

## RESPONSE

### Copyright policy, innovation, and the limits to our understanding – a response to Birgitte Andersen’s ‘Shackling the digital economy means less for everyone’

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#### Introduction

In the Proposition paper of this Debate section, Birgitte Andersen expresses her concern that the UK Digital Economy Act (DEA) will inhibit the ‘digital economy’ and diminish social welfare. My understanding of the economic literature on copyright (Towse *et al.*, 2008; Handke, 2010b) and the results of my own empirical research (Handke, 2010a) suggest that we should take such concerns seriously.

I agree with many fundamental points in Andersen’s Proposition paper. First and foremost, there is a need for empirical research on the impact of digital copying. Second, the empirical evidence so far raises doubts about whether digital copying is nearly as harmful as some lobbyists of major rights holders have claimed. Third, aspects of the copyright system may have the potential to obstruct radical innovation and market entry. What is more, many markets regulated by copyright are currently undergoing a period of swift technological change. In this context, institutional obstacles to innovation may be much more of a problem at present than they have been in times of greater stability.

Yet, I take issue with other aspects of Andersen’s article. On the one hand, there is a tendency in the debate on copyright and digitisation to jump to conclusions on the basis of questionable principles or scant empirical evidence. There are noteworthy gaps in our understanding. Both proponents and opponents of greater copyright protection often brush the corresponding doubts aside too easily. Parts of Andersen’s article are a case in point. This may be calculated rhetoric in order to set a counterpoint to a vociferous opposition, but it makes her position paper less convincing.

On the other hand, the discussion of empirical evidence in Andersen’s paper focuses on the effect of copying on rights holder revenues. The real issue at hand is the effect of copyright on innovation and creativity, which is reflected in other parts of Andersen’s text. Rights holder revenues and innovation are related, but they are not

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the same thing. It seems high time that this is fully appreciated in the debate on copyright reforms.

### **What can economics do to inform copyright policy?**

The economic literature makes two contributions to the debate on copyright and unauthorised copying. First, it has developed a relatively refined theoretical framework that identifies various costs and benefits associated with copyright. On the other hand, economists have produced a number of quantitative, empirical studies on the association between copyright strength and the performance of regulated industries.

The following section briefly discusses important theoretical insights, which deserve more careful consideration in the public debate. One such insight is that pure theory provides no comprehensive rationale for copyright policy without empirical assessments of specific markets. The state of empirical research is touched upon afterwards.

### **The general economic analysis**

Based on key contributions to the economic literature on copyright, it is possible to disentangle the main costs and benefits of a copyright system. An essential distinction in order to make the economic case for copyright is that between the immediate, short-run effects of unauthorised copying and its long-run effects concerning the future supply of creative and innovative products (Johnson, 1985). Unfortunately, many commentators ignore either short-run or long-run arguments altogether, while others mix them carelessly in ways that are likely to bias the welfare analysis.

In the short run, a rational copyright policy trades off rights holder interests (maximising profits) against user interests (maximising access to the existing stock of copyright works). In the short run, there seems to be no copyright policy that improves the situation for rights holders and users simultaneously. What is more, any copyright system entails administration costs and transaction costs. Therefore, the short-run case for copyright is weak.

In the long run, the situation may be quite different. This is because unauthorised use can undermine incentives to invest in the creation and diffusion of copyright works. If rights holders find it hard to recoup the costs of creation, creative supply may dry up. The short-run benefits of unauthorised copying to users could thus be unsustainable. It would then be possible that a reasonably efficient copyright system increases both rights holder and user welfare in the long run. This long-run assessment is the standard, economic argument in favour of copyright.

An important addition to the long-run perspective is that over time, rights holders may adapt their business models to mitigate any adverse effects of copying on their profits. Liebowitz (1985) discusses an empirical example, and Varian (2005) provides an overview of imaginable business models for suppliers affected by unauthorised copying. In other words, it is not a given that copying has strong adverse effects on copyright holders, at least after some time for adaptation.

Furthermore, a number of authors have argued that the copyright system as it is could hold back innovation. This is the central argument in Andersen's paper. Effects of copyright on technological change, market entry and user innovation have often been overlooked, perhaps because the underlying reasoning can be quite complex. Arguments are, for example, that copyright systems entail excessive transaction costs

to innovators (e.g. Depoorter *et al.*, 2003), and that major rights holders make strategic use of copyrights in the course of digitisation, resisting radical change (Kim, 2007; Bhattacharjee *et al.*, 2007). I have discussed the issue more extensively in a recent report for the UK Strategic Advisory Board for Intellectual Property Policy (Handke, 2010b), and I fully support the view that the issue requires more attention.

If copyright restricts desirable aspects of technological change, the social costs of copyright could be greater than is usually appreciated. Regarding the copyright system as a whole, the socially desirable level of copyright strength would thus appear lower. This could be an argument against the provisions of the DEA that seek to strengthen copyright enforcement, and this is how I understand Andersen's position. Another way to look at this is that we should seek out and improve upon specific aspects of the copyright system that inhibit innovation. Regulators might have a greater role to play in diminishing transaction costs or undesirable consequences of market power in the copyright industries. The DEA does not seem to tackle these issues.

### Issues specific to the DEA

Besides the failure of the DEA to address any obstacles to technological innovation, there are issues with the policies that the DEA in its current shape does provide for. The act appears to prepare greater investments in regulating markets for copyright works via the Office for Communications (Ofcom).<sup>1</sup> This raises the standard objections to statutory intervention that are typical for economists.

First, public authorities will find it hard to establish the appropriate level of expenditure on copyright and to evaluate the social efficiency of their actions. In the current context of substantial technological change in many markets for copyright works, the task is particularly daring.

A second, related problem arises in public authorities' relationship with rights holders. Rights holders enjoy most of the direct benefits from copyright protection. If the public takes on much of the cost in enforcing copyright, it might be in the interest of rights holders to call for greater protection – and thus greater expenditure on enforcement and other aspects of the administration of rights – than they would rationally pay for themselves.

Third, the current legislation already provides rights holders with considerable scope to enforce copyright. They will do so wherever their expected revenues exceed costs. Apparently, many privately funded enforcement measures have not been profitable in the digital realm. It is not clear why Ofcom should be able to take care of this more efficiently.

Arguably, these three points call for a light touch in public policy. Enforcing copyright is costly and the social returns may be relatively low. Public authorities may have other means at their disposal than rights holders, but they may not be better informed about the desirable level of enforcement than direct market participants are.

Another set of issues with the DEA concern the unintended consequences of effective copyright enforcement. On the one hand, Andersen points to problems with the identification of perpetrators. In addition to the points raised by her, we should not dodge a fundamental question: do copyright infringements justify more extensive monitoring of private information exchanges online? On the other hand, if the legal responsibility is placed on subscribers rather than on the individual user, the diffusion of open networks may be held back and enforcement measures may end up adversely

affecting those who do no wrong. Furthermore, the interruption of Internet connections as a possible penalty for unauthorised copying seems questionable. The Internet has become important for many professional, commercial, political and social activities. It is easy to imagine situations where restricted Internet access would constitute a disproportionate punishment. In comparison, reasonable fines may be a preferable sanction.

As with most statutory intervention, the devil will be in the detail when the provisions of the DEA are set into practice. This author cannot claim deep insight into the intentions behind the DEA, and the consequences of new regulation are hard to foresee. What we do know, however, is that according to the empirical evidence discussed below, the social costs of unauthorised copying have probably been quite modest. Again, this would caution against costly counter measures.

There are, of course, other options to create revenues to rights holders than prosecuting unauthorised copying online, such as copyright levies, direct subsidies or stipends and awards. Unfortunately, all of these alternatives give rise to other concerns. Part of the solution could instead come if copyright holders and IT firms could finally strike more comprehensive deals for the sharing of profits due to online use of copyright works. Fourteen years ago, Merges (1996) argued that such a deal should transpire without government interference. By now, the case for some encouragement from regulators may have become stronger. It seems unfortunate that the DEA does not address profit-sharing. Instead it champions the cooperation of private parties to enforce copyright among millions of end users. This construction will probably be cumbersome to administer.

### **The incomplete empirical evidence**

As argued above, copyright relates to a trade-off between a number of costs and benefits to society. Ideally, empirical research would provide a sense of proportion of all substantial costs and benefits in order to identify the overall effect on social welfare. This is easier said than done, of course.

Economists have produced a number of empirical studies regarding the effect of unauthorised, digital copying on rights holder revenues. Few of the studies include information on the UK. Results stray widely, which is not acknowledged in Andersen's account. She refers to her results from the Canadian market (Andersen and Frenz, 2007, 2010) as well as a study by Oberholzer-Gee and Strumpf (2007), which found no significant effect of file-sharing on record sales. She ignores a number of other studies that found some evidence that digital copying diminished demand for authorised copies (e.g. Rob and Waldfogel, 2007; Liebowitz, 2008), even though the estimated effect was rarely strong enough to explain all of the decline in record sales over recent years. For recent overviews, see Liebowitz (2005), Oberholzer-Gee and Strumpf (2010) and Handke (2010b).<sup>2</sup> None of the econometric studies available seems so flawless that it would sweep the board single-handedly, often because of data restrictions. It appears more adequate to accept a degree of uncertainty on the exact scale of the effect of digital copying on rights holder revenues.

Most importantly, to make the case for public investments in copyright, information on the effect of unauthorised copying on rights holder revenue is insufficient. As argued above, an essential addition to the evaluation is the effect on innovation and creativity, as indicated by new releases, for example. Oberholzer-Gee and Strumpf

(2010) refer to anecdotal evidence that the supply of copyright works in the US has not diminished over recent years. I studied the supply of sound recordings in the presence of digital copying more systematically for the German market (Handke, 2010a). In spite of a severe recession in this market after 1998, the annual number of new titles supplied on CDs continued to grow. There was no significant decline in the long-term rate of growth with the diffusion of digital copying technology. Furthermore, many new suppliers of sound recordings entered the market in spite of falling total industry revenues. These are surprising results. They suggest that, by and large, creators and entrepreneurs are able to cope reasonably well with digital copying. The German record industry is undergoing a period of swift and broad technological change, which coincides with the diffusion of digital copying technology. It seems desirable to study the potential for successful industry adaptation in other markets, as well as the effect of the copyright system on innovation. We need more information on these topics in order to inform copyright policy.<sup>3</sup>

## Conclusions

Overall, I concur with Andersen's reservations against the DEA if the purpose of this Act is to prepare for greater investments in copyright enforcement. At this point, there are good reasons to doubt that this is a good use of scarce public resources. Nevertheless, I would put much greater emphasis on the limits to our understanding than Andersen does. Economic theory identifies trade-offs associated with copyright. Many important aspects of these trade-offs have hardly been discussed on the basis of systematic empirical evidence.

An important case in point is that copyright could inhibit desirable technological change, as Andersen emphasises in her Proposition paper (see also Boldrin and Levine, 2002; David, 2004). We need much more research on the relationship between copyright and innovation in the contemporary copyright industries.

Without a more comprehensive assessment of the various costs and benefits of copyright under current market conditions, we are largely flying blind. It is a hopeful sign that the DEA prescribes data collection. If done well, this could be useful for a thorough assessment of the situation in the UK. The evidence so far is that the social costs of digital copying are quite limited. Until we have a clearer vision of more substantial problems, dramatically increasing copyright enforcement is not a good idea.

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## Notes

1. At the time of writing, the DEA prepares for an obligation of Internet service providers (ISP) to finance measures aimed at the enforcement of copyright. In principle, it does not matter for the argument developed here whether public authorities pay directly for copyright enforcement or oblige other parties to pay.
2. Handke (2010b) also discusses the limited empirical literature on broader issues related to copyright.
3. The empirical evidence on the effectiveness and efficiency of specific countermeasures to unauthorised copying is also sketchy.

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