily a digital format).
• Libraries and archives that are conducted for profit should remain excluded;
• The institution should pursue a public service mission (including deposit libraries) or scientific and/or educational goals;
• Outsourcing of digitisation activities by private companies or any other person acting on behalf of eligible institutions and where the use of the copies remain within the conditions applicable to the latter should be explicitly allowed.

(c) Works covered

The exception would apply to all types of works and other subject matter, whether printed matter, audio, visual, or audio-visual, including born-digital works and other subject matter, for which it is not practical or possible to purchase a replacement copy. It would also apply to unpublished works.

(d) The acts covered

The exception only exempts specific acts of reproduction. Thus, the exclusive rights of communication to the public and distribution are not covered.

The acts of reproduction must be specific to achieving the purpose of preservation and archiving. Thus, except if a cultural institution’s entire collection is actually in need of preservation, the exception does not provide it with a blanket exception for mass reproduction of its whole collection. Importantly, digital copying is covered and multiple copying is also allowed. This will ensure that CHIs will be able to fully engage in digital preservation.

Finally, the specific acts of reproduction must not be for direct or indirect economic or commercial advantage.

(e) Further conditions and limitations

The exception to the reproduction right for the purposes of preservation and archiving would not give rise to fair compensation to rightholders.

Assessment of the hypothetical “preservation” exception

An important element in the proposed exception is that it covers works “for which it is no practical (or possible) to purchase a replacement copy”. In principle, this rules out most in-commerce works from the scope of this exception. However, in some cases in-commerce works might be covered. For instance, particular editions of an in-commerce work for which it is neither practical nor possible to buy a replacement copy would be covered by the exception. In general, though, the types of work that are most likely to fit the aforementioned requirement are orphan and out-of-commerce works, which are already covered by the orphan works Directive and the MoU for out-of-commerce works. Thus, assuming that the proposed exception does not supersede the Directive and the
MoU, but rather acts as a complementary policy, we should focus on the additional effects that it is likely to generate.40

We argued in the analysis of the Status Quo that the orphan works Directive and the MoU on out-of-commerce works are likely to foster higher rates of preservation of these types of works by CHIs. The proposed exception is broader in terms of works covered (as it covers more sectors than the MoU) and does not provide for fair compensation to rightholders. Transaction costs related to some works (that is, those previously not covered by the Directive or the MoU) are thus reduced and CHIs do not have to compensate the rightholders involved (unlike under the Status Quo). As a result, the proposed exception is likely to lead to greater rates of preservation of these works by CHIs than under the Status Quo (whether or not the proposed exception supersedes existing policies).

As for the in-commerce works that are covered by the exception, transaction costs are likely to decrease for CHIs operating in those member states in which digital copying is not allowed under the Status Quo.

We can therefore expect an increase in the rate of preservation by CHIs, which benefits future generations. These benefits are likely to be more pronounced in the long-term (as investments are needed to fully engage into digital copying), but would ultimately be limited as compared to the Status Quo, because the existing exception already allows CHIs to make reproduction copies for the purpose of preservation.

The proposed exception is likely to only have limited effects on the revenue of some rightholders, as compared to the Status Quo. For instance, CHIs may choose to reproduce out-of-commerce or orphan works that are in need of preservation under the proposed exception rather than the Directive or the MoU. First, the rightholders of out-of-commerce works would not receive fair compensation, while under the Status Quo voluntary licensing between rightholders and CHIs may result in the payment of royalties. Second, reappearing rightholders of orphan works would be affected in a similar way, since the orphan works Directive provides fair compensation in case of reappearance of rightholders. Negative effects may also result from the inclusion of older versions of in-commerce works in the scope of the exception, as the preservation copies made by CHIs of in-commerce works that fall within the scope of the exception could then be claimed to be lost sales by rightholders.41 These negative effects are rather limited because the exception only covers acts of reproduction for the specific need of preservation and for works for which it is not practical (or possible) to purchase replacement copies.

As a result, incentives for the creation of new works are not likely to be substantially affected. Indeed, the hypothetical exception does not cover acts of distribution and communication to the public, which implies that preservation copies will not compete with

40 We note that under the proposed exception, there would be a presumption that CHIs have executed due diligence in trying to demonstrate that it was “neither practical nor possible to purchase a replacement copy.” This may burden CHIs with additional costs, just like diligent searches within the context of the orphan works Directive induce transaction costs to be incurred by CHIs in their preservation activities. In some circumstances (e.g. high costs of digital copying), these additional costs might suffice to discourage CHIs from actually increasing the rate of preservation as compared to the Status Quo.

41 For instance, it might be argued that if a particular edition of a book is out-of-commerce, absent the exception a library could then buy a new edition instead of reproducing the old one.
the original works.\textsuperscript{42} Rightholders might however fear potential abuses by CHIs. If they expect that such abuses may take place, their incentives for content creation could be reduced.

Overall, we believe that the proposed exception would only trigger limited negative impacts at most as compared to the Status Quo, while it would still somewhat improve the rate of preservation of cultural heritage.

Table 4: Preservation exception - Summary of the assessment of Option 2 ("preservation" exception)

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Future generations</strong></td>
<td>?+</td>
<td>?+</td>
</tr>
<tr>
<td></td>
<td>Higher rates of preservation</td>
<td>Higher rates of preservation</td>
</tr>
<tr>
<td><strong>CHIs</strong></td>
<td>?+</td>
<td>?+</td>
</tr>
<tr>
<td></td>
<td>Lower transaction costs (in some member states) and no fair compensation/royalties paid</td>
<td>Lower transaction costs (in some member states) and no fair compensation/royalties paid</td>
</tr>
<tr>
<td><strong>Rightholders</strong></td>
<td>?-</td>
<td>?-</td>
</tr>
<tr>
<td></td>
<td>Limited effect in terms of reduced revenue for some rightholders</td>
<td>Limited effect in terms of reduced revenue for some rightholders</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

Option 3: The “mass preservation” exception

This section describes and assesses the likely impacts of an exception to the reproduction right for mass preservation purposes by CHIs.

Description of the hypothetical “mass preservation” exception

(a) **Scope of the exception**

The acts of reproduction need not be specific to the purpose of preservation under the mass preservation exception. Thus, works that are in commerce may be digitised by libraries.

(b) **Beneficiaries**

As defined in Option 2.

(c) **Works covered**

\textsuperscript{42} Recall also that the effect of the exception on the purchases that would have been made by CHIs themselves would be expected to be minimal, given that the exception would only apply to works “for which it is not practical or possible to purchase a replacement copy.”
The exception would apply to all types of works and other subject matter, whether printed matter, audio, visual, or audio-visual, including “born-digital” works and other subject matter. It would also apply to unpublished works, to the extent allowed under the Berne Convention and other international agreements. We explore two possible sub-options:

- Sub-option 1: The exception covers only orphan and out-of-commerce works;
- Sub-option 2: The exception covers all types of works whether or not they are still in-commerce.

(d) Acts covered

The exception covers acts of reproduction only (and thus excludes acts of communication to the public and distribution). However, unlike Option 2 (“preservation” exception), the “mass preservation” exception covers acts that need not be specific to the purpose of preservation.

(e) Further conditions and limitations

The exception would not give rise to fair compensation under Sub-option 1, but would give rise to fair compensation under Sub-option 2 for in-commerce works.

Impact assessment of the mass preservation exception, Sub-option 1 (orphan and out-of-commerce works)

Under this sub-option, both orphan and out-of-commerce works are covered by the exception, which is therefore broader than existing complementary policies (the Directive and the MoU). The MoU, for instance, only covers works from the print sector and relies on voluntary licensing agreements.

Thus, some works that were previously not covered by the MoU (e.g. non-print sectors) fall within the scope of the proposed exception, implying that preservation of these works is facilitated. Additionally, whether or not the proposed exception supersedes the existing policies, CHIs will prefer to rely on this exception as it does not provide for fair compensation to rightholders and allows them to achieve economies of scale in digitisation. This makes mass preservation projects on orphan and out-of-commerce works cheaper for CHIs to conduct as compared to the Status Quo and Option 2 (“preservation” exception).

As a result, we can expect larger increases in the rate of preservation by CHIs than under the Status Quo and Option 2 (“preservation” exception) and, in turn, larger benefits to future generations. This exception will result in somewhat decreased revenues for rightholders of orphan works (if the rightholders reappear) and out-of-commerce works (if voluntary licensing involved the payment of royalties to rightholders), in both the short- and long-term. However, given that acts of communication to the public and distribution remain out of the scope of the proposed policy option, long-term incentives for content creation should be only adversely affected to a limited extent as only the replacement copies that are no longer purchased by CHIs under the proposed exception represent lost sales for rightholders. Such sales are unlikely to represent a significant share of revenues for most of the rightholders.

Overall, the effects of the proposed (“mass preservation” exception) exception have similar signs as those resulting from Option 2 (“preservation” exception), but would be more pronounced. In particular, we believe that such a “mass preservation” exception covering orphan and out-of-commerce works will release larger benefits to society, as it contributes to achieving economies of scale in digital copying activities, while Option 2
(“preservation” exception) does not. This assessment is based on the assumption that the costs of diligent search to establish whether or not the work is orphan or out-of-commerce are not significantly higher than the costs of due diligence to establish that a purchase of replacement copy is “not practical”.

**Table 5: Preservation exception - Summary of the assessment of Option 3 Sub-option 1 ("mass preservation" exception for orphan and out-of-commerce works)**

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Future generations</strong></td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Higher rates of preservation</td>
<td>Higher rates of preservation</td>
</tr>
<tr>
<td><strong>CHIs</strong></td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>No fair compensation/royalties paid and economies of scale</td>
<td>No fair compensation/royalties paid and economies of scale</td>
</tr>
<tr>
<td><strong>Rightholders</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Reduced revenue for some rightholders</td>
<td>Reduced revenue for some rightholders</td>
</tr>
</tbody>
</table>

Source: CRA.

Notes: See section 1.3 for an explanation of the signs.

**Assessment of the mass preservation exception, Sub-option 2 (all works)**

Sub-option 2 of the mass preservation exception includes all works, whether orphan, in- or out-of-commerce works and provides fair compensation to rightholders for the copies that are being made by CHIs only for in-commerce works.

The impacts on stakeholders resulting from this policy option are as described in the analysis of Sub-option 1, to which we must add the impacts resulting from the inclusion of in-commerce works in the scope of the mass preservation exception.

CHIs benefit from lower transaction costs as they do not have to ask for rightholders’ permissions to digitise in-commerce works. They also benefit from economies of scale as they can engage into mass preservation of their collections. However, they now have to compensate the rightholders of in-commerce works when they reproduce their works, which somewhat limits the benefits that they get from this policy option.

There would be some additional benefits to future generations as compared to Sub-option 1 as in-commerce works are now included, though the incremental benefits might be moderate as in-commerce works are arguably at a lower risk of falling into disrepair (e.g. born-digital items for which there already exist initiatives that take care of long-term preservation of these items).

Rightholders of in-commerce works are in principle not affected if fair compensation correctly approximates the lost (replacement) sales from reproductions of their works made by CHIs under Sub-option 2. It is not clear whether this would be the case or not, therefore, the effect on rightholders of in-commerce works is uncertain.

As for the previous Options, we believe that long-term incentives for content creation will largely be preserved by the exclusion of acts of communication and distribution to the
public under the proposed policy option. Nonetheless, in sectors in which CHIs represent a key commercial partner, rightholders’ incentives for content creation might decrease due to lost sales on replacement copies, albeit to a very limited extent, in particular, because we expect that many in-commerce works would not have been purchased for preservation purposes in the first place.

Overall, we believe that the proposed “mass preservation” exception (Option 3 Sub-option 2, covering all works) improves the rate of preservation as compared to Option 2 Sub-option 1 (covering only out-of-commerce and orphan works) and to the Status Quo, at the additional cost of putting rightholders of in-commerce works at some risk, especially in sectors in which CHIs represent an important commercial partner, as in the scientific publishing sector for instance. However, there might be significant administrative cost from fair compensation system that would have to be taken into account in the final assessment of whether this option is the most preferred one or not. These costs would depend on the exact system of fair compensation and we do not consider these in Table 6.

**Table 6: Preservation exception - Summary of the assessment of Option 3 Sub-option 2 (“mass preservation” exception for all works)**

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Future generations</strong></td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Higher rates of preservation</td>
<td>Higher rates of preservation</td>
</tr>
<tr>
<td><strong>CHIs</strong></td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Economies of scale; limited benefits due to some fair compensation to be paid</td>
<td>Economies of scale; limited benefits due to some fair compensation to be paid</td>
</tr>
<tr>
<td><strong>Rightholders</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Reduced revenues for most rightholders; if fair compensation does fully compensate in-commerce works</td>
<td>Reduced revenues for some rightholders; if fair compensation does not fully compensate in-commerce works</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

**Conclusion on the assessment of policy options for preservation by CHIs**

In our assessment, a “mass preservation” exception covering orphan and out-of-commerce works that allows libraries to reproduce such works en masse (whether or not they are in need of preservation) while excluding acts of communication and distribution to the public is warranted. The policy maker may consider excluding in-commerce works from the scope of the “mass preservation” exception for the following reasons: (1) the preservation of in-commerce works may be less valuable as the preservation of orphan or out-of-commerce works given their wide availability (since they are still “in-commerce” at the moment of the digital copying by CHIs). Indeed, preservation copies become more valuable when a work (probably initially in-commerce) becomes orphan or out-of-commerce; (2) even if fair compensation is provided to the rightholders of in-commerce works, it might not sufficiently compensate for lost replacement sales; and (3) a system
of fair compensation may carry significant administrative costs. Given that the introduction of in-commerce works in the scope of the “mass preservation” exception might add little benefits but would introduce certain costs, it might be inferior to a “mass preservation” exception that does not cover in-commerce works.
3. **E-LENDING BY PUBLICLY ACCESSIBLE LIBRARIES**

3.1. **Introduction**

This section discusses e-lending by public libraries. We start by defining the problem and then describe the current landscape surrounding library e-lending in various member states. We follow by a discussion of the rationale for an e-lending exception. Finally, we assess the economic impacts of several policy options related to e-lending by public libraries.

**Statement of the problem**

Creative content is increasingly consumed in digital format. For instance, the e-books market is experiencing significant growth rates in many EU member states (Rüdiger Wischenbart, 2013). The music and audio-visual sectors have also seen many changes in the past decade and these sectors feature now established digital markets. New and improved digital technologies (e.g. digital reading, viewing and listening devices) offer new lending possibilities for public libraries and, in particular, the possibility to lend digital items to their patrons, otherwise known as “library e-lending”.

Library e-lending seems to be developing slowly in the EU and this slow development is particularly debated in the context of e-books. There may be several causes for such a situation, but recent experience suggests that rightholders are rather restrictive in dealing with libraries for e-lending terms and conditions. Given the global shift in consumption of creative works towards digital content, libraries are concerned that their role as providers of public access to creative content might be undermined if their ability to offer e-lending services does not increase (Civic Agenda, 2012).

In principle, library e-lending could contribute to total welfare as it improves access to books and information within and across the EU Member States. E-lending could also facilitate new uses such as for persons with visual impairments, if the appropriate technologies are used with e-books. These benefits that e-lending could generate are an additional motivation to understand how to improve the current state of affairs.

However, rightholders appear to be concerned that their revenues might be adversely affected by e-lending, in particular due to its apparent “frictionless” nature. Indeed, the free dissemination of creative works over the internet could cannibalise the sales of their works. If this leads to significantly weakening the incentives for the creation of new works, the short-term gains from a better access to existing works may be outweighed by fewer works being available in the future. Therefore, it is important to understand whether policy makers can intervene in order to provide a more favourable environment for the development of e-lending, while not significantly affecting rightholders’ incentives for content creation.

**Scope of the analysis**

As stated earlier, the e-book sector is at the forefront of the e-lending debate and our analysis focuses on that particular sector. E-books are books either created ("born-

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43 See, for instance, the Publishers Association's statement on e-lending by public libraries available at:
digital") or converted (through format-shifting) in digital formats, to be read using various types of devices, such as computers, tablets and e-readers.

We concentrate on the e-lending of trade e-books and thus abstract from an important component of the publishing sector: scholarly publishing. This choice is motivated by the fact that the provision of access to journals by libraries to their patrons follows a well-established model that we describe at length in section 4 on text and data mining. Since access to journals in libraries is generally unconstrained across the EU, unlike access to trade e-books, we focus on the latter in our analysis of e-lending.

It is likely that libraries would be particularly interested in lending recent and new e-books in particular, but they may also wish to lend digital copies of out-of-commerce and orphan works that belong to their collections. The latter types of works have been discussed at length in section 2.3 on remote access. Moreover, the Memorandum of Understanding for out-of-commerce works44 and the orphan works Directive45 were established to provide partial remedies for the particular issues raised by these types of works, in particular in the print sector. In the remainder of the text, we therefore ignore some of the specificities related to out-of-commerce and orphan works and focus on in-commerce trade e-books whose rightholders are identifiable.

3.2. The book publishing sector

This section provides an overview of the organisation of the publishing industry and highlights the changes that were brought by the digitisation of books. We first present some figures on the book and e-book markets in selected EU member states. We then identify the key stakeholders and discuss the importance of copyright in the publishing industry. Finally, we describe certain characteristics of consumption of books and e-books relevant to our analysis.

3.2.1. The book and e-book markets: Some indicators

Table 7 reports figures for the overall book markets and e-book markets in some European countries. The British, German and French book markets are the largest in the EU. Table 7 shows that, for most of the member states included, the e-book market accounts for a very small portion of the overall book market, e-book market shares generally not exceeding 2 to 3 per cent of the overall book market in those member states in 2012. The U.K. features a more developed e-book market, which accounted for approximately 13% of the overall book market in 2012 (and the e-book market shares have increased since then).

44 Memorandum of Understanding on Digitisation and Making Available of Out-of-commerce Works.
## Table 7: Key indicators for the book and e-book markets

<table>
<thead>
<tr>
<th>Country</th>
<th>Book market size (incl. e-books)</th>
<th>Market share of e-books</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>£3,100 million</td>
<td>12.90%</td>
</tr>
<tr>
<td>Germany</td>
<td>€9,520 million</td>
<td>2.40%</td>
</tr>
<tr>
<td>France</td>
<td>€4,534 million</td>
<td>2%-3%</td>
</tr>
<tr>
<td>Spain</td>
<td>€2,772 million</td>
<td>&gt;3%</td>
</tr>
<tr>
<td>Italy</td>
<td>€3,072 million</td>
<td>2.10%</td>
</tr>
<tr>
<td>Sweden</td>
<td>€783 million</td>
<td>Nascent</td>
</tr>
<tr>
<td>Denmark</td>
<td>€540 million</td>
<td>1%-2%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>€1,174 million</td>
<td>2.2%</td>
</tr>
</tbody>
</table>


Although the EU e-book market is currently under-developed, as compared to the U.S., where e-books account for about 15% of the national overall book market (IDATE Consulting, 2013), it is developing at a fast pace. For instance, Spain has experienced a growth of a 100% in e-book sales in the first half of 2013 (though from a small base), and many EU member states are experiencing comparable growth rates.\(^4^6\)

The increased degree of penetration of tablets and e-readers in European markets and the simultaneous increase in the number of digital titles available have certainly played a role in the recent growth rates observed in digital sales across the EU. For instance, in Italy, purchases of tablets increased by 379% between 2011 and 2012, while 44% of new titles were released as e-books in all of 2012. Another likely reason for increasing sales is that e-books are typically sold at lower prices than their physical counter-parts (e.g. e-book prices are typically 20-30% lower than those of physical books in Germany). This could result in e-books partially displacing sales of physical books.\(^4^7\)

The under-development of the e-book markets in the EU can partly be explained by unfavourable tax regimes for digital sales of books, as compared to taxes that apply to sales of physical books. For instance, in Sweden, VAT on e-books is 25% against 6% for printed books. Furthermore, while the growth rate in e-book sales is significant in some member states, people are still reluctant to adopt new technologies over traditional printed books. Only 5% of French adults, for instance, claim having ever read an e-book. Similarly, only 14% of the online population in Germany have accessed e-books. In the much more developed British e-book market, in contrast, one person out of three owns an e-reader, suggesting a much more digitally involved population.\(^4^8\)

\(^{46}\) Rüdiger Wischenbart (2013).
\(^{47}\) Ibid.
\(^{48}\) Ibid.
3.2.2. The book value chain and the publishing industry structure

The role and management of copyright in the book sector

Copyright provides its owner with a set of rights that enables him to control the economic use of the protected work. In particular, the owner of the copyright has an exclusive right to lend and/or rent the copyrighted work. Ownership of a work does not confer ownership of copyright and libraries must, absent an exception or limitation to copyright, ask for the permission of rightholders, or seek licences, to lend these works.

In the book industry, the creator of a work is also generally the first owner of copyright. This is different when the work is created by an employed author as part of an employer-employee relationship, in which case the copyright may belong to the employer by virtue of a contract. The original creators typically either assign or license their copyright to publishers, who then administer and manage the economic rights. Licensing (through publishing agreements) is more common than the assignment of copyright and creators are compensated for their works through licensing fees. However, with the advent of the e-book market, self-publishing has gained importance and authors thus increasingly retain their economic rights. Therefore, the hypothetical changes in copyright framework that we consider in section 3.4.2 may affect both publishers and self-published authors directly.

The book value chain

At the top of the typical value chain in the book publishing industry are the original content creators (writers, artists, illustrators ...). Publishers then select the content and invest in editing, designing, advertising and promotion, and other core publishing activities. Publishers also organise the actual production of books, typically by outsourcing the printing, binding and other print activities to third parties. The finished product is then brought to the market by distributors, who act as intermediaries between retailers (offline and online bookstores, for instance) and publishers. Finally, retailers and libraries make the content available to consumers.

In the context of e-books, publishers have maintained their position as content selectors but can, additionally, take care of the production of digital copies in-house, by using dedicated software. The creation of digital copies can alternatively be outsourced by publishers to digital warehouses, an option which would tend to be favoured by publishers who intend to digitise large parts of their catalogues at once. Aggregators and online vendors are then used by publishers to reach end-users. Aggregators (e.g. OverDrive) are commonly used by libraries to purchase access to content whilst online vendors (e.g. Amazon and Barnes and Nobles) typically target consumers directly.

The primary stakeholders in the e-book sector are thus authors, publishers, aggregators, online vendors, companies engaged in digitisation of content (digital warehouses), as well as libraries and, clearly, the final consumers. Libraries are to be considered as primary stakeholders to the extent that they want to offer e-lending services to their patrons.

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49 This sub-section is mostly based on WIPO (2011).
50 We review the legal context for library lending in section 3.3.
51 See WIPO (2011) for a detailed exposition of the value chain in the book publishing sector.
The publishing industry structure

In terms of structure, the (global) publishing industry is populated by a number of major publishers (e.g. Hachette, Random House ...), and a significant fringe of small- and medium-size publishers. The top 50 publishers account for about 80% of total revenue in the industry, which comprises another 300 to 400 medium-sized publishers and 80,000 small publishers (including self-published authors). The increasing reliance on digital technologies by consumers has encouraged most of the top publishers to enter the e-book market. Indeed, a large fraction of e-book bestsellers typically comes from the major English language and local language publishers (although self-publishing seems to be important also, as we describe below). Some smaller, domestic, publishers specialised in digital books have also emerged and tend to be important players on the e-book markets across the EU (and especially outside the U.K.), presumably because of their knowledge of local preferences. The traditional industry structure is thus being challenged, perhaps because the internet provides a more favourable environment for smaller players to grow (in the form of lower entry barriers, for instance).

Self-publishing has also taken a prominent role with the rising importance of digital books. For instance, “Fifty Shades of Grey” was initially self-published by E.L. James in 2012, as were 4 titles in the New York Times’ bestseller list during the summer of 2012. Self-publishing has been eased by innovative services offered by independent companies, online platforms or self-publishing arms of traditional publishers. For instance, Amazon has its own self-publishing branch for e-books, called Kindle Direct Publishing and it claimed in 2012 that 27 of its 100 top Kindle titles had been self-published.

3.2.3. Book demand characteristics

General considerations

Books are experience goods – prior to the actual consumption of a book, a consumer will often have little knowledge of the utility he may derive from it. As a result, actual demand for a book may be much lower than its potential demand absent mechanisms that help readers evaluate their utility. Readers evaluate their utility from a book on the basis of several factors, ranging from the content of the book (the storyline, treated subject, ...), to its author, reviews, and lay-out.

Libraries and bookshops can also be thought of as “discovery” mechanisms – they are places where readers can get informed about the likely value of a book, either by shuffling through books or by receiving librarians’ advice and recommendations. Similar

52 See OECD (2012).
53 E.g. Rüdiger Wischenbart (2013) reports that independent publisher Luebbe held 7 items in the top 20 e-book bestsellers in Germany in 2012.
54 Rüdiger Wischenbart (2013).
55 See Sutter (2012). Self-publishing has become popular for two main reasons. First, it allows authors to bring books that could have been rejected by publishers to the market. Second, by excluding publishers from the value chain, self-published authors can retain a higher share of the pie. For instance, Amazon takes 30% of an e-book’s revenue, leaving 70% to the authors and their agents (when such agents are used). Nonetheless, the distribution of revenues generated by self-published e-books appears to be highly skewed, with a few best-selling authors generating extremely high revenues, while the majority earns only moderate to small revenues, sometimes being as low as 500€ in a year (Sutter, 2012).
mechanisms can also be observed in the online environment. Amazon, for instance, provides book reviews and allows (potential) clients to “look inside” books for free.

**Demand for physical books and e-books**

Although they may carry the same content, books and e-books are somewhat different products in terms of the experience that they offer. Clearly, they do not share exactly the same characteristics. For example, the touch and smell of pages are absent in an e-book, but physical books can neither be read on several devices, nor can they be searched, stored and transported as efficiently as e-books. Therefore, a title published as an e-book is likely to be an imperfect substitute for the same title published as a physical book for many readers. The degree of substitutability between books and e-books would naturally depend on the type of work. For instance, novels are likely to generate a high degree of substitutability between the physical and electronic versions, unlike a reference work or a work containing many illustrations.

New technologies for e-readers and e-books have emerged and are meant to provide the reader with an experience as similar as possible to the experience of reading physical books (e.g. E-Ink, E-paper, similar page layouts, …). Such technological improvements are likely to increase the substitutability between books and e-books in the future. And because e-books also come with a set of proper advantages (for example, in terms of portability and durability), they are likely to increasingly displace the sales of physical books, and may eventually become the preferred mode of consumption. In the analysis of the different policy options, we therefore also have to consider that e-books are likely to constitute an increasingly important share of the total revenues of publishers, authors and intermediaries.56

3.3. **The current e-lending landscape in the EU**

Traditional lending and e-lending are organised differently. In this section, we first provide a very brief review of the typical physical lending process and then discuss the context for e-lending by focusing on recent developments and experiences in the EU.

3.3.1. **Physical books lending**

In most member states, physical book lending is regulated under the Public Lending Right (henceforth “PLR”). The PLR is “the right of authors to receive payment for free public use of their works in libraries.”57 It was established as a way to protect authors and promote the development of culture and creative works, while allowing public libraries to grant public access to these works. The traditional library lending model is thus rather simple: libraries buy physical copies of books and then lend them to their patrons. This lending model may discourage some readers from purchasing copies of copyrighted works, given that they can be borrowed freely, or very cheaply, from public libraries. The PLR provides rightholders with payments which are intended to compensate for the possible harm from lending (either as a remuneration right or in the form of royalties). The payments can be centrally administered by national entities (such as national collecting societies) and can

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56 For instance, Amazon announced in 2011 that its e-book sales had exceeded its sales from physical books (OECD, 2011).

57 See FAQ on www.plrinternational.com. The PLR is laid down in Directive 2006/115/EC on rental right and lending right and on certain rights related to copyright in the field of intellectual property.
be based on the number of loans that occurred over a given period of time or the number of copies that are held by libraries, for instance. Alternatively, the compensation can be organised in the form of licensing agreements directly between rightholders and public libraries.

3.3.2. E-books lending

E-lending is currently not regulated in the EU but, in recent years, some member states have seen certain initiatives in the direction of a more regulated framework for library e-lending. For instance, an independent review on e-lending (Sieghart, 2013) recommended extending the PLR to remote e-loans (on top of on-site e-loans).58 In general, however, given that there currently is no legal framework for e-lending, libraries must enter licensing agreements with suppliers of e-books directly.

Several types of suppliers of e-books to libraries exist and they have adopted a number of different business models and licensing practices. Because the British e-book market is one of the most developed ones in the EU, we review the supply of e-books to British libraries below, based on the work of Grigson (2011) who describes the e-lending landscape in the U.K. This overview also provides some insight on how e-lending practices could develop in other European countries in the near future. We then look at experiences in other EU member states and alternative e-lending services.

E-lending licensing practices in the UK

Suppliers

The main suppliers of e-books to libraries include major publishers, aggregators and distributors (such as OverDrive) and, seldomly, online retailers (e.g. Amazon). Overdrive is currently the dominating intermediary between libraries and rightholders in the U.K.

The supply model to libraries is different than the supply model to consumers. In particular, instead of relying on a traditional download-to-own model, libraries almost exclusively buy access to content which is available on third-party platforms. Depending on the business model of the supplier, the library patrons will have to stream the content online or will be able to download the content, which will be accessible only for a given amount of time.

Another supply model, less often used, is the direct purchase of e-books by libraries from suppliers, which are then hosted on dedicated e-readers that belong to libraries and that are, in turn, borrowed by patrons. This model is less popular than the first one amongst most libraries because it is more cumbersome to manage. In the first model, libraries do not have to manage content or devices and this model is, therefore, cost-effective as compared to the second model.

Content

Access to content can be purchased by libraries from publishers, vendors, and distributors and aggregators. Publishers will typically sell access only to their own content, while vendors will provide access to items from several publishers, but not all, given that some publishers will prefer to offer access to their published works themselves directly to libraries. Aggregators are the most common intermediary and license content from

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58 See Department for Culture, Media and Sport (2013).
several publishers. They differ from vendors by providing access to the e-books through their own platforms, while vendors redirect the users to the publishers’ online platforms.

Business models

Libraries will typically be able to purchase access to either individual items or fixed packages (“shelves”). While packages offer some clear benefits, especially in terms of lower per-item costs, they also imply that libraries might be buying content that they actually do not need. Some aggregators or vendors offer packages according to different criteria, such as subjects or publication dates. Some suppliers also allow libraries to modify the content of their packages, thus allowing the libraries to adapt their offer to their patrons’ demands.

Different payment and ownership models are also available to libraries. The most commonly used models are the direct purchase model and the subscription-based model.

The direct purchase model allows libraries to gain indefinite access to the purchased content. Sometimes, a platform fee may be charged on top of the price of the e-books to compensate the seller for hosting the e-books on his platform. There is an on-going debate on the long-term availability of the content under this model. Since libraries do not own copies of e-books, which are hosted on intermediaries’ platforms, public access to these e-books is at risk if the platforms that host these e-books shut down. This question, however, pertains more to long-term preservation than to e-lending and we do not consider it further here.

Subscriptions are also common. The libraries pay a subscription fee which gives them access to their selected content over a given period of time, after which they have to renew their subscription. This model gives libraries a high degree of flexibility as they can modify their collections as they wish when renewing the subscription.

Other models include the rental and demand-led acquisition models. In these models, library patrons actually control the content that is purchased (or rented) by the library. In the rental model, the patrons can browse a publisher’s collection and rent for a given number of days a particular work, in which case the library pays a rental fee to the publisher. The per-item cost is, thus, typically higher in this particular model but libraries can save on unwanted items by not having to purchase access to them altogether. The potentially problematic aspect of these demand-led models is that the library loses control over the composition of their digital collections, which may in the long term have negative impacts on the promotion of culture more generally.

An important aspect of the several business models is the constraints that are often imposed with respect to usage of the purchased works. For instance, some sellers impose a limit on the number of persons that can simultaneously have access to a single copy of a given e-book. Alternatively, some suppliers limit the number of times a given work can be accessed. Once the limit has been met, the library must purchase extra credit on top of the initial payment to reset the counter to zero. These constraints, which we further discuss in section 3.4.1, are an important aspect of the current e-lending model as they ensure that e-lending does not cannibalise rightholders’ revenues.

Licence terms

Licences will generally be part of any transaction between a library and a supplier. The licence would usually indicate which types of users may have access to the purchased content (this need not be the full set of patrons of the library). In most cases, library uses will also be subject to some specific conditions, such as the use of a secure access with
authentication (password and identification) or geographical restrictions. Open access would be allowed only on the premises of the library on dedicated terminals. There might also be some specific conditions regarding the types of uses (e.g. only non-commercial uses could be allowed). Nonetheless, patrons can in general download the items that are in the digital collections of their libraries on their own device. These downloads are subject to a set of restrictions that aim at mimicking the traditional lending model and, as previously discussed, at lowering the risk of cannibalisation of publishers’ digital sales and piracy.

**Elib and the Swedish library e-lending model**

The main supplier of e-books to public libraries in Sweden, Elib, is both an aggregator and distributor of e-books. Elib works on behalf of the major publishers in Sweden and provides a collection from which public libraries’ patrons can borrow e-books. For each loan, the public library pays approximately €2.5. E-loans by public libraries have increased by 289% from 2009 to 2012, suggesting that e-lending is increasingly popular in Sweden.

One limitation of the Elib model is that a single price per loan is applied to all the titles in the catalogue. As a result, most new and best-selling books are usually excluded from libraries' digital lending offers, presumably for fear of cannibalisation of revenues. This can happen because, clearly, public libraries can only offer e-books that publishers wish to include in Elib.

**Other e-lending models in Europe: a general overview**

Generally speaking, the library e-lending landscape in the EU features a lot of heterogeneity in terms of adopted models. Braeckman and Huysmans (2013) identify some of the key dimensions along which the various models differ. Important aspects include content ownership and selection, modes of distribution, payment methods and the introduction of artificial frictions.

The complexity of the EU e-lending landscape comes from the various approaches that have been adopted across member states. For instance, long-term or short-term access to content may be granted. E-books may in some cases be distributed by libraries offline (as a downloading service) or online (as a streaming service) and distribution may either be limited to on-site consultation or allow remote consultation. The fees paid by libraries can be set high per purchased title and low per e-loan; or inversely. Finally, there can be some differences in the kind of introduced frictions: windowing, simultaneity of lending and maximum number of times a single copy can be lent, for instance.

As in the U.K., library e-lending in the rest of the EU generally relies on intermediary platforms that host the available e-books for libraries. Besides OverDrive (which is mainly active in the U.K. and the U.S.), another main platform is Public Library Online, which is available in the U.K., the Netherlands and Denmark. In Germany, the main platform is DiViBib, which provides about 15,000 e-books (IDATE Consulting, 2013). In Belgium, Numilog and BiblioVox are the most active intermediary players. Generally, the platforms used by libraries tend to vary quite widely across EU member states.

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59 This section is based on Maceviciute and Wilson (2013).

60 Braeckman and Huysmans (2013) base their analysis on 5 case studies made in Belgium, The Netherlands, Denmark, Slovenia and Germany/Switzerland.
E-lending has so far not been limited to the public library sphere. In fact, private initiatives increasingly emerge as possible alternatives to library e-lending. For instance, Amazon has developed its lending service for e-books, the Kindle Owner’s Lending Library. Backlisted books can be borrowed freely provided the reader owns a Kindle and pays a premium membership annually (which includes a larger package than merely available e-books to borrow). Another private initiative is Skoobe, a German-based project that offers e-loans. Skoobe employs a subscription-based model, very similar to those of online music platforms such as Deezer and Spotify. Private initiatives have not necessarily had the purpose of competing with public libraries. In some cases, these initiatives are meant to offer services within the library e-lending model. A notable example is that of Atingo in Sweden. Atingo is a platform that aims at bringing publishers and libraries together and easing the lending of e-books by libraries. It makes use of Publit, an online service helping publishers and self-published authors making their e-books available to the public.

3.4. Assessment of an exception to copyright for e-lending and proposed policy options

In this section, we first study the rationale for an e-lending exception and then assess different hypothetical policy options.

3.4.1. The rationale for an e-lending exception

As set out in the Introduction to this report (and discussed in detail in the CRA Methodology Report), free markets for copyrighted works may or may not deliver socially efficient outcomes. When markets perform efficiently, there is no reason for a market intervention. It is thus important to identify the potential reasons for market failure, and to assess whether the resulting inefficiencies are likely to be significant before considering policy interventions. But when markets for copyrighted works are likely to be inefficient, an exception can be considered as a partial remedy for a market failure.

The CRA Methodology report argues that transaction costs are a key source of inefficiencies in free markets. First, as a friction in trade they represent direct costs to total welfare and second, they may prevent some trades from taking place. In the extreme, they may cause markets not to form altogether. Reducing the transaction costs would therefore release social value, all else given. It is important to note that even relatively low levels of transaction costs can be associated with socially inefficient outcomes, for example, when the licensors possess significant market power or when there are positive externalities from trade.62

In an assessment of different policy measures related to e-lending, particular attention must be paid to the effect of these measures on the incentives for creation of new works, as maintaining these incentives is critical to preserving dynamic efficiency.

Below, we first assess whether transaction costs related to e-lending might prevent markets from forming and find this to be unlikely. We next discuss the role that

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61 See Baddeley (2012).

62 For a detailed discussion of different sources of copyright market failure see the CRA Methodology Report (Langus et al. (2013)).
externalities and market power play in our assessment and finally examine the likely effects of an e-lending exception on incentives for the creation of new works.

**Transaction costs**

There are four types of transaction costs: search, bargaining, monitoring and enforcement costs. These costs increase with the number of transactions involved, a lower frequency of transactions and higher level of uncertainty faced by the parties involved in transactions.

Transaction costs of negotiating licences for e-lending cannot, in general, be said to be negligible. However, online licensing platforms and aggregators can significantly contribute to their reduction. These licensing vehicles act as intermediaries between libraries and publishers and, by providing licences over relatively large catalogues, they reduce the need to search for individual rightholders during the acquisition of new items, thereby reducing search costs. Bargaining costs can also be kept at relatively low levels by the presence of licensing vehicles. Indeed, they typically grant standardized licences for libraries, although tailored to the specific type of library (size, area …), reducing the need to engage in costly bargaining processes. Finally, most licensing vehicles provide the publishers with detailed information about the uses of their copyrighted works and, through Digital Rights Management (henceforth, “DRM”), they can efficiently monitor the use of licensing terms and enforce these terms.

While transaction costs in licensing for e-lending will not be eliminated completely, they could further decrease if e-lending develops and the licensing vehicles are used more widely. It would thus appear that transaction costs are not in themselves a sufficient justification for an e-lending exception.

Transaction costs not being the main impediment for library e-lending, an alternative explanation for why e-lending has not been developing faster is needed. A plausible reason is that public libraries (or their patrons) are not willing or are unable (because of insufficient funding) to pay for the licence fees which the rightholders set for some titles (such as recent releases and bestsellers). Because e-lending by public libraries competes with other distribution channels (such as the supply of e-books through online retailers or private e-lending), licence fees for public e-lending are set by licensors at a level which is sufficiently high to prevent cannibalisation of their revenues and libraries’ budget constraints may prevent them from purchasing access to recent e-books at such fees. The fact that transactions do not occur in these circumstances, therefore, need not be an indication of a failure of efficient markets to form, but simply that willingness-to-pay for the service is lower than the opportunity cost of providing it.

**Market power**

Market power is frequently a source of inefficiency because, in a static setting, prices above marginal costs constrain access to creative works below socially optimal levels. However, if rightholders can price discriminate, the adverse effects of market power on total welfare will often be reduced. This is particularly the case with indirect price
discrimination, such as non-linear pricing and menu pricing, as more users would typically be able to access creative works under such pricing schemes.\(^\text{63}\)

E-lending is organised through licensing under the Status Quo and licences are delivered to public libraries by intermediaries (i.e. online platforms) on the behalf of publishers. We have highlighted in section 3.2.2 the high degree of concentration in the publishing industry. Moreover, publishers act as gatekeepers in the provision of access to their works by libraries, and as a result can choose which items can be sub-licensed by aggregators to libraries. It is, therefore, quite likely that rightholders enjoy substantial market power when dealing with libraries.

Although we do not have direct evidence that rightholders price discriminate, the different e-lending models adopted across member states suggest that rightholders engage in second degree (indirect) and third degree price discrimination (according to geographical areas, for example).\(^\text{64}\) In Germany, for instance, the main operating platform, DiViBib, charges installation fees, an access fee to an initial content package (that increases with the number of titles included in the initial package), operational fees and monthly fees following extensions of the content package.\(^\text{65}\) Fees depend on the population sizes in the areas which are served by the libraries and increase with population size. Other platforms, such as Overdrive, also charge different fees according to different types of libraries.

Overall, while market power is a potential source of inefficiencies, the risk of these inefficiencies seems to be reduced due to the ability of the rightholders to price discriminate. With regards to market power it is also important to realize that a degree of (ex-post) market power (which results in price above marginal cost) is necessary in order for the rightholders to recover their fixed costs associated with content production. For these reasons, market power would not appear to be in itself a sufficient reason for an e-lending exception.

\(^\text{63}\) Note that price discrimination generally has ambiguous effects on total welfare. Moreover, in an imperfectly competitive environment, either higher or lower prices overall could result in equilibrium as firms move from uniform pricing to price discrimination (see, e.g., Stole (2006)). However, it is considered that price discrimination is often used to increase the total quantity sold and in these circumstances welfare tends to increase with price discrimination (see, e.g., McAfee (2008)). See also the CRA Methodology Report (Langus et al. (2013)).

\(^\text{64}\) For a more complete treatment of price discrimination, the reader may refer to Tirole (1988) and McAfee (2008). We only briefly explain here the concepts of second- and third-degree price discrimination. Third-degree price discrimination is conceptually equivalent to multimarket discrimination: The monopolist faces an aggregate demand for his product that can be divided into various groups (markets) on the basis of some identifiable characteristics (e.g. age, sex, location, …). Demand differs across groups and is known to the monopolist, who can charge different prices across groups but not within groups. An important condition for third-degree discrimination to be effective is that arbitrage is prevented across groups. Under second-degree price discrimination, the price charged by the monopolist varies with quantity demanded; larger quantities are charged at lower prices per unit purchased. Under certain conditions, this can be achieved by the monopolist by charging a menu of two-part tariffs consisting of a fixed part to be paid regardless of the quantity consumed and a variable part that depends on the quantity consumed. With two-part tariffs, when larger quantities are bought, the unit price decreases because the fixed part of the price is spread over more units purchased.

\(^\text{65}\) IDATE Consulting (2013).
Externalities

Positive externalities arise when transactions regarding consumption, production and investments positively (or negatively, in the case of negative externalities) affect consumption and production opportunities of third parties not directly involved in such transactions. In the presence of externalities, the prices agreed by the parties do not fully reflect the full costs and benefits of the transactions. Markets will, therefore, not align private marginal benefits (or costs) of such transactions to social marginal benefits (or costs). As a result, free markets with positive externalities typically feature under-production of goods and services.\(^{66}\)

Access to cultural works, and more generally access to information, can generate certain positive externalities – culture and democratic values that books promote in the wider society, and not only among the direct readers, are some of the cited examples of positive external effects. These positive externalities are typically associated with under-provision of access to existing and future books in free markets, which could justify an exception for e-lending.

It is important, however, to realise that in the presence of positive externalities not only access is under-provided in free markets, but that too few new works are created as well. While an exception for e-lending could increase access, it might at the same time exacerbate the problem of under-investment in new works if it adversely affects incentives for content creation.

Lending, e-lending and incentives for content creation

Library lending almost seems like a free lunch. On the first day of a new release, libraries may purchase copies at the nearest retailer and start lending them to their patrons. Against a (typically) small membership fee, patrons may as a result access freely any available book in a library’s collection. Yet, publishers’ sales have continued growing, despite the presence of many public libraries lending their collections locally.

One of the reasons for such coexistence is that library lending of physical books involves a multitude of frictions. Library lending is a public service and involves a set of issues proper to public goods: over-usage, possibly resulting in damaged books and “congestion” effects on some popular items implying waiting periods. Another important constraint is the limited period during which a book can be borrowed and has to be read. These constraints result in some costs to the reader associated with borrowed books (“borrowing costs”), which are absent when a book is purchased. Some readers may perceive borrowing costs as low whereas others may perceive them as high. The readers in the first group would typically not mind that the book is somewhat damaged, would be willing to wait for it to become available and would not feel that the limited time in which they have to read it is a real constraint. Such readers will therefore tend to borrow books rather than purchase them.\(^{67}\) Conversely, readers who feature a strong disutility from

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\(^{66}\) For a more general discussion of the role of externalities as a justification for copyright exceptions see the CRA Methodology Report (Langus et al. (2013)).

\(^{67}\) To see this more clearly, consider two readers who feature the same willingness-to-pay for books but reader A perceives borrowing costs as larger than reader B. Then, naturally, reader A will dislike going to the library to borrow books more than reader B and, in turn, reader B is more likely to purchase books. Generally speaking, if readers with a low willingness-to-pay for books also generally perceive borrowing costs as high, they will be less likely to buy books and more likely to borrow books.
frictions related to borrowing (that is, they perceive borrowing costs as high) will purchase them. Therefore, lending will only displace sales from low willingness-to-pay users who perceive the costs of borrowing as relatively low, and these displacement effects are small if such users purchase few books in the first place.

While library lending can decrease rightholders’ revenues, as explained above, the negative impact might also be limited if lending is in part (or for some readers) a “discovery” mechanism. Books are experience goods and some patrons, upon borrowing a book, may wish to buy it. Libraries also promote reading as a cultural activity within the general public and this may lead to a higher demand for new and existing titles. For these reasons, public lending of physical books need not have significant negative effects on the sales of books overall and therefore on the incentives of authors and publishers to create and publish new works.

However, there are important differences between physical lending and e-lending, implying that the above argument about physical lending cannot be generalised in a straightforward manner to e-book lending. In particular, e-lending is not subject to many of the constraints that pertain to physical lending – it is, in principle, almost “frictionless” (unless frictions are artificially introduced).

Consider a situation where libraries buy e-books and make them available to their patrons online without any technological constraints (such as DRM). Under this model, a patron can obtain a book remotely from home from his library’s online platform (as an electronic copy can be made at almost zero costs whenever a patron requests a loan).

Such a hypothetical e-lending model involves lower borrowing costs than physical lending, if any. Congestion is not an issue here, there are thus no resulting costs of waiting to obtain a desired book, and there are no constraints on the period over which the book can be read. Therefore, e-lending implies that a borrowed e-book is, in principle, a closer substitute to purchased books and e-books than a physically borrowed book. E-lending could thus displace a larger share of sales of books and e-books than physical lending and, ultimately, it could adversely impact incentives for content creation.

A constrained e-lending model might, on the other hand, largely preserve incentives for the creation of new books and e-books. Such a model would involve a set of constraints which introduce frictions in e-lending. In the Status Quo, such constraints on library e-lending are implemented through Digital Rights Management, and typically include blocking e-books from being reproduced and shared, limiting the period during which e-books can be borrowed and read, and blocking simultaneous viewing of e-books. These constraints induce positive borrowing costs and limit the degree to which e-lending can substitute the purchase of e-books and physical books.

However, if it is associated with significant frictions, the benefits that an e-lending exception could release are limited. While a constrained e-lending model based on an appropriately designed exception might largely preserve the incentives for creation, it might also not significantly increase access to e-books. For instance, long queues might form for certain types of books (e.g. new releases or bestsellers). Therefore, it is uncertain whether such a model would result in higher total welfare, when compared to the Status Quo, in particular when it is considered that such an exception will also be associated with some administrative costs.
3.4.2. The proposed policy options

In this section, we assess the impacts of several policy options on the main stakeholders, focusing on the following particular aspects:

- Short-run effects on revenues of rightholders;
- Rightholders’ long-run incentives for the production of new creative works;
- Short- and long-run effects on consumers;
- Implications for innovation (in services);
- Administrative costs induced by changes.

In a static framework, broader access to books would rather generally increase total welfare. In particular, a broader catalogue offered for e-lending by public libraries as a result of an exception can be presumed to generate benefits for consumers (as access to books increases) which outweigh the losses to the rightholders. As previously argued, these short-term benefits may be limited if a constrained, rather than unconstrained, exception is introduced. In a more realistic dynamic setting, any adverse incentives to write and publish new books would have to be considered as well. Moreover, any additional associated administrative costs, which possibly induce a larger tax burden, may also contribute to offsetting the benefits.

**Option 1: The Status Quo on e-lending**

In the Status Quo, e-lending is limited and it does not take place under a single agreed model across the EU. Best-sellers and new releases, along with a rather substantial part of publishers’ collections, cannot usually be digitally lent by public libraries. Also, not all public libraries currently provide e-books to their patrons. There are no indications that an improvement in libraries’ offering of e-lending is likely in the short-term so that a large part of publishers’ catalogues will probably not be available for e-lending by public libraries in the foreseeable future. This would not appear to be due to high transaction costs, and there are no other obvious reasons to consider that there is a market failure more generally.

This raises the question as to why exactly libraries and rightholders could not agree on licensing terms and conditions that would fit their needs. A possible answer is that libraries are financially constrained and are not willing to pay the fees that rightholders require for the type of access that the libraries would like to provide to their patrons. Uncertainty with regards to the actual use of licenced content by libraries and their patrons might also contribute to the inability of rightholders and libraries to agree on a given model. For example, it is likely that there is a significant degree of uncertainty with respect to the extent of the potential cannibalisation of direct e-book sales by e-lending.

Moreover, a “one-size-fits-all” model might not be acceptable to all the relevant stakeholders. Furthermore, even with relatively low transaction costs, there might be coordination problems (possibly exacerbated by uncertainty) between rightholders, libraries and intermediaries. This inability to coordinate could in principle represent an obstacle to the development of efficient licensing schemes.

However, we note that the stakeholders have been able to overcome these problems in some EU countries, at least in part, as licensing for e-lending is currently taking place in the EU (except for new and best-selling books), either directly or through different licensing vehicles. This may indicate that the lack of the willingness to pay of the libraries
for licenses (or their financial constraints) for new and best-selling books is the most important culprit for the apparent underdevelopment of e-lending by public libraries.

**Option 2: Memorandum of Understanding (MoU) between major stakeholders on e-lending**

Under Option 2 (MoU on e-lending), policy makers would take measures to facilitate the conclusion of a Memorandum of Understanding between rightholders and public libraries that would lay down fair conditions for the acquisition and lending of e-books by public libraries.

Rightholders, in the context of e-books, consist of both publishers and self-published authors. Both types of rightholders should be included in the conclusion of an agreement with libraries in order to ensure that their interests are equally represented. Deals should be negotiated at the national level by national associations representing, on the one hand, publishers and authors, and, on the other hand, libraries. If parties cannot agree on a set of fair conditions, then we are back to the Status Quo.

One reason for why such an arrangement might not materialise is, again, that a “one-size-fits-all” deal might not be acceptable for all the involved stakeholders. For instance, small and large libraries may not be willing to accept the same set of conditions on acquisition or e-lending principles. Similarly, self-published authors and publishers might not agree to a single set of conditions for e-lending either. As a result, tailored deals according to the types of libraries and rightholders might be necessary. This could be time-consuming within the context of a MoU, and is likely to result in substantial administrative costs.

Tailored deals being seemingly required, the question is why they couldn’t be mediated by markets rather than by a policy-maker in the context of a MoU. When transaction costs are low, transacting parties should be able to efficiently bargain in bilateral deals. In such cases, intervention by the policy-maker is not required. Transaction costs can be reduced if licences are granted by intermediaries (e.g. aggregators), and these too can tailor them according to users’ types (library size, population size in area, etc …) or they can offer menus, as already observed in the current state of affairs. Since it would appear that markets could mediate licensing for e-lending through bilateral negotiations or through licensing vehicles, the potential gains from a MoU over the Status Quo are unlikely to be large.

For these reasons, the assessment of this option is highly uncertain, as it brings about benefits over the Status Quo only insofar as it resolves a coordination problem, provided that administrative costs are not high. Under this assumption, which we do not find very appealing, we assign “?+” along all the dimensions of as
Table 8: Library e-lending - Summary of the assessment of Option 2 (Memorandum of Understanding for library e-lending)

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers/ readers</td>
<td>?+</td>
<td>?+</td>
</tr>
<tr>
<td></td>
<td>Possibly somewhat larger e-lending</td>
<td>If a MoU resolves coordination problem, then e-lending catalogue is potentially improved, but not greatly as some restrictions are likely to remain</td>
</tr>
<tr>
<td>Libraries</td>
<td>?-</td>
<td>?+</td>
</tr>
<tr>
<td></td>
<td>In the short run the potential benefits would appear to be small and likely to be outset by administrative costs.</td>
<td>If a MoU resolves a coordination problem then libraries may expand their services and benefit from more patrons but also face larger costs</td>
</tr>
<tr>
<td>Rightholders</td>
<td>?-</td>
<td>?+</td>
</tr>
<tr>
<td></td>
<td>In the short run the potential benefits would appear to be small and are likely to be outset by administrative costs.</td>
<td>If a MoU results, then rightholders can possibly benefit from more e-lending through positive effect on willingness-to-pay</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

Option 3: Extension of the Public Lending Right to e-lending activities

A third and final option would extend the Public Lending Right to cover e-lending by publicly accessible libraries. Such an extension can be seen as an exception to copyright and the analysis in section 3.4.1 has indicated that an exception that does not impose restrictions on library e-lending (in terms of the quality of borrowed e-books or of the e-lending service in itself) would likely lead to lower incentives for content creation in the long-run and would also harm rightholders while providing benefits to consumers in the short-term (but not necessarily in the long-run).

As explained earlier, it is useful to view exceptions as (partial) remedies to market failures. In that regard, we note that rightholders generally seem to be willing to offer their content in a constrained e-lending model when it involves only backlisted books, for many of which demand is relatively low which suggest that there is a market for licenses for e-lending. However, rightholders have expressed concerns regarding an e-lending model that allows libraries to lend new e-books and best-sellers. The demand for such books (purchase to own) is often higher and if new titles were available freely at libraries and if the costs of borrowing were low, rightholders’ revenues could be significantly harmed.

An exception which sets some conditions on the type of uses that are allowed might still be a viable option, at least in principle, as it could alleviate the concerns about...

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68 Again, see the Publishers Association’s statement on e-lending by public libraries available at:
cannibalization of sales. We therefore consider an extension of the PLR that allows a limited online making available by publicly accessible libraries and for non-commercial uses. This takes the form of a constrained e-lending model, where frictions are artificially introduced (through the use of DRM, for instance) in order to mimic the arrangements as implemented by stakeholders in the Status Quo. The main difference with the Status Quo is that the exception would cover any work in the library’s collection and would provide “fair compensation” to rightholders as is the case under the existing Public Lending Right for traditional library lending (in member states where public lending is not dealt directly by parties and covered by licences).

We note that even if frictions are introduced, some lost sales for rightholders are to be expected from the proposed exception, since inevitably some potential buyers will prefer to forgo their purchases and borrow the freely available e-books at libraries. Although the provision of fair compensation to rightholders in principle aims at offsetting the negative effects of the exception on rightholders and at maintaining incentives for content creation in the long-term, it is unlikely that such a centralized system of remuneration will result in socially optimal outcomes. Additionally, such a centralised system is likely to generate substantial administrative costs.

These observations raise the question as to how exactly could the proposed exception be an improvement upon the Status Quo. In order to preserve the incentives of the publishers and original authors, the frictions in e-lending would have to be significant. Therefore, access to new titles would not be improved significantly by the exception, especially since many new releases are already widely available online for purchase, sometimes at low prices. Furthermore, an exception, even constrained, could discourage private e-lending initiatives and, therefore, investment in innovative services that aim either at facilitating library e-lending (such as new licensing vehicles) or aim at offering e-lending services at competitive prices. Absent any significant improvement in access, an exception that is potentially harmful for rightholders is not warranted.

In principle, it could still be argued that such an exception remedies a potential coordination problem which prevents an efficient licensing model to emerge. However, as licensing for e-lending does currently take place, the coordination problem does not appear to be insurmountable. Overall, the case for such an exception would appear to be weak.

Note, however, that DRM could be used to track the usage of e-books in public libraries and could, therefore, help in making fair compensation as close as possible to the remuneration that rightholders should receive on the basis of the actual usage of their e-books by library patrons.

We cited a few examples of such innovative services in section 3.3.2.
### Table 9: Library e-lending - Summary of the assessment of Option 3 (e-lending exception)

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumers/Readers</strong></td>
<td>?+</td>
<td>0</td>
</tr>
<tr>
<td>Minor improvements in access to existing recent and backlisted titles</td>
<td>Minor improvements in access to existing titles but potential reduction in the number of new titles</td>
<td></td>
</tr>
<tr>
<td><strong>Libraries</strong></td>
<td>?+</td>
<td>0</td>
</tr>
<tr>
<td>Potentially, improved e-lending offer and more patrons</td>
<td>Potentially improved e-lending offer and more patrons, but potential reduction in the number of new titles</td>
<td></td>
</tr>
<tr>
<td><strong>Rightholders</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lost sales not completely off-set by fair compensation</td>
<td>Lost sales not completely off-set by fair compensation</td>
<td></td>
</tr>
</tbody>
</table>

Source: CRA.

Notes: See section 1.3 for an explanation of the signs.

**Conclusion on the assessment of policy options for library e-lending**

Our assessment concludes that an exception, even a rather narrow one, is not warranted in the context of e-lending. The undesirability of an exception is triggered by its ineffectiveness at significantly broadening access to creative content, while creating a risk of adversely affecting rightholders' and other market players' incentives for, respectively, the creation of new works and investments in innovative e-lending services.

We believe that a Memorandum of Understanding on e-lending between libraries, rightholders and intermediaries could be justified only insofar as it resolves a (possibly existing) coordination problem between these market players. However, because a “one-size-fits-all” set of principles for library e-lending might not emerge readily form a MoU, large administrative costs may result, offsetting the benefits that broader access implied by the MoU could imply. As a result, we are rather cautious in our final assessment of a MoU on e-lending, and favour the Status Quo if it is believed that the administrative costs resulting from a MoU would be significant.
4. TEXT AND DATA MINING

The objective of this section is to carry out an assessment of several policy options related to text and data mining and to study the rationale for an exception to copyright for the purpose of text and data mining. We first describe the characteristics of text and data mining and define the scope of our analysis. We then address the current legal and licensing contexts surrounding text and data mining. Finally, we carry out the assessment of the rationale for an exception and the considered hypothetical policy options.

4.1. The characteristics of Text and Data Mining

4.1.1. Text and data mining: Working definition

For the purpose of this report, text and data mining (henceforth, “TDM”) refers to a computational process that aims at discovering patterns in large databases and/or collections of textual content. More specifically, it aims at extracting information from previous sources (e.g. existing dataset and collection of journal articles) and transforming it into information that can be used for further purposes (e.g. analysis or pattern discovery). In this report, we focus on TDM conducted for scientific research purposes and thus exclude other possible uses of TDM (such as uses for marketing and business purposes) from the analysis.

4.1.2. The main actors in TDM

Essential inputs in TDM are the (collections of) works that are mined by researchers. While these inputs differ according to the mining project, when TDM is conducted for scientific research, they generally consist of scientific publications in scholarly journals and databases.

As explained in Ware and Mabe (2012), the exclusive rights on journal publications tend to be administered by publishers rather than authors. Authors in this case are typically not remunerated for their publications, as publishers keep the revenues in exchange for the publishing services that they provide (such as reviewing and editing). Revenues come from the licensing of access to scientific journals, which is a major channel through which publishers exploit their rights. Regarding Open Access (OA) publications, authors typically keep control of the rights over their works. OA content is generally licensed under the Creative Commons scheme, which requires proper attribution of authors when works are being re-used. Authors are not remunerated for their works and, in fact, they must typically pay a fee to publish them in OA journals.

Researchers in several scientific fields seem to be making increasing use of TDM techniques. In particular, medicine and genomics have made recent discoveries thanks to these automated techniques. TDM is also particularly common in life sciences research (in particular, in the pharmaceutical industry).

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71 See Ware and Mabe (2012) for a detailed description of Open Access publishing.
72 Ibid.
73 Van Noorden (2013b).
74 Clark (2012)
TDM uses can have either a commercial or a non-commercial purpose. Although it is difficult to distinguish commercial and non-commercial uses of content, it is generally accepted that uses by for-profit companies or by individuals or institutions that aim at generating revenues from these uses should be considered commercial. In the context of TDM for scientific research, we therefore consider two types of users, commercial and non-commercial, according to whether they conduct TDM on IP protected content for a commercial purpose (“commercial TDM”) or a non-commercial purpose (“non-commercial TDM”).

4.1.3. TDM as a transformative use

TDM for scientific research can also be seen as belonging to the wider class of so-called “transformative uses” of IP protected content, as defined for the purposes of the CRA Methodology report. In the CRA Methodology report, a transformative use was defined as one in which users draw on existing material as input for their output, including when this output constitutes new works. Transformative users may need to use the expressions contained in existing works, along with the ideas or information that they contain. TDM for scientific research could indeed qualify as transformative use, for the purpose of this report and consistently with the CRA Methodology report, because it uses existing works/content to generate new knowledge from facts, data, results and/or conclusions that they contain.

Importantly, we note that TDM for scientific research typically does not lead to substitute products to the pre-existing content that is being mined. Indeed, the purpose of such TDM is the discovery of new knowledge from collections of original works. In most cases TDM as such does not result in the creation of a new work at all or, at least, it does not result in the creation of a work that could be considered a substitute to the works used as inputs. However, TDM in general may also lead to products that can be partial substitutes to the original works. Smit and van der Graaf (2011, p. 19), explain that some mining results in what they call "derivative information products" which recast, transform or adapt one or more preexisting works with the purpose of summarizing and displaying the information and relationships as available in the mined material. Since they sometimes expose the original expression (as well as information) of the original works, such works can be partial substitutes to the original inputs. For the purpose of our assessment in this report we assume that TDM which result in such works is not covered by the exception discussed below.

Transformative uses, as defined above, typically feature a set of economic issues that are important in the assessment of an exception and apply to TDM. These issues were set out in more detail in the CRA Methodology report and are taken into account when we assess the rationale for an exception for the purpose of TDM in section 4.4.1.

4.2. Problem Definition

TDM requires researchers and research institutions to obtain access to pre-existing works. When pre-existing works are copyrighted or available under Open Access conditions, obtaining access involves the acquisition of a licence either against payment

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75 See Creative Commons (2009), which provides an empirical analysis of the perceptions, among users and creators of content found online, on whether certain uses have a commercial or non-commercial nature. The report considers a broad set of content, copyrighted or not, available on the internet.
of a fee (typically, when the works are copyrighted) or not (in case the original works are Open Access works). We therefore distinguish between access to content and content mining. In this report we deal with content mining on the assumption that the user has already obtained lawful access.

It is also generally accepted that TDM involves an act of reproduction, as the mining process often entails some copying of the input works. An act of reproduction of a copyrighted work is covered by an exclusive right that belongs to the rightholder. Thus, such an act (and, in turn, TDM) must be authorised by rightholders, unless it is covered by an exception to copyright (or to the sui generis right in databases). In the case of Open Access works, access and mining are both permitted, unless the licence contains a “No Derivatives” condition. TDM for scientific research on Open Access content may be constrained by such condition even if it is conducted for the purpose of discovery and does not lead to derivative information products. In such cases and absent an exception to the reproduction right, TDM users must also ask for rightholders’ permissions in order to mine their OA content.

In the EU, TDM is currently not covered by a specific “TDM exception”. While the relevant TDM actors have resorted to licensing solutions given the absence of a clear legal situation for TDM, there currently is a debate as to whether TDM for scientific research could in fact be covered by existing exceptions in European law (in the 2001/29 “Infosoc” Directive and in the 96/9 Database Directive). This would imply that licensing TDM for scientific research may, from a legal perspective, not be necessary altogether. However, this does not apply to the eventual need to obtain a license in order to have access to the content on which TDM is to be performed.

The current market for TDM licences in the EU has been qualified as under-developed. Researchers and research institutions have argued that licensing is a hurdle to TDM as it leads to prohibitive transaction costs. They are asking for a specific TDM exception, which would remove the need to resort to licensing solutions. Publishers, on the other hand, argue that TDM should take place through licensing only as licences allow parties to agree on terms that can best represent the value and needs of individual TDM projects.

76 See for instance, Elsevier’s Open Access licence policy, which states that the Creative Commons “ND” (for No Derivatives) licence condition does not permit text and data mining, available at: http://www.elsevier.com/about/universal-access/content-mining-policies?a=120946

77 Guadamuz and Cabell (2012).

78 In particular, the exception in Article 5.1 or 5.3(a) of the Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society could potentially cover TDM for scientific purposes. And certain exceptions in the Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases could also be relevant in the context of TDM for scientific research. Note that uncertainty with regards to the legal framework might represent an obstacle to efficient functioning of markets (see the CRA Methodology report (Langus et al. (2013)) for a more detailed analysis).

79 We discuss the Status Quo and, in particular, the current state of the market for TDM licences in section 4.3 below.

80 See LIBER (2013).
and allow TDM to take place in a secure and stable environment. Our main concern in this section is, therefore, to assess these, potentially opposing, arguments.

4.3. The current licensing context in the EU

4.3.1. Market Description

This section describes and characterises the main actors and licensing practices in the markets for access and TDM licences. We focus on the scientific publishing sector, which is one of the most important sources of content input for TDM conducted for scientific research.

Providers of content as input for TDM

The main providers of online access to scientific content (journals, databases) are publishers. Subscriptions for access to journals are usually offered over bundles of journals rather than individual titles, either by publishers directly or by digital library aggregators. As for databases, they can be found online either free of charge or against payment of a fee on governmental websites, data repositories and other sources. When not free of charge, access to databases is also typically based on a subscription model.

The primary source of sales consists of institutional subscriptions, rather than individual subscriptions, which are often administered by subscription agents on behalf of purchasers (in particular concerning research libraries). Subscription agents also increasingly act as aggregators and, therefore, as intermediaries between providers and purchasers of scientific content.

The scientific publishing industry is rather concentrated. Ware and Mabe (2012) report the estimate of 5,000-10,000 journal publishers worldwide. The distribution of journals by publishers appears to be highly skewed, with 95% of publishers owning only a single or two journals while the top 100 publishers (representing about 1%-2% of the total amount of publishers) own about 70% of all journals. The journal publishing industry is thus characterised by a few major publishers and a significant competitive fringe. Certain types of publishers, in particular those that control an important number of journals, are invaluable to mining projects which rely on large amounts of existing scientific content. As a result, some publishers enjoy significant market power.

A closer look at the pricing of scientific content reveals that the major publishers tend to discriminate in price and other terms of access between different purchasers (e.g. high willingness-to-pay and low willingness-to-pay). For instance, in the context of library subscriptions, tiered pricing implements different subscription fees according to the size of libraries and usage-based pricing sets higher fees for high-usage libraries.

See STM (2013).
Examples of such aggregators and digital libraries are JSTOR and EBSCOHost, which are currently used by research libraries to provide access to various journals to their patrons.
For instance, access to Nielsen’s data is typically licensed on an annual basis in exchange for a licensing fee.
Ware and Mabe (2012).
Ibid.
Ibid.
Once access is licensed, researchers and providers of content must agree on TDM terms and conditions, giving rise to a market for TDM licences. As documented by Smit and van der Graaf (2011), some publishers seem to take a rather liberal approach towards TDM. In particular, they have expressed their desire to facilitate TDM by third parties to foster the creation of new knowledge. However, publishers are nevertheless somewhat wary of TDM, mainly because they fear that it may result in derivative information products (as defined by Smit and van der Graaf) that could replace their own such products. As a result, they tend to consider mining requests on a case-by-case basis. The publishers also typically block crawling or bulk-downloading on their platforms.

This case-by-case approach adopted by publishers for the licensing of TDM enables them to set different terms and conditions on the basis of the types of request that they receive. More specifically, corporate and commercial mining requests (this would therefore include commercial requests for scientific purposes) are generally accepted in exchange for a licence fee, while purely academic (non-commercial) requests are usually accepted free of charge. This indicates that publishers attempt to price discriminate between high-value customers (typically, commercial users) and low-value customers (typically, non-commercial users). Most publishers would not accept a mining request that may lead to a substitution of their own product (such as a derivative information product) and, in order to prevent any substitution effect, they tend to require information about the mining projects. Nonetheless, TDM conducted for scientific research should typically not be a concern for publishers as it does not lead to derivative information products and it does not in general represent a viable substitute for the original content. TDM as discussed in this report rather leads to innovative and new scientific knowledge. As a consequence of this fact, many requests for research purposes tend to be honoured, as 60% of the respondent in Smit and van der Graaf (2011) report that permissions are granted in either most or all of the cases (and 33% of the respondents accept such requests “in some cases”). When such requests have a clear commercial objective, however, rightholders will usually ask for a fee in exchange for the permission to mine.

Recent developments in licensing practices suggest that there is an increasing degree of standardisation in TDM licences, in particular for non-commercial scientific research. This has important economic implications, in particular in terms of transaction costs, which tend to decrease when standard licences are available to users. We describe these recent developments in section 4.3.4.

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87 Smit and van der Graaf conducted, in 2011, a survey on 2782 people in the STM publishing sector which had different levels of knowledge on TDM. They received 190 responses, of which 51% came from very small publishers (1-10 journals), 21% came from small publishers (11-50 journals), 12% came from medium publishers (51-250 journals), 5% came from large publishers (250-1000 journals) and 11% came from very large publishers (above 1000 journals). The authors explain that their resulting sample consists of high quality responses, with 88% of respondents being at least “knowledgeable” in content mining, including some “very knowledgeable” publishers and others “reasonably knowledgeable” or “somewhat knowledgeable” publishers.

88 Effective price discrimination by rightholders presupposes that commercial and non-commercial users can be identified and that commercial users have a higher willingness-to-pay than non-commercial users. However, we acknowledge the possibility that this need not always be the case.

89 For instance, 85% of the respondents in Smit and van der Graaf (2011) require information in 100% of the cases.
Demand for TDM licences

The demand for access to content consists primarily of research institutions (such as research libraries), research groups and (seldom) individual researchers. Research libraries increasingly rely on library consortia to administer and negotiate over the purchase of electronic content.\(^{90}\) These consortia play an important role in balancing the bargaining powers of researchers and suppliers of access to content, and many publishers actively market to consortia.\(^{91}\)

There currently is no data, beyond anecdotal evidence, that quantifies the potential demand for TDM licences. Libraries and researchers claim that enabling TDM is essential in order to unlock efficiency gains in research and to foster the creation of new knowledge.\(^{92}\) However, this does not necessarily mean that the potential TDM community is large. In fact, publishers report that they currently receive few official requests to mine. The measurement of requests can be used as an indicator of the actual demand for TDM licences. Smit and van der Graaf (2011) report that 77% of their respondents (surveyed publishers) did receive mining requests, but 38% of them received less than 5 requests per year while only 21% of them report having received more than 10 requests per year. There are several types of requests, which reflect the different categories of possible TDM uses (such as corporate, academic or for derivative products). Regarding TDM for scientific research, 51% of the respondents who have received requests declare that these included requests for individual research projects. However, these scientific research requests tend to be rare, mostly made less than 5 times a year. Nevertheless, we caution that low observed actual demand does not necessarily imply that there currently is little demand for TDM licences overall. Researchers could in principle be doing TDM without rightholders’ authorisation or they could completely refrain from engaging into TDM because of transaction costs associated with licensing.\(^{93}\) This would indeed lead to low numbers of official requests despite significant potential demand. In fact, as reported by Elsevier in Van Noorden (2013), although the publisher received few formal requests by researchers, 4% of total web traffic on the ScienceDirect platform in 2012 would be accounted for by automated processes crawling its platform, which is an indication that TDM takes place on a more than occasional basis.

4.3.2. The benefits of a TDM licensing system

Several arguments can be made in favour of the licensing system for TDM.\(^{94}\)

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\(^{90}\) For example, Ware and Mage (2012) report that the International Coalition of Library Consortia has some 200 members and the Ringgold Consortia Directory Online lists over 400 consortia representing over 26,500 individual libraries, of which about 350 are responsible for licensing content.

\(^{91}\) For details on library consortia see Ware and Mabe (2012).

\(^{92}\) See, for instance, LIBER (2013).

\(^{93}\) Smit and van der Graaf (2011) show that 48% of their respondents report that content mining takes place illegally over their platforms. This claim should nonetheless be moderated. Indeed, we have highlighted the possibility that TDM could actually be currently covered by exceptions. As a result, the observed unauthorised bulk-downloading and crawling are not necessarily illegal per se.

\(^{94}\) Recent developments, discussed in section 4.3.4, show that publishers increasingly rely on standard licences for non-commercial scientific research TDM requests. However, such requests are still considered on a case-by-case basis by publishers.
First, licensing allows publishers to adapt their terms and conditions to the specific mining practices and objectives of different groups of TDM users (such as academic or corporate users). As reported by Smit and van der Graaf (2011), these different groups usually have different TDM practices (i.e. the working of the actual automated mining process employed) and objectives. Considering academic research, for instance, the objective of TDM is essentially one of information extraction (being the main practice) with the purpose of answering specific research questions (being the main objective).

Second, rightholders may need to make investments in order to enable the efficient access to their content for the purpose of TDM. Licensing provides incentives for these investments because it can allow rightholders to recover the costs of their investments. Furthermore, different groups of TDM users might have different technical needs (based on their TDM practices), which may require rightholders to make group-specific investments – and therefore group-specific licenses. For instance, while academics specify a need for more user-friendly tools and API platforms to make mining simpler, librarians may require separate servers to make mining safer and corporate miners may express a need for format standardisation in XML. In a nutshell, the needs generally differ across groups of TDM users. 95 Licensing provides incentives for publishers to make group-specific investments as it gives them the flexibility to charge different fees to different groups according to the size of the required group-specific investments. In addition, such a licensing system does not a priori exclude that a certain level of standardisation in terms and conditions can be achieved within a given group of users if they share similar technical needs.

Third, licensing allows rightholders to price discriminate between groups of TDM users according to their willingness-to-pay. Publishers, as the gatekeepers to collections of works, have a certain degree of market power. And market power typically results in a loss of total welfare because access is constrained below its optimal level. However, if price discrimination is feasible, efficiency might be partly restored. 96 We have described above that TDM licences for non-commercial scientific research purposes are usually granted for free (on top of access fees), while commercial TDM licences are granted against payment of an additional fee (on top of the access fee). This is an indication that publishers price discriminate between commercial and non-commercial researchers under the current licensing system. 97

4.3.3. The costs of a TDM licensing system

As explained previously, licensing in the context of TDM has until recently generally involved one-to-one (bilateral) negotiations between TDM users and rightholders, unlike licensing for access to content, which is typically administered centrally by aggregators (or large publishers) and subscription agents (or library consortia). High transaction costs could result from such a bilateral system for TDM licences.

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95 See section 3.2 “Summary of stakeholder’s views” in Smit and van der Graaf (2011) for a more detailed list of needs, practices and expectations of various groups of TDM users.

96 See the CRA Methodology report (Langus et al. (2013)) for a more precise analysis of price discrimination.

97 This should not be seen as a proof that rightholders price discriminate. It could be the case that commercial and non-commercial TDM users ask for content packages of different values.
Transaction costs can be reduced if publishers offer standardized license terms. However, standardized licenses are likely to only be a partial remedy to the high transaction costs due as there is a risk that they would lack in flexibility. This concern was recently stated by the Association of European Research Libraries (LIBER) with regards to the launch of Elsevier’s policy on text and data mining which set out the terms on which researchers can mine text and report results.\(^{98}\) LIBER claims that “licensing will never bridge the gap in the current copyright framework as it is non-scalable and resource intensive”.\(^{99}\) LIBER furthermore states that licensing could limit the flexibility of data mining approaches and the ways in which mining results can be made available. When considering the benefits of standard licenses, these limitations, in terms of flexibility of access for the purpose of mining, should be kept in mind. We note, however, that standard licenses do not necessarily prevent bilateral negotiations from taking place for the purpose of a particular mining project (or for a particular research programme) when the standard licenses turn out to be insufficiently flexible.

In this section, we first assess if the current licensing system could lead to prohibitive transaction costs. We then discuss the possible hold-up situation that researchers may face. Finally, we discuss some possible improvements in the current licensing system that could offer solutions to these issues.

**Transaction costs**

The high transaction costs involved in obtaining licences for text and data mining are often cited as the main hurdle currently faced by researchers in their mining activities. There are several factors that can influence these transaction costs.

First, TDM typically involves a large number of (collections of) works and the rights on these works typically belong to various publishers and/or authors. Rightholders have to be identified and the licence terms must be negotiated. Even when each individual transaction does not generate high transaction costs, these costs can still be significant relative to the value of an individual collection. In such circumstances, aggregate transaction costs may be large, and possibly prohibitive, compared to the value of the mining project.

The case study by Wellcome Trust (Wellcome Trust, 2012, Box 2 p.10) provides some insight on how large transaction costs could be for a typical mining project. Wellcome Trust (2012) set up an experiment in which it simulated a mining project based on the title keyword “malaria” to be searched among the articles in the UK PubMed Central repository. Wellcome Trust found around 3,000 such articles, 62% of which could be mined without the prior authorisation of rightholders. For the remaining 38%, permissions had to be sought.\(^{100}\) These 38% represented about 1,100 copyrighted articles, which were published in 187 journals and by 75 different publishers. This shows that rights are

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98 Elsevier updates text-mining policy to improve access for researchers (January 2014), available at: http://www.elsevier.com/connect/elsevier-updates-text-mining-policy-to-improve-access-for-researchers


100 Note that, in general, “all rights reserved” articles are more common than open access articles.
not necessarily concentrated in the hands of a few rightholders.\textsuperscript{101} Since the UK PubMed Central repository did not contain information about publishers, this information had to be sought for each single journal. Assuming that one hour would be necessary to obtain a licence for each journal (this estimate is rather conservative, given that negotiation will also usually take place), that would add up to 187 hours on aggregate. Assuming that the researcher conducting this project had a salary of £30,000, Wellcome Trust found that the transaction costs associated to the project would be equal to £3,399.\textsuperscript{102} When Wellcome Trust took a more realistic example in which they looked for the term “malaria” not only in the title but in the entire text of the articles in UK Pubmed central repository, they found (using similar computations) that transaction costs increase to £18,630. This is suggestive of the high potential transaction costs associated to a licensing system for TDM. However, the total amount of transaction costs really depends on the distribution of ownership over rights across the works that are being mined and, therefore, on the specificity of individual mining projects. Thus, while Wellcome Trust’s case study points to the fact that transaction costs may be significant for a given TDM research project, it should not be taken as a conclusive result that the transaction costs faced by researchers in the current TDM licensing system are necessarily prohibitive. Furthermore, standardized licenses may often help in bringing transaction costs down and there seem to be some positive recent developments in that direction. One example of this are the pledges by scientific publishers, in the context of “Licenses for Europe” debate, to offer a “click-through license” for individual researchers and standardized clauses for subscription-based material that could significantly reduce transaction costs and, in turn, promote mining.\textsuperscript{103}

A second factor that affects transaction costs is uncertainty.\textsuperscript{104} Uncertainty can lead to long negotiations as a higher degree of adaptation by transacting parties is required and can, therefore, lead to higher transaction costs. In the context of TDM for scientific research, uncertainty could be a relevant factor affecting transaction costs.\textsuperscript{105} This comes from an ex-ante lack of knowledge of the results that a given mining project can deliver by both rightholders and researchers, since it is the mining itself that will often deliver new, and possibly unexpected, results. Uncertainty does not play role to the extent the rightholders offer standardized licenses for mining on subscription-based material at no additional (or at low) fees.

\textit{Hold-up}

In a typical TDM project, the identification of the several rightholders whose works are being used as inputs will typically involve non-zero search costs for TDM users. Search

\textsuperscript{101} The number of involved rightholders really depends on the nature of the mining project. In some cases, the rights on the articles that are being mined may belong to only but a few publishers, or maybe even to a single one.

\textsuperscript{102} Transaction costs are thus computed on the basis of the opportunity cost of obtaining licences; that is, on the value of the time spent acquiring these licences in terms of money.

\textsuperscript{103} Available at: http://ec.europa.eu/internal_market/copyright/docs/licences-for-europe/131113_ten-pledges_en.pdf

\textsuperscript{104} See Williamson (1979).

\textsuperscript{105} McDonald and Kelly (2012).
costs are an investment that TDM users must incur before negotiations with rightholders may begin and this may lead to a "hold-up" problem.\textsuperscript{106}

In some cases, the hold-up problem may discourage TDM users from incurring search costs and, therefore, may lead to under-investment in TDM. This typically occurs when rightholders ask for large licensing fees, which, when added to search costs, exceed the value-in-use of the particular (collection of) works. However, when search costs for a particular set of TDM input works are close to the value-in-use of this set of works, inefficient bargaining can also lead to under-investment if parties cannot agree on mutually beneficial licence fees. The often low value-in-use of individual (collections of) works implies that researchers are likely to be facing a risk of hold-up, even if transaction costs for individual (collections of) works are low.

Since we consider here only TDM on subscription-based material, hold-up does not seem to play an important role for our assessment, as the search costs would not appear to be very high in such instances – the user would typically know the identities of the rightholders to the content relevant to his project. This is the case in particular if the publishers (rightholders) offer licenses for mining at no (or low) additional fees for subscription-based content to which prior access has lawfully been obtained.

\textit{Potential solutions: Collective licensing and library consortia}

Collective licensing by rightholders could offer an alternative partial remedy to potentially high transaction costs and to the risk of hold-up. Indeed, if rightholders issued TDM licences collectively and according to a common set of terms and conditions, then transaction costs would be effectively reduced. Under a collective licensing scheme for TDM licences, identifying and bargaining with individual rightholders would not be required of researchers. As a result, search costs would decrease and so would the risk of hold-up.

However, collective licensing is contingent on rightholders’ willingness to participate in such a licensing scheme, which requires coordination efforts. Moreover, rightholders may choose to grant TDM licences collectively only under a set of restrictive terms and conditions. Such a solution may result in a lack of flexibility, a concern expressed by LIBER with respect to certain mining clauses in subscription licenses, as discussed above. There are other potential problems that might preclude collective licensing. For instance, a condition of attribution for every piece of copyrighted content used under the collective licence could make a mining project unfeasible.\textsuperscript{107} Thus, while collective licensing can in principle reduce transaction costs associated to bilateral negotiations, it can generate other inefficiencies in the market for TDM licences. Overall, we believe that collective licensing for TDM is unlikely to reach a meaningful scale. Rather than collective licensing, the trend seems to be for the publishers to offer mining clauses in the subscription license.

Another partial remedy to high transaction costs and the risk of hold-up lies in library consortia. Pooled under a single entity, research libraries may find it easier to negotiate favourable terms and conditions for TDM licences. Library consortia already play a role in

\begin{footnotesize}
\begin{enumerate}
\item[106] For more details on the hold-up problem see the CRA Methodology report (Langus et al. (2013)).
\item[107] Note that attribution of content that is being mined is one of the reasons why the Open Access model is in principle ruled out as a possible solution to high transaction costs, given that it requires proper author attribution.
\end{enumerate}
\end{footnotesize}
licensing access to content and it is therefore conceivable that they could play a similar role in licensing for TDM purposes.

4.3.4. Recent developments

The market for TDM licences is nascent and should be qualified in view of the more recent developments. While transaction costs associated with the current licensing system still seem to represent a hurdle for TDM, more efficient market-based solutions are emerging or may eventually emerge. We have anticipated some of the discussion of the recent development in our discussion above; here we discuss these in more detail.

Publishers seem to increasingly favour more standardised and mining-friendly content formats, a shared content mining platform and commonly agreed permission rules for content mining. One initiative in this direction is by publishers belonging to the STM Association (i.e. the International Association of Scientific, Technical and Medical publishers) who have recently made a statement of commitment in order to enable TDM for non-commercial scientific research in the EU (STM, 2013). The point of this public commitment is to facilitate TDM for non-commercial scientific research, through reasonable terms and conditions, while maintaining their ability to improve the environment in which it is conducted (e.g. by preventing the degradation of the performance of their platforms). Publishers also commit not to charge extra fees in exchange for their authorisation to mine when third parties either have already paid for access to their content or for their Open Access content.

Enabling TDM is often in rightholders’ interest as it represents a new potential source of revenues (at least when commercial requests are concerned). There already exist services that aim at facilitating online licensing and access (such as PLS Clear and CrossRef’s Prospect, as cited by STM Association). The Publishers Licensing Society has recently proposed a 3-step licensing process for TDM for researchers, using the PLS Clear service. In the first step, the researcher describes his mining project. He then selects the content he wishes to mine from various publishers, PLS Clear being a “one-to-many” clearance centre. Content can also be searched for specific items rather than an entire publisher’s collection. Finally, requests are sent to the relevant rightholders for the permissions to mine their content.

These recent developments are likely to reduce transaction costs and facilitate TDM. Transaction costs would be decreased in two ways. First, the standardisation of licences for non-commercial scientific research requests decreases negotiation costs faced by rightholders and non-commercial researchers. The public commitment by the STM Association includes guarantees that restrictive conditions will not be imposed to non-commercial researchers. Second, the development of innovative licensing services decreases the time required by researchers to identify the relevant rightholders, thereby reducing search costs. Ultimately, the risk of hold-up faced by researchers is also reduced, as discussed earlier.

109 See van der Stelt (2013).
110 Note that, in recent years, there have been new developments in the licensing practices for both non-commercial and commercial TDM licences for scientific research. The Copyright Clearance Center is an example of a service that is provided for the purpose of commercial (research) TDM.
4.4. Assessment of an exception for Text and Data Mining and proposed policy options

4.4.1. The rationale for a TDM exception

We assess the rationale for a TDM exception on the basis of the following aspects:

- The presence of non-negligible transaction costs relative to the value-in-use of the input content;
- The absence of markets or the presence of externalities;
- Whether rightholders enjoy significant market power;
- Whether the costs of transformative uses can be significantly reduced by an exception.

Regarding the last point, exceptions that are not costly to administer and significantly reduce the costs of transformative uses without significantly reducing the (potential) revenues and, more importantly, the incentives of rightholders for continued creation will more likely be justified from a social point of view. Thus, the case for an exception is strengthened if: (1) the probability that transformative uses (in our case, TDM) may result in substitute products for the original works is low, and (2) the need for rightholders’ participation (in the form of TDM-specific investments, for instance) to facilitate or allow transformative uses is low. Regarding the first point, we have qualified TDM for scientific research as a transformative use that does not lead to substitute works to the original works. The case for an exception is thus strengthened on this basis, though we discuss some caveats below. Regarding the second point, we have explained in section 4.3.2 that TDM-specific investments are required of rightholders to facilitate access for the purpose of TDM. However, under an exception, rightholders will generally not have strong incentives to invest in technologies facilitating TDM but with no other value to them, thereby weakening the case for the introduction of a TDM-specific exception.

We now evaluate whether the market for TDM licences features significant transaction costs, externalities and market power. As these factors can lead to inefficiencies, they are relevant in the assessment of an exception to copyright for the purpose of TDM.

Transaction costs

As discussed in section 4.3.3, it appears that licensing in the market for TDM is potentially associated with (relatively) high transaction costs. Because transaction costs can lead to missing markets and hold-up problems and can discourage potential users from engaging in transformative uses, they could result in lower levels of TDM than would be socially optimal.

However, some market-based solutions to the above-mentioned problem seem to be emerging, albeit slowly. In the future, the development of market-based initiatives should further improve and reduce transaction costs, which might nevertheless remain a problem in some relevant circumstances in the immediate future.
**Externalities**

Research is commonly believed to be a source of positive externalities. TDM, in particular when conducted for research purposes, can therefore release positive externalities.\(^{111}\) Note, however, that the positive externalities are already being (at least partly) internalised, as most governments subsidise academic research. This weakens the case for a TDM exception, at least as far as externalities are concerned. Furthermore, while an exception could promote TDM, it could also, in some circumstances, reduce incentives for the creation of new original works, which might also be a source of positive externalities.\(^{112}\)

**Market power**

We have established in section 4.3.1 that the supply structure of TDM licences for scientific research is characterised by a few major publishers that enjoy significant market power (since they own a substantial number of relevant journals) and a very long tail (the competitive fringe) of small publishers (who own only one or a few journals). These small publishers would not, presumably, have significant market power, as their content is not as valuable, from a TDM user's point of view, as the bundles offered by larger publishers.

Generally speaking, as explained in the CRA Methodology report, market power is not in itself a sufficient justification for an exception.\(^{113}\) Additional factors must be considered. We focus on the ability of rightholders to price discriminate, on the need for participation of rightholders in enabling TDM, on the possible weakening of incentives for the creation of new, original, works and on the possible substitution effects that transformative uses might imply on the market for original works.

First, rightholders seem to be price discriminating in the market for TDM licences for scientific research. In particular, they charge fees to commercial users for TDM but often grant free permissions to non-commercial users. When effective, price discrimination often weakens the case for an exception because it limits the extent of the exclusion of socially desirable exchanges. Indeed, first- and second-degree price discrimination often result in market expansion, thereby reducing the deadweight loss – and resulting welfare losses – associated with market power.\(^{114}\)

Second, TDM for the purpose of scientific research (commercial or non-commercial) will in general not lead to substitutes for the original input content, as the main objective of such projects is the discovery of new knowledge. This strengthens the case for an exception. On the other hand, if TDM is conducted for research purposes with the

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111 McDonald and Kelly (2012).

112 However, an individual work contributes little value to a typical TDM project and such projects do not result in close substitutes to the original works used as inputs. As a result, it will often be the case that the use of works in TDM projects would not significantly reduce the incentives of the original authors.

113 In fact, given the cost structure of copyrighted works, a degree of (ex-post) market power is required in order to recover the fixed costs associated with the production of the original work.

114 Price discrimination is often used to increase the total quantity sold and in these circumstances welfare tends to increase with price discrimination (see, e.g., McAfee (2008)). Under first-degree price discrimination, the seller is able to charge to each of the potential customers their exact willingness-to-pay. Because willingness-to-pay is generally not known to the seller and customers might not be willing to reveal their willingness-to-pay, first-degree price discrimination is generally not feasible. For an explanation of second-degree price discrimination, the reader should refer to footnote 64.
objective of creating products which are potentially a substitute to the input material, or otherwise cannibalize potential revenues of the publishers (e.g. some instances of derivative information products as defined earlier) then it may have countervailing effects on the markets for the original content (which is why most publishers tend to be very restrictive when dealing with such mining requests, as reported in Smit and van der Graaf (2011)). Indeed, the production of new works and the maintenance of content quality (e.g. editing and peer reviewing) is essential not only to TDM (which relies on such original works as inputs) but to the state of knowledge in general. Publishers sell access to their content mostly through library subscriptions and this provides them with incentives to invest into content creation and content quality, which, in turn, encourages subscribers to renew their subscriptions. Thus, an exception for TDM for the purpose of scientific research that may significantly affect these incentives should, in principle, be excluded so as to avoid the deleterious dynamic impacts it would have on welfare. Note, however, that if the exception kicks in only when content miners have acquired access to pre-existing works in the first place, it does not necessarily have to significantly disrupt publishers’ incentives for content creation, as they can still operate under their subscription-based business model to sell access licences to users. In fact, increased rates of TDM could result in more sales of access licences.

Third, when a transformative use requires rightholders’ participation in the form of specific investments, the case for an exception is weakened, as previously explained. In the context of TDM, there are, for instance, issues of format-shifting that require efforts and investments from publishers to make their content readable by machines, or more generally accessible for the purpose of TDM. Similarly, the creation of a single platform that would serve as a gateway to all publishers’ content specifically for the purpose of TDM could greatly facilitate TDM and is seen by many as a viable solution to enable research-driven mining.115 The need for rightholders’ participation weakens the case for an exception because the required TDM-specific investments must be incentivised and an exception might make it more difficult for the rightholders to recover the required investments.

4.4.2. The proposed policy options

In this section, we assess several policy options regarding text and data mining for scientific research purposes. Table 10Error! Reference source not found. summarises these options, for quick reference. We first describe the Status Quo to establish the benchmark. We then consider three other policy options which all involve the introduction of an exception for TDM for the purpose of scientific research. These three exceptions differ in their scope. Throughout, we assume that all the considered exceptions allow rightholders to implement certain reasonable technical conditions (which may limit methods of access and mining) that ensure secure access and a stable platform.

The assessment of the different policy options is based on the following aspects:

- Short-run effects on revenues of rightholders;
- Long-run incentives for the creation of new works;
- Short- and long-run effects on consumers (more generally, society at large);

• Possible impacts on innovation (in technological and/or licensing services).

We also assume throughout the assessment of the policy options that an increase in the rate of TDM for scientific purposes (commercial or non-commercial) leads to an improvement for society at large (e.g. in terms of better quality of life thanks to new discoveries, such as drugs).

Table 10: Summary of the policy options considered

<table>
<thead>
<tr>
<th>Option</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enables the reproduction and extraction of content, to which there is a lawful access, for the purpose of text and data mining</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>For the purpose of scientific research</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Covers research for non-commercial purposes</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Rightholders allowed to impose technical conditions in order to insure a secure access and a stable platform</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Overrides licensing agreements covering text and data mining</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Covers research for commercial purposes</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Source: CRA

Option 1: The Status Quo on TDM

In the Status Quo, there is no specific exception for text and data mining and the permission to mine must thus be sought from rightholders. We discussed the main benefits and costs of direct licensing (potentially involving bilateral negotiations) in section 4.3. While such licensing can provide appropriate incentives to rightholders to invest in new technologies that enable more efficient TDM (in particular when TDM-specific investments have to be made), it may also be associated with high transaction costs.

New developments in licensing approaches are emerging and these could reduce transaction costs and the risk of hold-up that researchers are exposed to. For instance, the public commitment by STM Association to facilitate the licensing of TDM for non-commercial scientific research purposes may lead to a reduction in transaction costs faced by research institutions that conduct non-commercial scientific research TDM.

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116 Recall however that TDM could be covered by existing exceptions; see section 4.2.
Option 2: Specific harmonised and mandatory exception for text and data mining for the purpose of non-commercial scientific research in the absence of a licence agreement enabling text and data mining

This policy option, summarized in Table 10, consists in an exception to copyright for TDM which is conducted: (1) for the purpose of scientific research and (2) for non-commercial objectives. The exception covers only TDM activities carried out on content to which there is a “lawful” access. The exception would kick in only when a rightholder does not offer licences for text and data mining.

Table 11 summarises our assessment of the effects resulting from the TDM exception (Option 2; Overridable exception) relative to Status Quo. In the assessment we assume that technological improvements and improvements in the licensing framework in the Status Quo (as discussed earlier) materialise in the long-run.

Most major publishers have established licences for TDM (in particular for scientific purposes) and are still developing new licensing practices, as previously discussed. These publishers are therefore not affected under the considered (overridable) TDM exception.

Smit and van der Graaf (2011) report that the content owned by small publishers is rarely used in mining projects, implying that permissions to mine the content of such publishers are rarely sought by researchers. In their survey, small publishers (who own less than 50 journals) have never received any mining requests. As a result, it is likely that the smaller publishers do not yet have a mechanism for granting TDM licences, although they may be willing and able to do so following requests by miners. These publishers would, therefore, be potentially affected under the TDM (overridable) exception. The effect seems to be limited, as it seems reasonable to assume that even the smaller publishers can easily add mining clauses to their subscription agreements. This policy option removes the need to receive the permissions from publishers who do not already grant licences when TDM is conducted for non-commercial scientific research (provided access to the content has already been acquired by researchers). It also prevents possible hold-up situations in which TDM users might have searched for the relevant rightholders only to eventually be turned down by those who do not wish to allow TDM. Small positive short-term effects for consumers are thus likely to result from this exception as it will probably increase the level of non-commercial TDM for scientific research. We therefore expect a moderate increase in the extent of mining as a result of the exception (relative to the Status Quo), as the exception adds the possibility of unlicensed content mining to which the user has had lawful access, notably in the context of a subscription (in instances in which TDM licences are not made readily available).

Because of the limited use (and value) of these small publishers’ content in typical TDM projects (and due to the transformative nature of TDM projects), the potential short-term harm to rightholders in terms of lost revenue due to the exception is limited. In the long

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117 That is, the miners must either already possess or acquire an access licence on the content they wish to mine, for example, in the context of a subscription.

118 Note that if improvements do not take place, transaction costs will remain high and TDM will be constrained below socially optimal levels.

119 The proper technical conditions allowing TDM on the content of publishers who do not provide TDM licences might not be met in the short-term, thereby limiting the possibility to mine their content.
run, small publishers may also choose to establish licensing schemes covering TDM in order to avoid negative effects induced by the proposed exception. When such licensing schemes are established, transaction costs will decrease.

Overall, while the positive effects resulting from the proposed TDM (overridable) exceptions are limited, rightholders’ incentives are likely to be preserved. We therefore believe that this exception could offer some improvements upon the Status Quo.

**Table 11: TDM exception - Summary of the assessment of Option 2 (Overridable exception for non-commercial TDM)**

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Small positive effects resulting from small increases in the rate of TDM for scientific purposes</td>
<td>Limited increase in the rate of TDM and scientific discoveries (as compared to Status Quo)</td>
</tr>
<tr>
<td>Researchers</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Slightly broader set of available content to mine (e.g. content which is not available under a licence is now available under the exception)</td>
<td>Marginally reduced transaction costs and broader available set of content to conduct TDM.</td>
</tr>
<tr>
<td>Rightholders</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Very limited short-term effects, given low usage of non-licensed content in typical TDM project</td>
<td>In the long-run rightholders would engage in licensing in both the Status Quo and in Option 2</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

**Option 3: Specific harmonised and mandatory exception for text and data mining for the purpose of non-commercial scientific research**

The TDM exception (Option 3) consists in an exception to copyright for TDM which is conducted: (1) for the purpose of scientific research and (2) for non-commercial objectives. The exception is mandatory in the sense that it cannot be overridden by contract. Again, the exception covers only TDM activities carried out on content to which there is a lawful access. Moreover, the exception allows rightholders to implement certain technical conditions that ensure secure access and a stable platform. As illustrated in Table 10, the only difference between the TDM (non-overridable) exception (Option 3) and the TDM (overridable) exception (Option 2) is that, under the TDM (non-overridable) exception (Option 3), the exception kicks in whether or not licence agreements covering TDM for non-commercial scientific research are readily available.

The proposed exception could benefit non-commercial researchers by reducing transaction costs and limiting the risk of hold-up. However, as previously noted, there is often a need for rightholders’ participation in enabling and facilitating TDM for scientific research, as TDM-specific investments are required. We highlighted in section 4.4.1 the possibility that an exception could discourage rightholders to make those TDM-specific
investments, and we believe this to be particularly a problem of an exception that may override licensing agreements.

Thus, in the short-run:

- Researchers benefit from not having to seek permissions to mine for their non-commercial scientific research TDM projects, but the positive effect is limited by the fact that rightholders’ participation is needed in the provision of technological investments to facilitate TDM for such purposes (e.g. the development of a dedicated platform).

- Society marginally benefits from a small increase in the rate of TDM.

- Rightholders are not likely to be significantly financially harmed by the exception given that their current business model is not based on providing TDM for non-commercial scientific research as a (main) source of revenue (and given that such activities do not result in substitutes to the original works), and at least in the foreseeable future this is likely to remain so. Since access is a pre-requisite to be able to mine under the proposed exception, rightholders do not suffer from fewer subscriptions under the TDM (non-overridable) exception (Option 3) relative to the Status Quo. In fact, rightholders could benefit from an increased demand for access licence. Thus, incentives for content creation and the maintenance of content quality are likely to be largely preserved. The exception could, nonetheless, be harmful to rightholders by inducing crawling and bulk-downloading, leading to technical issues on rightholders’ content platforms. Furthermore, the inability to control non-commercial TDM under the proposed exception may lead to the apparition of derivative information products, which could compete with rightholders’ own products. As discussed above, we consider that the exceptions discussed in this report would not apply in any case to TDM which results in substitute products. However, there is some risk in practice that the users might misinterpret the exception as overly broad. This may further discourage rightholders from facilitating access to content for the purpose of non-commercial TDM (e.g. they could decide to block unwanted bulk-downloading or crawling, just as they do in the Status Quo, as they can impose technical conditions for stability purposes under the proposed exception). In the long-run, the following effects are likely:

- In section 4.3.2, it was argued that licences are necessary to induce rightholders’ participation in specific investments required to enable or facilitate TDM (from a technical point of view). Under the proposed exception, incentives for these specific investments are potentially reduced, as explained above. However, the incentives of the rightholders to improve access for commercial TDM for scientific purposes will be preserved as these uses are not covered by the exception. Since lawful access is required, it is unlikely that rightholders’ incentives for the creation of new content (both in terms of quantity and quality) will be significantly

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120 Note that this does not mean that, in general, licences are sufficient for these specific investments to take place. We recall that, under the assessment of the Status Quo, we distinguished between the likely effects resulting from a situation in which technical and licensing improvements take place and another situation in which they do not. However, as suggested by recent developments, there seems to be some evidence that such technological and licensing improvements could take place under the Status Quo in the future.
affected. Ultimately, access is likely to be less efficient for non-commercial TDM users under the proposed exception than under the Status Quo, because the proper TDM-specific investments for non-commercial uses will not be undertaken.

- Rightholders will continue to benefit from licensing for commercial TDM for scientific research purposes. The inability for the rightholders, prior to allowing TDM, to obtain information about non-commercial mining projects which have a scientific purpose (as such projects do not require a licence in under this option), puts rightholders at risk that some derivative information products be produced on the basis of their content. Although, as explained this risk is in our view not very high, given the characteristics of scientific data mining (no production of a new work, just knowledge or insight).

Overall, we believe that, while the proposed TDM (non-overridable) exception (Option 3) may somewhat increase the rate of TDM in the short-run, it could harm the publishers’ incentives to expand their content offerings in case the users might misinterpret the exception too broadly and lead to the apparition of substitute products to those that the publishers might offer (when in fact in this case the exception would not apply). The exception could also have adverse effects on the publishers if it led to bulk downloading and crawling of their platforms. When investments are required on the side of the publishers to facilitate data mining, they would not be best incentivized to do so with the non-overridable exception. We therefore do not warrant such an exception.
Table 12: TDM exception - Summary of the assessment of Option 3 (Non-overridable exception for non-commercial TDM)

<table>
<thead>
<tr>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td>?+</td>
<td>?-</td>
</tr>
<tr>
<td>Consumers</td>
<td>Increase in the rate of (non-commercial) TDM for research purposes, though limited by possible technical issues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>?+</th>
<th>?-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers</td>
<td>No transaction costs for non-commercial TDM users, but possibly inefficient access for TDM due to technical issues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>?-</th>
<th>?-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rightholders</td>
<td>Possible technical issues due to increased and unexpected levels of TDM (e.g. over-crowded servers); possible increases in access licences purchased; possible apparition of derivative works due to misinterpretation of the exception</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

Option 4: Specific harmonised and mandatory exception for text and data mining for the purpose of scientific research (both commercial and non-commercial)

The TDM exception (Option 4) is an exception to copyright for TDM for the purpose of scientific research, including both commercial and non-commercial research. Again, the exception covers only TDM activities carried out on content to which there is a lawful access. The proposed exception overrides licences, like Option 3 but unlike Option 2. Finally, we assume that the exception would allow rightholders to implement certain conditions for mining access that ensure secure access and a stable platform.

This exception has two major opposing effects. On the one hand, it leads to lower transaction costs and lower (zero) licensing fees (not considering the subscription fees, which would be a condition for mining under this exception) than under the Status Quo for both non-commercial and commercial TDM for the purpose of scientific research, leading to increased levels of TDM activity. On the other hand, it limits the ability of rightholders to price discriminate and to charge licence fees that would compensate for their TDM-specific technological investments. Note that rightholders’ revenues from licensing access to their content are preserved as lawful access to this content is required of miners prior...
to the mining. Incentives for content creation (and content quality maintenance) are therefore largely preserved, though not likely entirely, under the proposed exception.

Thus, in the short-term, this exception is likely to increase the rates of TDM for scientific purposes (commercial and non-commercial) as compared to the Status Quo. Researchers benefit from lower transaction costs and zero fees, which is a significant difference from the Status Quo for commercial researchers. On the one hand, rightholders are harmed by the lost revenues from commercial TDM licences but, on the other hand, they potentially benefit from increased demand for access licences (though it is unclear whether this effect is likely to outweigh the loss of revenue from decreased TDM licensing). The resulting effect on rightholders in the short-term is nevertheless likely to be negative as it would not appear that many licenses for access would be sought just so that data mining projects could be undertaken – it would appear reasonable to assume that most of the institutions who would like to engage in data mining would have subscriptions for access even absent TDM. Moreover, the increase in TDM activity could cause serious technical issues for rightholders. Overall, we believe that the exception would have a negative impact on rightholders.

Because rightholders cannot charge for commercial uses, they have weak incentives to develop the appropriate technical requirements to enable or facilitate TDM for scientific research in the long-run. Similarly, incentives to invest in innovative licensing services are reduced. This might lead to lower TDM activity in the long run relative to the Status Quo, including for commercial scientific research. Thus, rightholders would have lower long-run revenues and TDM for scientific purposes would reach lower levels than under the Status Quo. For these reasons, our assessment is against introducing the proposed TDM exception (Option 4).

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121 It would be interesting to have an estimate of the fees asked to commercial TDM users to mine the content of given publishers. We did not find such estimates publicly available.
Table 13: TDM exception - Summary of the assessment of Option 4 (non-overridable exception for non-commercial and commercial TDM)

<table>
<thead>
<tr>
<th></th>
<th>Short run</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>+ Increase in the rate of TDM for scientific</td>
<td>- Lower rates of TDM for scientific purposes</td>
</tr>
<tr>
<td></td>
<td>research purposes (non-commercial and</td>
<td>(commercial and non-commercial) than under</td>
</tr>
<tr>
<td></td>
<td>commercial) and scientific discoveries</td>
<td>Status Quo</td>
</tr>
<tr>
<td></td>
<td>+ +</td>
<td>-</td>
</tr>
<tr>
<td>Researchers</td>
<td>No transaction costs for TDM for scientific</td>
<td>- Lower transaction costs but lower TDM</td>
</tr>
<tr>
<td></td>
<td>research; no fees for commercial TDM users</td>
<td>than Status Quo due to copyright owner's</td>
</tr>
<tr>
<td></td>
<td>+ -</td>
<td>incentives</td>
</tr>
<tr>
<td>Rightholders</td>
<td>- Likely reduction of revenues</td>
<td>- Lower incentive to develop new/efficient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>platforms, leading to lower TDM than Status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quo; reduced revenues from lower commercial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TDM activity than in Status Quo</td>
</tr>
</tbody>
</table>

Source: CRA.
Notes: See section 1.3 for an explanation of the signs.

Conclusion on the assessment of policy options for TDM for scientific research

It would appear that an exception that overrides TDM licences is not warranted, because it would discourage rightholders from making the TDM-specific investments needed to facilitate TDM on their content in the long-run. While such an exception could result in more TDM for scientific research and would benefit researchers who would face lower transaction costs in the short-term, we are concerned with the aforementioned dynamic negative effects resulting from such an exception. Thus we believe that the best policy option is the TDM (overridable) exception (Option 2), which is likely to both increase the rates of TDM and maintain rightholders’ incentives.
5. REPRODUCTIONS MADE BY NATURAL PERSONS FOR PRIVATE USES

5.1. The characteristics of private copying

In the meaning of EU copyright law, private copying refers to the reproduction of creative content for use in the private sphere. One of the important features of private copying is that it is limited to the reproduction of content. Therefore, commercial use of reproductions, as well as communication to the public, distribution to the public, public performance or adaptation is by definition out of the scope of private copying. The other important aspect of the definition of private copying is the meaning of the private sphere. Although the development of digital content has increased the uncertainty in the market as we explain below, some activities are generally considered to be within the private sphere such as copies for family members and all personal copies of content. There are, however, differences between member states regarding the number of copies that are allowed or how the private sphere is defined. In addition, content illegally obtained does not fall within the scope of private copying in most member states. It is understood that the private copying exceptions (as any other exception) only kicks in if the source or access to the source is legal.

The development of digital content contributed to making the definition of private copying more difficult since new means of consumption have emerged in the last few years and the frontier between private use and public communication has become blurred. Furthermore, it can be argued that the increasing role of digital content has made copying cheaper and that new devices launched in the market have increased the amount and the value of copying. A Canadian study shows for instance that in 2006-2007, an MP3 player typically contained 497 tracks, of which 96% were copies. About 345 million copies out of the 808 million copies made in Canada in 2006-2007 came from the internet and 20% were legal copies. In 2013, a survey conducted in Finland showed that private copying was done by one person out of three and that between 587 and 725 million copies were produced each year. Music was mainly copied on mobile phones (40% of last copies of respondents) while movies were mostly copied on recordable set-top boxes (59% of last copies of respondents).

Private copying can take different forms depending on what is copied. A copy can be a hard one, for instance when a book’s page is copied, or a soft one in the case of digital content. More generally, the nature of copying is important since consumers are likely to

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122 These activities are referred to as dynamic use of creative content by Karapapa (2011) (Karapapa, S., “Padawan v SGAE: a right to private copy?” (2011) European Intellectual Property Review 33 (4) p.244-259) as distinct from private use (such as reading a book or listening to music). Dynamic use is concerned by an exception on private copying whereas private use is outside the scope of copyright law since this is an implicit feature of consumption of copyrighted content.

123 The only exception is the Netherlands where the jurisprudence extended the scope of private copying to copies made on the basis of illegal sources.

124 CPCC (2008)

125 Hyvitysmaksu (2013)
attach a different value according to the type of copy. This means that a copy may or may not be substituted by original work as we discuss further below.

5.1.1. The justifications for fair compensation

Guidance on the concept of fair compensation in relation to private copying emerged in the Padawan decision in 2010. The CJEU then held that fair compensation should be calculated on the basis of the harm caused to rightholders by the exception. It is however important to note that private copying does not necessarily imply harm for rightholders. If harm is understood as a lost revenue opportunity for rightholders due to a market failure, two conditions must be met for this to be the case:

- The value attached by consumers to copying is not reflected in the price of original content.
- Original content and copies are substitutes and the valuation of content is higher than the production cost of an authorized copy of the original work. If this condition is satisfied, consumers are willing to purchase original content instead of copies at a price covering the cost of production of the seller.

We discuss these two conditions, which also apply to copying more generally, since they should be assessed in order to evaluate the need for compensation.

The “first sale” argument and the value of copying in the market price

With the increasing number of copies’ types due to the importance of digital content, a distinction should be made between them to understand when the price of the original work reflects the total value attached to the good by consumers (including the value derived from the ability to copy) and when it does not. We discuss in this section the conditions that have been highlighted in the economic literature for prices to reflect the value attached by consumers to copying.

Some exceptions to compensation have existed for a long time regarding copyrighted work, starting from a pre-digital content period. The first-sale doctrine (referred to as exhaustion of the distribution right under European copyright law) for instance makes a distinction between reproduction and distribution rights in order to allow copyrighted work to be resold lawfully as long as the content was not reproduced. Since the sale of such material could generally be expected from the initial buyer, the consequence of this doctrine was to facilitate the transfer of goods without requiring a negotiation with the rights owner to take place each time a transaction was made. The limitation of the copyright holder’s distribution right had a significant impact on the market since the act of reselling was as widespread as some of the copying described above (format shifting, back-up...) is now.

The question here is however not about the legality of the different types of copying but rather about the potential internalisation of consumers’ habits into the pricing of creative content by rightholders. If this is the case, there is no market failure and hence no need for compensation. Liebowitz (1985) showed that copying (in his paper, he chose the example of photocopying of academic journals) may even be beneficial to rightholders in some cases. This is because rightholders can indirectly appropriate the revenues generated by copying in the price of the original work as long as the initial buyer’s

126 Court of Justice of the European Union Judgement (CJEU), case C-467/08, Padawan vs. SGAE.
willingness to pay reflects the additional value of copying. Varian (2005) proposes a rule based on the idea of copying being part of the price:

“If the willingness to pay exceeds the reduction in sales, the seller will increase profit by allowing that right.”

The relevant issue is therefore whether the negative impact of copying on direct sales can be compensated by a higher price for the original work. The conditions that are necessary for this to be the case have been discussed in the economic literature. In particular, Poort and Quintais (2013) highlight the importance of the ability of rightholders to price discriminate according to the copying activity of consumers for indirect appropriability to exist. Rightholders must be able to identify consumers with a higher willingness to pay for copying (if willingness to pay varies between consumers) and prevent arbitrage in order to efficiently extract the additional value of copying.

The ability of rightholders to indirectly appropriate the value of private copying attached by consumers is also discussed by Besen and Kirby (1989b) who identify two conditions for this to be the case: i) the degree of substitutability between originals and copies and ii) the nature of marginal cost. If marginal cost is constant, rightholders will not be able to appropriate the value of private copying and the price may be driven down if the cost of copying is low. Therefore, the effect on total welfare is ambiguous as consumers’ surplus increases at the expense of right holders’ profit. On the other hand, if marginal cost is increasing, the outcome is similar to private goods clubs since consumers share the cost of originals. The price of originals rises to reflect the additional value of copying and rightholders indirectly appropriate it. The effect on total welfare depends on the cost of copies and originals. If copies are cheaper to produce than originals, total welfare increases as producers can appropriate the value of copying, whereas the effect is ambiguous if both are inexpensive since producers lose and consumers gain.

This means that levies are not justified if the marginal cost of copying is increasing since rightholders are already compensated for the harm by selling at a price reflecting the value of copying. Also, the conclusion of the paper by Besen and Kirby (1989b) shows that the cost of copying, which can arguably be thought to be decreasing with the development of digital content, is relevant to the need for levies.

The substitutability between copies and original content

The development of digital content and the increasing number of devices owned by each consumer has facilitated private copying, as illustrated by the example of digital music given in section 5.1. However, the question of fair compensation only arises when copying is made at the expense of the sale of original content, assuming that rightholders cannot indirectly appropriate its value in the price of original work. Substitution requires that the characteristics of copies are sufficiently similar to original work such that consumers consider making a choice between the two. Furthermore, from the consumer’s point of view, substitution would not take place if the valuation of original work net of its price is lower than the valuation of the copy net of its cost. From an ex post perspective in which the opportunity cost of creation is sunk, it is not profitable for rightholders to sell

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128 Marginal does not only refer here to the marginal production cost, but also to the marginal cost of distributing copies.
original content when the valuation of consumers is lower than the production cost. Rightholders are then not harmed by copying and there is no justification for compensating them. Although discussed in the context of illegal copies, Besen and Kirby (1989a) and Watt (2004) showed that many consumers would not be willing to pay for originals if copies were not available.

Takeyama (1997) proposes a framework for the evaluation of the effect of copying (although related to commercial copying) on rightholders. The model includes two types of consumers who differ with respect to their willingness to pay for content and their propensity to copy. Consumers can purchase content in the first or the second period of the model. In the benchmark situation without copying, the rightholder only has to propose a price satisfying the incentive compatibility constraint of the high type to buy in the first period rather than wait for a price decrease in the second period. However, if copying is possible, the rightholder must also propose a price making the low type indifferent between buying content and copying. Therefore, if it was profitable in the second period for the rightholder to sell content that would otherwise be copied, copying would make him worse off. However, when it is not profitable, the possibility of copying is a commitment not to offer content in the second period and the rightholder proposes a higher price in the first period. In the case of private copying, copies are however limited to the private sphere unlike the example used by Takeyama (1997). Rightholders however still face a dynamic trade-off between lowering the price of original content in the first period such that consumers purchase the original work instead of obtaining a copy from a family member or a friend in the following periods. The model shows that they are not worse off because of private copying if the cost of a copy is lower than the cost of original work and the valuation of the content is lower than the cost of original work. They then do not face a commitment issue. It can be argued that no compensation is required in this case since rightholders do not suffer from copying because it is not profitable to sell original content instead of copies.

5.1.2. The development of new modes of creative content consumption and the effect on the rationale for an exception

A significant proportion of private copying now concerns digital content, extending the debate on the role of levies to the digital environment. A survey commissioned by the Finnish Private copying Levy Advisory Committee in 2012 shows that only 37% of music copying had been made from CDs as opposed to a non-physical digital format. In addition, only a very small proportion of video copies relied on a DVD or a CD. Therefore, because this area has been highly innovative, new types of copies have appeared in the market in the last few years:

- Time shifting copies for personal use or for family members and friends. A survey conducted in the UK in 2010 shows that 40% of respondents had recorded TV programs, while this proportion is equal to 70% for respondents equipped with the relevant technology.

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129 The ‘high type” has a higher valuation for the good than the ‘low type’ and no propensity to copy.

130 “Legal private copying in Finland: 548-678 million files per year”, The Private Copying Levy Advisory Committee, 2012

131 “Time to change the tune”, Consumer Focus, February 2010
• Format shifting for personal use or for family members and friends. Within owners of smart phones and MP3 players included in the survey, 38% had format-shifted in the past 12 months.132

• Backup copies of works.

The private copying exception as implemented by member states typically covers the activities listed above. In addition to copying that has developed with the increasing role of digital content, some content (music, movies...) is now often accessed through streaming, for instance in the cloud, rather than owned. This is illustrated by the Consumer Focus survey according to which 34% of respondents had streamed videos (56% within the 15-24 year old category) and 22% had streamed music (40% within the 15-24 year old category)133. Another international survey conducted in 2012 shows that 48% of internet users in Sweden and 36% in France had used legal music subscription services in the past 6 months134. Among the main content providers, Spotify had 7 million users of its free streaming service in 2012 (4 million paying subscribers) while Deezer had 20 million users (1.3 million subscribers). This is an important trend for the evaluation of the need for compensation since these services have licensing agreements with rightholders. Therefore, because consumers do not make private copies and remuneration already takes place with the licensing agreement, other compensation mechanisms are unnecessary. If content becomes more and more streamed in the future, the need to use the private copying exception will be reduced.

5.2. The current implementation of the exception in Europe

Member States have adopted different approaches regarding the implementation of a private copying exception. The United Kingdom and Ireland have for instance decided not to create an exception for private copying, with the exception of time-shifting. Therefore, private copying is unlawful in these member states, although rightholders do not pursue consumers in practice. Other member states, such as Malta, Cyprus and Luxemburg treat private copying as de minimis harm. Private copying is then allowed but it is assumed to cause too little harm to rightholders to justify compensation. Finally, Spain is compensating rights holders from the State's general budget. For 2012, Spain allocated 8.6 million euros135 per year since 2012 for private copying.

Because most member states have adopted a system of levies to compensate for the harm caused to rightholders, we discuss its effects on total welfare in the short run and in the long run below.

132 Ibid.
133 Ibid.
134 Ipsos Media CT (2013)
135 Budgeted amount for 2012
5.2.1. The levies system

In order to compensate rightholders for the harm caused by private copying and because of the difficulty to grant a licence for this purpose, most member states\(^{136}\) decided to implement a government-based scheme in which a levy is charged on purchases of blank media (CDs, DVDs, Blu-ray discs) and equipment (MP3 players, printers, PCs). These levies are in practice charged to manufacturers, who to some extent pass on the levy to consumers through retailers.

Member states have adopted different policies with respect to the implementation of the levies, which can be separated into two categories:

- A percentage of the manufacturing or import price, implying that the harm is assumed to be increasing with the price of the media or device.
- A fee increasing with the memory capacity of the product. In this case, because it is possible to store more content as the memory is increased, it is assumed that private copying can be done on a larger scale.

In practice this means that the size of the levy varies according to the product, assuming that the potential harm depends on the type of private copying allowed by the equipment, and within a given product according to its storage capacity, since a larger capacity allows for more copying.

The revenues collected from the sales of blank media and equipment are then redistributed to rightholders by collecting societies, although they are shared differently depending on the country considered. Furthermore, the proportion of the revenues obtained by authors, performers and producers sometimes varies with the distribution channel (audio or video).

There sometimes exist several collecting societies per country managed by a central office. When a levy is collected by a society on behalf of a foreign rightholder, the levies are distributed through international collecting societies to the respective national one.

Aside from compensating rightholders for the exception, levies serve in some Member States a broader goal of funding culture. Levies therefore sometimes act as a subsidy for cultural activities. Figure 4 shows the total revenues collected in Europe from levies between 2002 and 2009. Revenues increased until 2004 before decreasing, especially in 2009.

\(^{136}\) More precisely, 21 out of the 28 EU Member States have chosen to compensate rightholders through levies. As discussed, the United Kingdom, Ireland, Malta, Cyprus, Luxembourg, Estonia and Spain do not implement levies.
The implementation of levies varies between Member States

Member States have very different policies with respect to levies, as can be seen from Table 14 below. The amount collected per product varies, as well as the list of devices for which a levy is applied. The absence of harmonisation on the implementation has added to the legal debate on the functioning of this compensation mechanism in some cases. Indeed, and although the cost for society is in practice difficult to estimate, the legal uncertainty with respect to cross-border transactions has been made worse by the differences in the implementation of levies between Member States.

This issue was recently highlighted in the Austro Mechana vs. Amazon\textsuperscript{137} case which raised the point of the payment of levies in transactions involving more than one Member State. The CJEU answered a question from the Austrian Supreme Court to explain that the payment of a levy in a Member State did not preclude a CMO in another Member State from collecting a levy as well. However, this can give rise to double compensation to rightholders and the CJUE did not rule on the obligation of Member States to reimburse companies for paying twice a levy. Until this recent decision of the CJUE, the lack of coordination between Member States meant that manufacturers (or importers) had an incentive to choose a country where the implementation of levies was favourable to them in order to pay less for fair compensation. The situation is now reversed since they may be paying twice as long as no efficient reimbursement mechanism has been defined and to the extent that more than one Member State requests the payment of a levy.

\textsuperscript{137} Amazon.com International Sales Inc. and Others v Austro-Mechana Gesellschaft zur Wahrnehmung mechanisch-musikalischer Urheberrechte Gesellschaft mbH.C-521/11, July 2013
### Table 14: Implementation of levies in Member States as of 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>CD-R, DVD-R</th>
<th>MP3 player</th>
<th>Hard disc DVD-recorder</th>
<th>Memory card</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>0.23 (700MB)-0.36 (4.7GB)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.12-0.4 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>1.25% of price</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Croatia</td>
<td>0.01 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>0.009-0.024 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.3-0.48 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Finland</td>
<td>0.2-0.6 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>France</td>
<td>0.35-1 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Germany</td>
<td>0.062-0.0139 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Greece</td>
<td>6% of price</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hungary</td>
<td>0.14 (&lt;700MB)-0.24 (&gt;4.7GB)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Italy</td>
<td>0.15 (per 700MB)-0.41(per 4.7GB)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Latvia</td>
<td>0.14-0.28 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Lithuania</td>
<td>6% of import price</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>0.14 (per unit)-0.6 (per GB)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Poland</td>
<td>1.72-2.53% of price</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.05-0.14 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Romania</td>
<td>3% of price</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Slovakia</td>
<td>6% of price</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Slovenia</td>
<td>0.03 per GB</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.07-0.29 per unit</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>


Note: no recent data for Estonia

**Levies and cloud computing**

With the increasing use of the internet, new ways to consume creative content have emerged as discussed in section 5.2.1. Among them, cloud computing based services have become very popular by allowing users of the cloud to store and share content. The cloud refers to internet-based computing where servers, storage and applications are made available to devices through the internet.
There are three types of clouds:

- **Private clouds:** they are designed for being used by a single organization (for instance, a business) and can be managed and hosted internally or externally.

- **Public clouds:** the main distinction with private clouds is that services are available over a public network. There are several providers of public cloud services, such as Amazon AWS, Google and Microsoft.

- **Community clouds:** the infrastructure is shared between organizations and this can therefore be seen as having features of both a private and a public cloud.

Because cloud computing based services can take several forms, the implications of its development on the private copying exception are complex. Cloud computing is likely to impact private copying most in the case of content stored in lockers. The objective is then for a given user to be able to access music or videos copied to the locker, either manually or automatically, for private use only. This activity is similar to other private copying activities of digital content that are subject to levies. Hence, there is no economic rationale such that the discussion in this section does not apply to this type of copying.

On the other hand, cloud computing can make content available to more than a single user (or even to the private sphere as described above) and the question is then to what extent the private copying exception should apply or not. In particular, a licence may be more appropriate when content is made available to a larger set of consumers than the definition of private copying would include.

### 5.2.2. The benefits of a levies system

Levies is a mechanisms that compensate rightholders for the potential harm caused by private copying. Licensing, on the other hand, is an economically efficient way to grant permission for a given activity that is protected by intellectual property rights because it does not distort consumers’ choices as discussed in more details in section 5.2.3. As a result, licensing should be the preferred way of assigning a copyright from one party to the other. However, we explain in section 5.3.1 that transaction costs may be too high to justify a licensing mechanism in the case of private copying.\(^{138}\)

Therefore, levies can be seen as an imperfect substitute to licensing. As opposed to a licence which can be tailored according to the needs of the parties, levies are applied indiscriminately and equally to all consumers. By doing so, it abstracts from transaction costs in an attempt to address the market failure that would otherwise exist. As explained by Liebowitz (2003), savings made on transaction costs should be considered as a benefit of taxes and weighted against the deadweight loss discussed below. Therefore, its dynamic objective is to preserve the incentives to innovate and produce creative content in the future by compensating current rightholders for an exception.

It has sometimes been argued, for instance by the UK Music Business Group, that since consumers attach a higher value to a given good for the possibility to copy and are allowed to do so up to some extent, right owners should be compensated.\(^{139}\) This is

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\(^{138}\) Transaction costs should be understood here as applying both to on-line and non-on-line environments. We discuss in section 5.3.1 the relevance of a distinction between the two.

\(^{139}\) Music Business Group: “Response to UK IPO consultation on copyright exceptions”, 2008
however only true if, as was mentioned in section 5.1.1, the price of original content does not reflect this additional value and copies are substitutes for original work. This argument does not hold if the higher willingness to pay of consumers due to the exception automatically translates into a higher demand for a given content and hence a higher market equilibrium price\textsuperscript{140} \textsuperscript{141}. A levy would not then be necessary since content producers would be directly compensated by market forces.

Although it is likely that in some instances, the market would adjust in order to take into account the increased willingness to pay of consumers (the possibility to make a copy may translate into a higher price for the good), this is not always true and the question is therefore whether a levy is welfare improving. The early literature on the economics of copying (Novos and Waldman (1984) and Johnson (1985)) assumed indeed that rightholders could not appropriate the benefits of copying for consumers. On the other hand, we reviewed in section 5.1.1 the economic literature on indirect appropriability according to which no compensation beyond the market price is justified. There are therefore contradictory views in the literature regarding the effect of copying on rightholders.

Another benefit of levies is that it provides a fairly stable stream of income for rightholders in addition to the revenues from sales of content. Nevertheless, we show below that the consequences of levies on rightholders’ revenues are ambiguous in the long run.

5.2.3. The issues raised by levies

There are three types of issues with respect to levies which can be identified as follows:

- Levies impact consumers’ decisions if they contribute to an increase in retail prices of devices and blank media.
- They may not achieve, in their current form, the initial objective of compensating rightholders for the harm caused by private copying.
- The implementation of levies in some instances leads to “double dipping” as explained below.

The distortionary effect of levies

Levies function similarly to taxes, with the difference that they are collected by a private entity instead of a public one. Therefore, the economic analysis of levies can draw from the extensive body of literature on taxes. We, however, remind that because levies are paid by devices and blank media manufacturers, they only impact consumers to the extent that they are passed-on to consumers in the form of higher retail prices of devices and blank media. Several factors determine the ability of producers to pass-on the levy, such as the degree of downstream competition and the elasticity of demand. An empirical study by Kretscher (2011) on this topic shows that, on some of the products investigated (for instance printers), the retail price between countries is similar whether or


\textsuperscript{141} This may only be true in the short run since higher demand and higher prices trigger entry in the long run, hence driving down prices.
not a levy is applied whereas for premium products (for instance iPods), the levy is passed on to consumers.

Levies also have a similar effect to commodity taxes in the sense that they create distortions in the economy. Distortions arise if consumers change their decisions because of the variation in the relative prices of goods. In the case of levies, they may reduce the purchases of devices and blank media at the retail level if they are passed-on to consumers and they are also likely to have an effect on manufacturers by making the production of these goods less profitable. However, these effects arise without being an objective of levies and are therefore negative consequences of their implementation. The importance of these distortions depends on some parameters, such as the elasticity of demand, but consumption taxes are generally considered sub optimal compared to other forms of taxation. Atkinson and Stiglitz (1976) have shown in particular that income taxation should be preferred to consumption taxes under some assumptions as means to raise a given amount of revenue\(^1\) Alternative forms of taxation to levies are discussed below.

Furthermore, levies are paid on devices that are not necessarily used for the purpose of private copying, and distortions are therefore extended to other markets as discussed by Liebowitz (2003). For instance, memory cards may not be used for private copying and manufacturers still pay a levy on each sale in some Member States as explained in section 5.2.1.

**Levies may not reach their objective**

Aside from the distortions created by their implementation, levies may not be meeting their objective to compensate for the harm created by the exception. A well designed mechanism would be one collecting revenues directly from agents or from the sales of goods by linking the actual private copying to the amount collected. A licensing mechanism would be optimal for this purpose since the fee could be calculated according to each consumer’s willingness to pay, thus maximizing total welfare. However, as we explain in section 5.3.1, transaction costs prevent licensing as a credible mechanism especially for content not accessed on-line. In the absence of licensing, an optimal alternative mechanism of compensation should aim at representing as much as possible the copying habits of consumers.

There are certain characteristics of levies which are important to address in this context:

1. The calculation of the levy based on the price of the device may not be the best way to measure the harm. In this case, compensation decreases as devices become cheaper, although this does not relate to the possibility of private copying. For instance, the price of MP3 players has decreased since their introduction in the market, and the copying capacity of devices is at least as high as before. However, the lower levy collected from the sale of the product would suggest that the harm is lower.

\(^1\) The most important assumption for this result to hold is that the utility function is separable between labour and all commodities.
Regarding levies calculated on the basis of the device’s storage capacity, it also appears that this is only very imperfectly related to the copying capacity. This is because for a given memory, the amount of copying varies significantly according to the type of content (audio, video…). Since the amount of copying therefore depends on the content, a higher levy would not necessarily be explained by more copying taking place.

Levies are applied uniformly to consumers although they may attach a different value to copying. Hence, consumers who have a high willingness to pay for copying are charged a similar price to consumers who have a low willingness to pay. Some consumers may not even produce any private copies and still be charged levies when purchasing devices or blank media. As a result, there exists implicit cross-subsidization between consumers when considering the price paid per copy. Levies therefore imperfectly extract the additional value presumably not captured in the price of the original content.

Levies can also result in “double dipping” in some instances. “Double dipping” can be defined here as a situation where a levy is inappropriately claimed. This happens when a levy is applied on top of a licence fee: a levy is then useless and inefficient since a more efficient mechanism is already in place. “Double dipping” is also an issue if rightholders have authorised reproduction of their work and a levy is still imposed. Rightholders are then compensated more than what is legally defined as “fair” or what they would otherwise be ready to accept for the reproduction of their work. This leads to inefficient outcomes from a total welfare perspective.

These issues should be treated differently according to the potential solutions available. The practical difficulty of price discriminating between consumers makes cross-subsidization an inherent characteristic of levies. Although the possibility of copying different types of content with a single device also makes the calculation of levies a complex task, relying on the capacity of the device is likely to be more efficient in the long term than using devices prices. In the latter case, lower devices prices brought by technological improvements would negatively impact the revenues of rightholders and hence their incentive to create, even though the amount of private copying may be unchanged.

Given that levies lead to market distortions, they should be calculated to compensate for harm related to non-licensed content or content for which rightholders actually wish to be remunerated for granting access to it. Because devices are often be used for content that rightholders would or would not seek compensation for, it makes sense economically to minimize the size of the levy taking into consideration the share of content for which a

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143 “Double dipping” is however not an issue if, for instance, a levy is not applied to a given device and licensing agreement are implemented to deliver content.

144 This effect should however be balanced with possibly higher sales of devices (and hence of content) due to their lower price.

145 Indeed, some rightholders want to diffuse content as broadly as possible without any form of compensation and levies have no justification in this case.
levy is unnecessary and to allow for reimbursement in cases where levies are not required\textsuperscript{146}.

To summarize, and before considering other policy options, levies share some of the features of consumption taxes in the sense that they may distort consumers’ choices. Furthermore, levies are only very imperfectly related to consumers’ private copying behaviours. There are however slight differences in relation to the implementation of the policy which can impact its cost for society. Levies can in principle be implemented in a flexible way to prevent “double dipping”, for instance by allowing reimbursement from collecting societies\textsuperscript{147}, and be calculated to reflect as much as possible the harm while preserving the incentives to create.

5.3. The assessment of the rationale for an exception and policy options

This section discusses the rationale for a private copying exception and reviews other potential implementations of the private copying exception. Before considering how the design of the exception could be changed, we first present an analysis of the Status Quo which relies on the discussion above. In the context of policy options, it is important to consider the changes recently observed with respect to the on-line consumption of creative work and described in section 5.1.2.

The assessment of policy options is conducted according to the characteristics of private copying and in order to minimize the cost for society. Private copying takes different forms. We argued that, if some conditions are satisfied, the harm to rightholders may be internalised in the market price and that, even when this is not the case, it is not always profitable for rightholders to sell original content as substitutes for the copies made. We therefore focus on situations where compensation is justified.

Furthermore, compensation schemes such as levies create distortions and are costly to implement for the economy. As we described in section 5.2.1, levies are redistributed by collecting societies to rightholders. Administrative costs of collecting societies, including the cost of collection and redistribution, should therefore be considered in the overall cost of the levy system. These administrative costs were for instance respectively equal in 2010 to 4.89% of collected amounts in Belgium, 8% in Greece and 11% in Finland\textsuperscript{148}.

The benefits brought by levies can only outweigh the cost for society if a minimum level of harm exists and when market-based mechanisms fail. In particular, licensing and more generally transactions based mechanisms are less costly for the economy than levies or more generally taxation as discussed in section 5.2.3. In that regard it should also be kept in mind that levies are generally a poor mechanism to ensure that the monies are really paid to the individual rightholders suffering the harm for the unauthorised copying. A number of collecting societies uses parts of the monies collected – up to 50% in some cases - for the financing of cultural or social projects. The benefits for those whose harm is meant to be compensated are therefore, at best, tenuous.

\textsuperscript{146} See the CJEU ruling from July 11\textsuperscript{th} 2013.

\textsuperscript{147} An American company (Imation) was for instance reimbursed by the Dutch collecting society, Stiching De Thuiskopie, for the levies paid after 1 July 2006 on the sales of blank data carriers to professional users (Rb Den Haag, Thuiskopie v Imation, 20\textsuperscript{th} February 2013).

\textsuperscript{148} Source: International Survey on Private Copying, Law & Practice 2012, de Thuiskopie and World Intellectual Property Organization
Finally, and assuming that the harm caused by private copying is high enough to justify the costs imposed by the distortions resulting from the levy system, there are still several options to choose from. The optimal mechanism from an economic perspective is such that distortions are minimized for a given objective to be achieved.

Therefore, the analysis of the need for compensation and its design is developed below along the following lines:

1. Is private copying accounted for in the market price of creative work, and in which cases? Is it profitable to sell original content to consumers that would purchase copies?
2. Do transaction costs prevent individual licences as a way to sell content to consumers?
3. If so, and assuming that the harm to rightholders is larger than the distortions created in the economy, what is the least costly mechanism for compensating rightholders?

We highlight that the discussion below focuses on instances where the rightholder actually wishes to enforce its rights since no compensation mechanism is justified otherwise.

5.3.1. The rationale for an exception

The CRA Methodology report proposed an assessment chart for copyright exceptions which can be applied to private copying. The issues to be considered for a potential exception are:

- The importance of transaction costs relatively to the value of content.
- The existence of missing markets and, if not, whether there are positive externalities.
- The market power of rightholders.

Since these issues must be considered sequentially, we discuss them by looking first at transaction costs and then following the order above.

**Transaction costs**

There are several types of transaction costs that have been identified in the CRA Methodology report (search cost, bargaining cost, monitoring cost and enforcement cost). Low transaction costs weaken the need for an exception since efficient mechanisms such as licensing could be used. Because the value of private copying varies according to the content and the copy’s type, it may not compensate for transaction costs and an exception is hence justified. A distinction can be made between transaction costs according to the content’s format since monitoring costs, which are often assumed to be high enough to prevent licensing as a credible alternative, vary depending on the characteristics of content and means of dissemination (e.g. the possibility to control the copying of music distributed in digital form but on physical carriers – e.g. a CD – is limited in particular as copy-control technologies have typically not been deployed. This changes when the same digital content is distributed by digital services (e.g. download to own services). The obvious example would be private copying related to non-digital content (for instance, copies of physical books ‘pages). It would in practice be very costly to make sure that the licensee adheres to the terms of trade. Still, recent technologies such as digital rights management (DRM) and watermarking have made monitoring of digital
copying activities less costly. These technologies are however not implemented by all content providers or only for some types of digital content. For instance, platforms such as Amazon and iTunes currently sell most or all music tracks in an MP3 format without DRM or watermarking. Therefore, no restrictions are in practice imposed on the copying activity of buyers although their terms and conditions limit it to personal use. DRM is on the other hand imposed on the purchase of movies, books and television shows on iTunes. Licensing is likely to be extended in the future to a wider range of content if technological improvements reduce further transaction costs. For this reason, we introduce below a distinction between digital and non-digital content where relevant in the context of the assessment of policy options.

Missing markets

Although a distinction should be made between each type of private copying to assess the potential existence of missing markets, it is likely that markets would not always be formed if transaction costs are too high to allow for the implementation of market based schemes. If an exception is then justified, it is still economically relevant to narrow the scope to activities that belong to this category of copying since, as described in more detail in section 5.1.1., market failures do not necessarily arise.

Market power

The CRA Methodology report explained that monopolistic competition was an inherent feature of the market for copyrighted goods. Authors produce differentiated content and obtain supra-competitive profits until new content progressively drives down profit in the long run. Furthermore, the limited set of rights granted by copyright means that market power is limited to the expression of content and not the ideas. On the other hand, to price discriminate with respect to private copying, which could further reduce the welfare loss due to market power, is a difficult task given that rightholders must not only assess the willingness to pay of categories of consumers but also prevent arbitrage between them. Some inefficiency may therefore be introduced by market power, although it is difficult to evaluate the extent of these in the context of private copying. Hence, market power could also in principle justify an exception for private copying.

5.3.2. The development of licensing in digital markets and the implications for private copying

Although transaction costs may be too high to allow licensing for some private copying activities, licensing has become very common in digital markets with the development of cloud computing and streaming services. With respect to cloud computing for instance, several models of licences have been proposed by rightholders (more generally, licensors): fees based on the number of users, the number of computers or the power of CPUs and, more recently, fees based on the number of virtual machines and the size of memory used.

Search and bargaining costs are reduced when the licensee faces only a few licensors. This is the case when licensing takes place through licensing vehicles, such as collecting societies (provided they can adequately identify and manage the rights they represent), aggregators or directly from large producers or publishers. In addition, repeated interactions between the parties may also bring down transaction costs since the efficiency of negotiations improves over time as the parties better know each other.

The risk of hold-up might also be reduced since, as discussed in the CRA Methodology report, this is an issue when search costs are high relatively to the content’s value and
when the bargaining power of the rightholder is significant. The concentration of rights between a few organisations contributes to lower search costs, but this should be balanced with the increased bargaining power originating from the depth of the content to be licensed.

Because streaming means that the consumer does not own a copy, there is no issue concerning compensation for private copying. On the other hand, for private copying of content owned by consumers, transactions costs can prevent licensing to be implemented at an individual level. As a result, compensation to rightholders relies on other options that are discussed in the next section. The implication of licensing for streamed content is that since rightholders are already remunerated, there is no justification for fair compensation as it is the case for private copies. The increasing importance of streaming in the consumption of creative content can be used to justify lower levies on devices and blank media, compared to a situation where streaming was not present.

5.3.3. The policy options

As we discussed above, although licensing is an efficient way to deliver copyrighted content because it is non-distortionary, it is not generally implemented in relation to private copying. Hence, other schemes must be implemented, and because distortions may not be avoided, they are sometimes considered as second-best mechanisms (see for example Liebowitz and Watt (2006)). Also as discussed above, the trend from ownership to access (eg streaming) triggered by digital services does seem to reduce the amount of private copying undertaken by consumers and therefore potentially leads to a diminishing harm as far as the remaining copying is concerned.

This section highlights the impact of the Status Quo before presenting alternative policy options. The objective is not to compare options and take a normative approach but rather to discuss the impact of such options on stakeholders and in light of the factors listed above on the justification of a private copying exception.

Option 1: The Status Quo

As discussed in section 5.2, most Member States have chosen to compensate for harm due to private copying by imposing levies on the sale of devices. The consequences of levies in the Status Quo have already been mentioned above. The effect on rightholders incentives to produce new content is unclear since there are two opposing effects:

- Levies are a direct source of revenue for rightholders.
- Retail prices of devices and blank media are higher than without levies to the extent that there is some pass-on to consumers. Sales of content and therefore revenues of rightholders can be lower as a result of levies.

To the extent that the magnitude of the second effect is large, the Status Quo may therefore lead to under-investment in new content. In addition, licensing incentives would remain low if other mechanisms are preferred and distortions would therefore not be reduced. If licensing does not develop further in the Status Quo, technological innovation related to the monitoring of private copying is less likely to be observed.

The Status Quo would also not reflect the evolution of content consumption which tends to be made via streaming and platforms providing content without it being owned by consumers. Therefore, the issue of “double dipping” would persist since licensing agreements are often implemented for this type of content. There is also the question of justice in the distribution of the monies collected – levies have traditionally been seen as a
form of "rough justice" but in view of the possibilities to account more accurately for the actual use of content, which is allowed by digital services, it could be argued that levies have become too "rough" a system of justice.

Finally, there is uncertainty under the Status Quo around the types of private copying falling within the scope of the exception since the legal framework has not yet integrated part of the evolution of digital markets. This uncertainty may slow down the production of new content and have negative consequences in the long run. We discussed for instance the case of content accessed through the cloud for which the application of levies has not been settled yet. If rightholders believe that revenues from levies would be lower than the loss of income due to the decrease in content sales, they will account for this in their decision to produce digital content. Risk aversion from rightholders would further impact the incentives to create. Therefore, the question of the role of levies in meeting their objective of compensating rightholders for harm would still be raised.

Option 2: Adjusting the level of the fees

One option is to adjust the fees level to improve the efficiency of the system and a better alignment with the initial objectives of compensating for the harm caused by private copying. The central debate around the lowering of levies can be summarised by the following trade off:

- In a static setting, lower levies can lead to lower retail prices of devices or blank media if there is some pass-on. This in turn boosts the demand for content and reduces the deadweight loss due to levies.

- However, the incentives to innovate and produce new content can be decreased in a dynamic framework if lower levies have a significant effect on total revenues for rightholders (levies and sales of content) such that it becomes lower than the opportunity cost of creation.

The effect of a change in the level of levies could be assessed empirically by looking at the evolution of sales of creative content in Member States that decided such change of policy. Although this type of policy has an a priori ambiguous effect, it is possible to discuss the expected consequences of adjusting the levies amounts by considering the evolution of the market discussed earlier.

In the short run, device manufacturers would benefit from a lower marginal cost of production (which includes levies) since levies are collected from them. Manufacturers’ profit can increase in two ways, through a higher margin on each device sold (if the reduction in levies is not fully passed-on) and/or through higher sales of devices arising from lower retail prices. This depends on the proportion of the cost decrease that is passed on to consumers in the form of lower retail prices. Indeed, the effect on quantity sold will only be significant if the prices paid by consumers decrease. The magnitude of the sales increase depends on the elasticity of demand: sales increase more after lowering prices if the elasticity of demand is high in absolute value than if it is low.

Although manufacturers benefit in any case from lower levies, consumers only do so if there is partial or full pass-on of this cost downwards. In this case, their surplus would be higher, at least in the short run. On the other hand, rightholders would obtain lower revenue on each sale of content but could also benefit from the decrease in the price of devices by selling more content. There are indeed two sources of revenues for rightholders: levies and content sales. Because content and devices are complementary
goods, a decrease in the price of devices due to lower levies increases sales of content, therefore potentially counterbalancing for loss of revenue due to lower levies.

If manufacturers sell more devices and rightholders sell more content, then revenues of distributors of both devices and content increase as an indirect consequence of the fees’ adjustment.

In the long run, the potential effect of levies depends on the dominating effect on revenues of rightholders between:

- The increased consumption of content resulting from lower prices of devices or blank media.
- The lower revenues from levies.

There is conflicting empirical evidence regarding the long run consequences of adjusting levies\(^{149}\). If the incentives of rightholders to produce content are increased by lower levies, manufacturers and consumers are then better off\(^{150}\). However, if incentives are decreased because of the lower levies, the dynamic effect is negative.

Some Member States have recently adopted changes to their policies with respect to levies. Levies’ amounts have for instance been revised downwards for most devices in France since January 2013. The evaluation of the effects of these policies on sales and production of new content in the next few years will be relevant for the assessment of levies more generally.

Aside from the question of the fees’ level, there are other relevant issues such as the content that should be concerned although this is a more general topic of compensation for rightholders that has been discussed above. The harmonisation of policies between Member States is also an issue that is related to the fees’ level since Member States do not currently set levies for a given product at the same level, as shown in Table 14. Therefore, the analysis of this option would also apply in the context of the implementation of a common levies policy between Member States.

Finally, it is also possible to assess the effects of a change in the fees’ level in the context of the development of streamed content as we discussed in section 5.1.2. Platforms often have licencing agreements with rightholders in order to propose content lawfully and content is delivered without relying on reproduction. In this case, imposing a levy on devices does not appear to be justified since rightholders are already compensated by the licence fee. As the consumption of licensed creative work will develop in the future, there are arguments for lowering levies and therefore reducing its distortions since the incentives to innovate and produce new content will still be preserved. Therefore, lower levies can be expected to have positive effects on all stakeholders in the long run.

**Option 3: No compensation for a private copying exception (removing levies)**

The evaluation of this policy option draws on the previous one since it is equivalent to lowering levies to zero. There are indeed reasons to believe that compensation for private

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\(^{149}\) See for instance: “Is there a case for copyright levies? An economic impact analysis”, Oxera, April 2011 and “The welfare effects of private copying levies”, Compass Lexecon, February 2012

\(^{150}\) This argument applies given the current consumers’ habits regarding on-line and off-line content. With the development of licensing for on-line content, it can be argued that the loss of income from levies will be compensated by licensing revenues.
copying will not be justified in the long run. First of all, the two conditions listed in section 5.1.1 regarding the relevance of a compensation mechanism are less likely to be met if:

- It becomes possible for rightholders to indirectly appropriate the value of private copying in more cases.
- If the greater diffusion of content accessed without being owned (for instance, through streaming) means that the valuation of a permanent copy becomes lower than the production cost of an authorised copy of the original work.

Furthermore, licensing may be more common between rightholders and content providers in the future if transaction costs decrease with new technologies facilitating the monitoring of private copying. Revenues of rightholders will be less dependent on levies and the effect of removing them is likely to be small in terms of incentive to produce new content. On the other hand, sales of content should increase as a result of lower prices of devices for consumers. More generally, the effects identified for the previous option are similar here, although they would be amplified by a complete removal of the levies. A clear cut additional and positive effect of removing levies would be on the administrative costs of collecting and redistributing them to rightholders.

The economic literature has also considered the potential consequences of removing levies. Recently, Legros and Ginsburgh (2013) showed that, under fairly mild conditions, content providers are worse off with a levy under mild assumptions in the short run but also in the long run. In the short run, levies on hardware may decrease its sales but also content sales since they do not modify the relative price of copies versus original work to provide more incentives to buy original content. In the long run, less well-known authors may be penalised by levies if they favour higher sales in order to acquire reputation instead of higher revenues. This is an instance of the “double dipping” issue discussed in section 5.2.3 since a levy is imposed whereas authors would often prefer in the short run to make their work available as widely as possible rather than maximize revenues.

Therefore, it appears that it is economically relevant not to have a compensation mechanism for the exception to the extent that rightholders will be increasingly remunerated by other means. As a result, the harm for private copying might therefore fall under the ”minimum harm” threshold (thus not being such as to require compensation).

5.3.4. General assessment of the impact of policy options

In this section we evaluate the available policy options discussed above. The CRA Methodology report highlighted the factors justifying the existence of copyright exceptions. With respect to private copying, the exception is primarily justified by the role of transaction costs in preventing licensing to be implemented for each transaction. In particular, transaction costs prevent a licensing agreement to be negotiated for each consumer copying for private use. However, the access to digital content through digital

\[151\] \hspace{1cm} \text{In a static framework, it must be the case that consumers highly value digital content, that consumers tend to use legal content more than shared content and that the recouping rate (the share of revenues accruing to content providers) is low. In a dynamic setting, content providers can suffer from initial low sales if they have a signalling effect for entrants in the market (high sales may benefit reputation in the long run).}

\[152\] \hspace{1cm} \text{In this case, it can be argued that creators do not aim to cover the opportunity cost of creation in the short run but rather invest in building a reputation for the long run.}
services, which is still developing with the emergence of cloud computing, has increased the role of licences negotiated between content platforms and rightholders such as music labels for instance. This means that the importance of this exception is likely to be decreasing in the future, notably if streaming becomes a substitute for the ownership of content.

Our report identifies three main policy options which have different implications for stakeholders:

- **The Status Quo**: one of the consequences of the Status Quo is to not account for the evolution of the market as discussed above. Consumers may end up paying a levy on devices and access licensed content, which was described as “double dipping” because consumers compensate rightholders more than is necessary for having access to content. Manufacturers of devices and blank media could be paying levies that do not reflect how content is consumed, in particular with the development of licences for on-line content. There may also be consequences of the Status Quo on the incentives to create in the long run because of the uncertainty prevailing in some cases (cloud computing for instance) if rightholders are risk averse. Rightholders may anticipate that applying levies to new digital environments would imply lower total revenues for them and this might reduce their incentives to innovate and produce new content. Furthermore, no incentives are given to the development of licensing mechanisms to develop, although this may be less of a concern as transaction costs could decrease with new monitoring technologies in the future. More generally, no clear conclusions have been reached regarding the effect of levies in the long run, meaning that the current system has not demonstrated that it is optimal from a total welfare perspective.

- **Adjusting the level of the levies**: in the short run, lower levies would benefit devices’ manufacturers since the unit margin would increase to the extent that there is less than full pass on. If this is the case, the price paid by consumers would decrease less than proportionally to the decrease in levies. As a result, manufacturers would obtain a higher unit margin on the sales of devices. Quantities sold increase if there is some pass-on to consumers, as prices would decrease to a certain extent. Consumers would pay lower prices for devices whereas rightholders would obtain lower revenues through levies but may sell more content. Because levies lead to deadweight loss, benefits for society arise only if the harm to rightholders from private copying is higher than the distortions created by levies. In the long run, if licensing and other market schemes develop further to at least compensate for the loss of revenues due to lower levies, rightholders will not have weaker incentives to produce content. Therefore, this is likely to result in a welfare increase.
### Table 15: Private Copying - Summary of the assessment of Option 2 (Adjusting to lower levies; opposite signs for adjustments to higher levies)

<table>
<thead>
<tr>
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<th>Short run</th>
<th>Long run</th>
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<tr>
<td><strong>Consumers</strong></td>
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<td>+</td>
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<td>+</td>
<td>to the extent that production of content does not decrease</td>
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<td>Lower retail prices assuming some pass-on</td>
<td>Lower retail prices assuming some pass-on</td>
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<tr>
<td><strong>Manufacturers</strong></td>
<td>+</td>
<td>+</td>
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<tr>
<td></td>
<td>+</td>
<td>to the extent that production of content does not decrease</td>
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<td></td>
<td>Higher unit margin if there is no full pass-on and higher sales</td>
<td>Higher unit margin if there is no full pass-on and higher sales</td>
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<tr>
<td><strong>Rightholders</strong></td>
<td>?</td>
<td>+</td>
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<td>if the proportion of revenues from levies decreases such that production of content does not rely on this source of revenues</td>
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<tr>
<td></td>
<td>Lower revenues from levies but potentially higher sales of content since devices/blank media are cheaper</td>
<td>No effect on incentives to innovate but higher sales of content</td>
</tr>
</tbody>
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Source: CRA.

Notes: See section 1.3 for an explanation of the signs.

- **Removing levies:** the effects are similar to lower levies although they would likely be amplified for consumers and manufacturers. In the long run, the threshold for an overall positive effect is slightly higher since rightholders would have to be remunerated entirely by other means for the loss of revenues from levies in order to protect the incentives to produce content. However, the recent evolution of the market for creative content is such that rightholders will probably not be dependent on revenues from levies in the long run.
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Source: CRA
Notes: See section 1.3 for an explanation of the signs.

**Conclusion on the assessment of policy options for private copying**

We have explained that transaction costs, missing markets and (potentially) market power can justify the introduction of an exception. However, since consumers do not necessarily own a copy, as in the case of streaming for instance, the need for levies must be assessed according to the changes in the consumption of content. We identify two alternative policy options to the Status Quo: the adjustment of the levies fees or the absence of compensation. Although the two options would have positive effects on all stakeholders in the long run given the recent trends observed in digital markets, the positive effects would, in our opinion, likely be higher by entirely removing levies.
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