

**British Telecommunications plc (“BT”) and TalkTalk Telecom Group
Limited v Secretary of State for Business, Innovation and Skills (“BIS”)
In the matter of an intended claim**

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Executive Summary

The Government states that the measures in Digital Economy Act 2010 aimed at curtailing online infringement of copyright are “a fair and reasonable view of the expected costs, benefits and impact of the policy, and ... that the benefits justify the costs”.¹ In the light of our assessment of the issues we conclude that the measures under the Digital Economy Act 2010 are disproportionate. They are unlikely to result in long term benefit in line with the Government’s overall goal of balancing the interests of all those with aspirations for involvement in the digital economy in the UK. To be proportional, the Act would have to redress a clear problem with an effective intervention whose direct and indirect costs clearly are lower than the benefits delivered to society.

Our assessment is that as a reliable means of curtailing copyright infringement or restoring the losses claimed by copyright holders, this Act provides for a social experiment, the outcome of which will disappoint expectations, including those of many Internet users, and damage the reputation and revenues of ISPs. The Act’s effectiveness and net benefits have not been established and, hence, it is disproportionate. This assessment is based on the following logic. The first step is that the Government’s impact assessments are flawed with respect to the methodology employed to estimate the impact on the costs to ISPs and their subscribers. The second step is our observation that the scope of the Act reaches far beyond ISP subscribers to include many others who either use or provide access to Internet users. The third step is that in the light of contradictory theoretical and empirical evidence on the relationship between interventions such as those required by the Act and behavioural change, the Government’s expectations with respect to the curtailment of online infringement of copyright are very unlikely to be met. The fourth step is that the lives of citizens are changing fundamentally in the face of the new opportunities provided by an increasingly participatory culture of online sharing of all kinds of digital content, a generally positive and pro-innovation set of developments that will be disrupted by the Act.

¹ “It is important that the penalties available are proportionate to the harm caused to UK industries and that they act as an effective deterrent”, (UK Government, 2010b), p. 343.

These four main elements of our analysis lead us to the assessment that the provisions of the Act are disproportionate in that they do not achieve an appropriate balancing of the interests of rights holders and all others with an interest in a thriving digital economy.

The steps in our logic and the conclusions we reach are based upon our examination of the empirical and theoretical evidence from the industry and academic literature and our experience in analysing the social and economic issues related to information and communication technologies (ICTs).

We examine the impact of the Act on ISPs, their subscribers and others who use the Internet (Section 1); the losses suffered by rights holders and the impact of the Act on those losses (Section 2); the impact assessments of the Act (Section 3); and alternative approaches and the experience in other countries (Section 4).

1.1 General Impact of the Digital Economy Act 2010

The Act's impact on online infringement of copyright will be affected by a wide range of interacting factors that can be expected to influence the behaviour of citizens and consumers in the UK. Numerous studies of file-sharing provide contradictory evidence and a limited basis for generalising about the impact of these factors. As a result, a reliable estimate of the decline in illegal file-sharing as a result of the Act cannot be made. The appropriate balance between benefits and costs of the Act should be considered within the context of innovative technology and social developments. The 'online participatory' or 'remix' culture offers potential for beneficial social and economic opportunities, especially when Internet users are encouraged to experiment with online applications. Claims to certainty about future developments are unfounded because of the rapid changes in the emerging online participatory culture. The specific interventions under the Act have the potential to disrupt or alter the course of Internet development in ways that cannot be anticipated or assumed to be benign.

1.2 Impact on ISPs

The impact of the Act on ISPs will stem from the indirect effects on ISP reputations and customer demand for ISP services and the direct effects related to the costs of compliance. The consequences of misidentifications of infringing customers, negative effects on people who are not infringers and on organisations sponsoring Internet access have the potential to create reputational, and hence customer, loss for ISPs (1.2.1). The

inclusiveness of the Act and the unknown reliability and extent of the application of detection methods mean that the number of Copyright Infringement Reports (CIRs) and, hence, the costs of responding to them, is difficult to predict. The Act's measures are targeted initially mainly at the fixed line network and fixed line ISPs will experience customer loss to other networks, raising issues about the fairness of competition in the UK ISP market that have not been considered (1.2.2).

1.3 Impact on Subscribers

The impact of the Act on subscribers will be considerable. Given the procedural complexities of the Act's implementation, conflict and confusion may be generated as to the legal and illegal uses of P2P file-sharing. The approach does not consider adequately the dynamic and changing nature of the behaviours that the Act is intended to regulate (1.3.1). If subscribers have doubts about the legality of their use of the Internet or the likelihood of punishment, this is likely to reduce Internet use and the benefits citizens and consumers receive from such use. Subscribers will perceive monitoring of their behaviour as a loss of privacy and their efforts to preserve their privacy will create further implications for data protection. Cultural and social shifts in social networking on the Internet suggest that users' perceptions of moral behaviour are changing. Children's and adults' abilities to use the Internet, and a growing gap between legal and user perspectives on what constitutes good online behaviour, will result in increasing confusion and fear (1.3.2). A response by subscribers to the perceived risks or threats of being charged with illegal file-sharing is that they will seek alternative means of avoiding detection and a greater volume of encrypted traffic between users may serve to increase security risks. IP blocking software can be used to avoid surveillance and possibly detection of copyright infringement. This suggests the existence of an 'arms race' between those seeking to identify infringing behaviour and those seeking to protect themselves from such surveillance activity (1.3.3).

1.4 Impact on Others Who Use the Internet

The Act makes every Internet subscriber liable to possible misuse of his or her Internet connection for copyright infringement. A single individual in a household may, by engaging in copyright infringing behaviour, affect others in the household. We estimate that, in households, as many as 15 million people who are not necessarily involved in infringement will face risks to their Internet use due to possible actions taken against

subscribers where infringement is alleged under the Act. Risks to others in the household include cancellations because of the reduced desirability of subscribing to Internet access, discontinuation of subscriptions after being threatened, and the use of the technical measures contemplated by the Act. Public institutions or access sites such as schools, libraries, museums, hospitals, universities and Internet cafés also will be threatened with possible misuse of the access they provide. Access to the Internet will become more tightly regulated, resulting in a test of trust. The question of balance or proportionality with respect to the Act must be considered in the light of changes in the culture of Internet use, changing technologies, and the benefits and costs to all those concerned.

2.0 Losses Suffered by Rights Holders and the Impact of the Act

While we have little doubt that rights holders have lost revenue as the result of file-sharing, we conclude that the existing evidence is insufficient to estimate the amount of these losses. For any of these lost revenues to be restored, estimates of behavioural change connecting the curtailment of the exchange of infringing material with a return to market purchase of content, are required. Studies from several disciplines indicate that changes in file-sharing behaviour in response to prosecution, threats of prosecution and other sanctions cannot be reliably predicted (2.1.2). The creative industries are adopting new strategies to meet the desires of users for digital content and these are evolving away from content that is subject to digital rights management (DRM) and other technical constraints on content copying. New business models are being developed in order to generate revenue and some are proving to be successful. Rapid change in the creative industries mean that the Act's anti-file-sharing provisions may not have the effects intended on user behaviour or on the evolution of new markets and business models for rights holders (2.1.3).

Existing research provides evidence of both revenue losses and gains to rights holders from file-sharing specifically, and more generally, from digital content distribution. The balance between these losses and gains appears to be fluctuating over time due to actions taken to suppress large-scale infringement activities, the entry of new online content merchants, and the increasing availability of content where rights holders do not seek to enforce copyright. To our knowledge, there are no conclusive studies of the effects of these and other developments. Estimates of the impact of the Act on creative industries' losses are inconclusive because investigations of 'behavioural responses' (how people

choose to act differently) in the face of interventions such as those required by the Act have yielded contradictory results. In the light of rapidly changing social and cultural norms for online behaviour, and differences in reported experiences in different regions of the world, the behaviour of UK citizens and consumers in the future is, therefore, difficult to predict (2.1.4).

Existing estimates of the Act's effect on 'revenue restoration' rely upon surmise concerning behavioural change rather than on evidence that such change will occur and the methods used to derive evidence for these estimates appear to be flawed. It is also assumed that measures taken under the Act will be effective in foreclosing exchanges of infringing material, an assumption that does not appear to be warranted based upon historical and contemporaneous experience (2.2).

3.0 The Impact Assessments of the Act

Although rights holders have experienced a loss from file-sharing activity, there is very little basis in the methodology employed in the impact assessments on which to conclude that it amounts £400 million per year. The assumptions employed to make this estimate contradict both common sense and economic analysis. In estimating the revenue restoration that would result from the Act it is assumed that the volume of file-sharing is reduced by 50 per cent based upon sending warning letters. It is then assumed that the total amount of this reduction provides a reliable estimate of the market purchases of content, i.e. that if an infringer were no longer able to illegally download content he or she would purchase the same content at prevailing market prices. Maintaining this flawed estimate of revenue restoration for a decade, to yield a present value benefit to rights holders of £1.7 billion, not only extends the initial flaw in the estimate, but presumes that the 'restored' revenue of rights holders would persist in a context of rapid industry change (3.1).

Against these estimates of rights holder benefits are the costs to ISPs and customers. The quantified cost impacts on ISPs of the Act are unreliable because the scope of the Act makes it unclear how many rights holders are likely to file CIRs, each of which will generate potential for reputational damage in addition to the costs of compliance estimated in the impact assessments (3.2). Dismissing any possible welfare loss from the Act to users by claiming that these losses will only be suffered by infringers is incorrect

as a matter of economic analysis. It also fails to acknowledge or to estimate any of the collateral damage to those who are not infringers. Rather than presenting a clear case for intervention, the empirical evidence provides little solid ground for determining whether it is worth fighting illegal file-sharing in the manner proposed at all (3.3). The impact assessments offered prior to the Act reveal a strong bias in favour of rights holders over any other segment of society. We note that some of these other costs are now being acknowledged (3.4).

There are issues that should have been examined in the impact assessments but which we were unable to address in detail in this report. These include an analysis of the competitive structure of the UK ISP industry and the impact of the changes; a full welfare analysis quantifying the welfare impact on consumers; a detailed consideration of privacy intrusions and the rights of citizens; and the impacts of technical restrictions that may be introduced to control user access to networks. We conclude that the full disruptive effects of the intervention called for by the Act have not been sufficiently examined in the impact assessments (3.5).

4.0 Alternative Approaches to Reducing Impacts of Online Infringement of Copyright

There are alternative approaches that could be pursued to reduce the impact on online infringement of copyright. These include pursuing those hosting or facilitating access to large amounts of infringing content; digital literacy campaigns; promotion of legal means for accessing content; attention to issues of market structure and competition; warning notifications to users of P2P software; and rethinking how digital content producers might be compensated for their efforts (4.1). The strategy of the UK Government is not one that is favoured throughout the EU or internationally. There is considerable variation in the approaches being adopted by governments, ISPs and the creative industries, and in the impact of measures to curtail infringing behaviour on Internet users. The trend in policy and legislation clearly is to ensure that copyright law is respected, but there is wide variation in the extent to which action is being targeted at individual users of the Internet, especially as the online participatory culture spreads and becomes more familiar and attractive to Internet users. Consumers and citizens are being subject to inconsistent conditions, rules, and procedures in different countries. In our opinion,

these inconsistencies are a source of confusion that is likely to retard innovation and impede the full potential offered by the use of the Internet (4.2).

Table of Contents

Executive Summary.....	ii
Table of Contents.....	ix
1 Impact of the Digital Economy Act 2010	1
1.1 General Impact of the Digital Economy Act 2010.....	1
1.2 Impact on ISPs.....	5
1.2.1 Reputational Costs for ISPs.....	6
1.2.2 Costs of ISP Compliance.....	8
1.3 Impact on Subscribers	10
1.3.1 Changing Online Behaviours.....	10
1.3.2 Reduced Benefits of Internet Use.....	11
1.3.3 Avoiding Detection	14
1.4 Impact on Others Who Use the Internet	16
1.5 Summary.....	19
2 Losses Suffered by Rights Holders and the Impact of the Act	20
2.1 Losses Suffered by Rights Holders	21
2.1.1 Market Analysis	21
2.1.2 Intentions and Behavioural Analysis.....	24
2.1.3 Studies of Creative Industry Strategies.....	26
2.1.4 Regulation in a Changing Environment.....	28
2.2 Impact of the Act on Rights Holders' Losses.....	30
2.3 Summary.....	32
3 The Impact Assessments for the Act	33
3.1 Assessment of Benefits to Rights Holders	33
3.2 The Impacts on ISPs	36
3.3 The Impacts on Users.....	37
3.4 The Balancing Revealed	38
3.5 Summary.....	38
4 Alternative Approaches to Reducing Impacts of Online Infringement of Copyright	40
4.1 Alternative Measures.....	41
4.2 Experience of Other Countries.....	43

4.3 Summary.....	50
Expertise of Authors	52
References.....	53

1 Impact of the Digital Economy Act 2010¹

This report examines the impact of the online infringement of copyright provisions of the Digital Economy Act 2010² generally, and in particular, on Internet Service Providers (ISPs), subscribers, and others who use the Internet. It considers the losses suffered by rights holders as a result of online infringement of copyright and the impact of the Act on those losses. It considers the government's impact assessments and the balancing of the benefits of the act to rights holders, ISPs and Internet users and provides a discussion of other ways in which the objective of reducing the impact of online infringement of copyright could be achieved, including how other countries approach the issue.

1.1 General Impact of the Digital Economy Act 2010

The impact of the online infringement of copyright provisions of the Act generally, in our assessment, will be affected by a wide range of interacting factors which can be expected to influence the behaviour of citizens and consumers in the UK. These factors include citizen and consumer perceptions of changing social and cultural norms and moral behaviour in the UK and overseas; their experience and skills (or literacy) in using the Internet; their varying demand for digital products of many kinds including music, films, and games as well as other forms of digital goods that can easily be accessed online; the changing supply structure of the creative industries and changes in the business models that are being introduced; perceptions of the proportionality of the Digital Economy Act 2010 and its implementation in the UK; and awareness of legislation of similar intent in the European Union (EU) and internationally.

The impact of these factors on file-sharing is the subject of numerous academic studies and commissioned reports conducted by scholars and consultants, many of which employ social science research methods. The results of these studies are contradictory and most provide only a very limited basis for generalizations concerning the expected

1 This report was commissioned by BT Legal, British Telecommunications Plc, London. The views expressed in this report are those solely of the authors and not those of any institution including our respective employers.

2 (UK Government, 2010a).

behaviour of citizens and consumers and the likelihood that they will seek or use existing methods to acquire copyright protected online content. The great majority of such works acknowledge the limitations of their results due to the simplifying assumptions that are made and issues relating to data availability or data collection and sampling. In addition, most studies based on self-reported intentions to infringe copyright law or self-reported actual infringing behaviour acknowledge that social and cultural factors influence such self-reporting and that these need to be considered in interpreting results. Many of the studies in this area set out a future research agenda,³ often concluding that there is no robust body of evidence upon which to base conclusions about the impact of the measures such as those in the UK Digital Economy Act 2010.

In the impact assessment of the Act, the necessity for government intervention is stated as follows:

“Government intervention is being proposed to address the rise in online infringement of copyright which *might* reduce the incentive for the creative industries to invest in the development, production and distribution of new content. Implementation of the proposed policy would allow rights holders to better appropriate the returns on their investment”. (emphasis added)⁴

The policy objective is summarised as follows:

“The policy objective is to make sure that investment in content is at socially appropriate levels by allowing investors to obtain fully appropriate returns on their investment”.⁵

The Government’s own impact assessment acknowledges that it ‘might’ have the impact of ensuring investment in digital content at ‘socially appropriate levels’. No clear logic is presented in the impact assessment reports concerning what might be a ‘socially appropriate level’ other than the presumptions that file-sharing has reduced the revenues of rights holders and that rights holders therefore are constrained in making investment in the development, production and distribution of new content.

The main effect envisaged as a result of the implementation of the Act is a decline in the downloading of copyright infringing content as a result of peer-to-peer (P2P) file-sharing.

A basic definition of file-sharing is:

“The making available of files from a user’s own computer for copying and transmission to other users over the Internet, and the receipt of files made available this way. File sharing thus involves uploading as well as downloading. File sharing takes place in networks of users. Third parties have developed the file-sharing services and technologies to connect users and enable them to carry out

3 See for example, (Strategic Advisory Board for Intellectual Property Policy, 2010).

4 (Department for Business Innovation and Skills, et al., 2010a), p.54.

5 (Department for Business Innovation and Skills, et al., 2010a), p.54.

such transmission and copying activities in the third party's particular 'peer-to-peer' (P2P) network".⁶

File-sharing, whether involving legal or infringing behaviour, is one of many possibilities made available by the spread of the Internet and its applications. The 2006 Gowers Report on Intellectual Property said that achieving a balance among the interests of the creative industry and citizens and consumers, "is made more difficult by the vocabulary used to discuss IP policy and practice. Copyright infringement through unauthorised copying and distribution of music and video across the Internet is likened to stealing by some, and to sharing by others".⁷ "If IP rights are balanced, coherent and flexible, the system will support greater investment in R&D and will allow the access to knowledge that will stimulate future innovation".⁸ The issue of the balance of the Act's impacts on interested parties, including the creative industry content producers, ISPs, and subscribers and other users of online services, is central to our assessment of the proportionality of the measures mandated by the Act and in the Draft Initial Obligations Code developed by Ofcom.⁹

In our view, the question of balance must be considered within the wider context of innovative developments in information and communication technologies (ICTs) (including the Internet) over the past several decades and changing expectations on the part of citizens and consumers about their capacities to produce and consume digital products in the information society or digital economy. The development of these capacities touches upon a wide variety of policy concerns including education, political participation, social status, and economic sustainability. These concerns go beyond the issue of copyright protection and the incentives for innovation in the copyright industries. For example, as early as 1986 a report by the US Office of Technology Assessment on *Intellectual Property Rights in an Age of Electronics and Information* stated that in the economic, social and political realms,

"the stakes in the intellectual property debate are rising as fast as the technologies are becoming more technically sophisticated and widely used. ... intellectual property policy can no longer be separated from other policy concerns. ... decisions about intellectual property law may be decisions about the distribution of wealth and social status".¹⁰

6 (Dixon, 2009), p. 13-14.

7 (HM Treasury, 2006), para. 1.9.

8 (HM Treasury, 2006), para 1.45.

9 (Ofcom, 2010).

10 (Office of Technology Assessment, 1986), p. 11, 14.

Jenkins, a respected US scholar of developments in new ICTs argues that Internet users and many new entrant companies, as well as some of the incumbents in the creative industries, are “experimenting with new approaches that see fans as important collaborators in the production of content and as grassroots intermediaries ... We will call them collaborationists”.¹¹ In 2010 in the UK we have an increasingly online participatory culture which should be valued and encouraged because, as Jenkins writes:

“A growing body of scholarship suggests potential benefits from these forms of participatory culture, including opportunities for peer-to-peer learning, a changed attitude toward intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship. Access to this participatory culture functions as a new form of hidden curriculum, shaping which youths will succeed and which will be left behind as they enter school and the workplace”.¹²

The online participatory culture is also called a ‘remix culture’. Lessig, a contributor to legal and policy debates in the US on copyright extension and enforcement, argues that in a ‘remix’ culture, amateur creativity becomes a substantial resource for the economy and society. He asks: “What should we do if we know that the future will be one where our kids, and their kids, will use a digital network to access whatever content they want whenever they want it? What should we do if we know that the future is one where perfect control over the distribution of ‘copies’ simply will not exist?”¹³ Benkler, another US scholar, argues that the sharing of digital information is central to the emergence of a new form of economic production which he suggests eventually will transform the economy to emphasise open access to all forms of digital content.¹⁴ David, a scholar of the economics of technological innovation and the history of copyright, argues that the extension and enforcement of copyright has unanticipated effects including that of shaping the digital content that will become most easily accessible to users in areas beyond the entertainment industry, with as yet unknown effects on access to various repositories of knowledge.¹⁵

Our assessment of developments in ICTs and the Internet in 2000 indicated that there is great potential for new beneficial social and economic opportunities for citizens and consumers when they are facilitated in building the capabilities for doing so and when

11 (Jenkins, 2006), p. 134.

12 (Jenkins, et al., 2009), p. xii.

13 (Lessig, 2008), p. xviii.

14 (Benkler, 2004).

15 (David & Rubin, 2008).

they are encouraged to experiment with the applications offered by the Internet.¹⁶ Whether such potential will be captured is substantially influenced by the policies and legislation adopted by governments and by the practices of citizens and consumers, an observation confirmed by comprehensive assessments of developments in the application of ICTs and the spread of the Internet within the UK, the EU, and globally.¹⁷

Claims about the way the digital economy is developing and the respective social, political and economic interests of producers and consumers of digital content are the subject of competing explanations. The existing empirical evidence demonstrates that a key *certainty* is that surprising and unexpected outcomes will result from the interactions among multiple factors that influence change. In some cases, theories and models developed in an era before the ubiquitous availability of relatively low cost access to the Internet are applied taking little account of the availability of free or low cost software for creating and exchanging content within networks that are not limited by the boundaries of nation states. Our assessment is that claims to certainty in this area are unfounded with respect to the direction of the changing social norms and changes in citizen and consumer behaviour as a highly interactive online participatory culture takes hold. The specific interventions that will be implemented under the Act have the potential to disrupt or alter the course of Internet development in ways that cannot be anticipated or assumed to be benign. This conclusion is based on our analysis of the impacts of the Act on each of the groups considered in this section.

Our assessment of the impact of the online infringement of copyright provisions of the Act is provided in the following sections starting with ISPs (1.2), followed by subscribers (1.3) and others who use the Internet (1.4).

1.2 Impact on ISPs

The impact of the Act on ISPs will stem from a combination of factors including the indirect effects of the Act on ISP reputations and customer goodwill and demand for ISP services and the direct effects related to the costs of compliance.

¹⁶ (Mansell & Steinmueller, 2000b).

¹⁷ (Mansell, et al., 2007; Mansell & Raboy, 2010 in press) and see (Noam & Pupillo, 2008).

1.2.1 Reputational Costs for ISPs

The reputational costs to ISPs (indirect effects) and damage to customer goodwill and demand will result from several effects.

First, rights holders must be able to identify infringing behaviour of users with a high degree of accuracy as these claims of infringement are passed on to ISPs that risk losing the trust of their subscribers. Reputational costs to ISPs are likely to be incurred as a result of ‘false positives’ in detecting copyright infringement by the rights holders. False positive results will result in customer dissatisfaction and losses of customers.

While it is not within our expertise to evaluate technical claims concerning the performance of any specific method of detecting copyright infringement, the history of developments in this field is consistent -- false positive are consistently achieved. False positives are identifications of copyright infringement that prove to be groundless. It is reported that Cox, Time Warner Cable and Comcast have created a joint venture called PolyCipher which is funding research into a project called BitStalker. The aim is to help copyright holders more effectively identify BitTorrent users who are trading copyrighted files by reducing the number of false positives (said to be at least about 11 per cent) that occur during efforts to identify infringers on P2P networks.¹⁸ There are many instances in other areas, such as the use of biometrics to verify identity, where studies have shown that people react negatively to charges which prove to be the result of false positive identification.¹⁹ The possibility of false positives resulting in notification of customers of claimed copyright infringement would result in reputational costs to ISPs. These were not estimated in the consultation process leading to the Act. There already have been claims to this effect in the UK as a result of letters sent to some ISP customers prior to the enactment of the Act.²⁰ On the basis of the information available to us, it is not feasible to quantify the potential loss of customers as a result of false positive identifications.

It is likely that some customers will elect to use privacy-enhancing technologies to protect their anonymity, increasing that risk that ISPs will be unable to detect many potential infringers. There are many privacy-enhancing technologies from which users

18 (Bode, 2010).

19 (Sasse, 2005).

20 (Enigmax, 2008).

can choose including snoop-proof email programmes, anonymous remailers, anonymous web-browsing tools, html filters, cookie busters, and web encryption tools. We do not claim technical expertise in this area but all of these provide options for file sharers who seek to maintain their anonymity,²¹ making detection difficult. While some methods used for detecting copy infringement are increasingly sophisticated, it is unknown what range of practices might be employed where there is a large number of possible claimants of copyright infringement, each capable of using their own techniques for ‘detecting’ infringement. Further discussion of this issue occurs at Section 1.3.3 which considers efforts to avoid detection.

The technical feasibility of creating methods for overcoming copyright infringement detection or for misdirecting assignment of infringing behaviour to other non-infringing users resulting in mistaken notifications being sent to misidentified users, was not explicitly acknowledged in the impact assessments of the Act. The consequences of loss of ISP reputation or customers also were not assessed.

Second, it is likely that ISPs will suffer reputation costs as a result of the negative effects on people who are not infringers and organisations sponsoring Internet access that are affected by actions taken against alleged infringers. There is a risk that many household customers will be notified who are unaware: a) of others in the household who may be committing infringing acts, b) of others who are visiting the household who gain access to a customer’s account, c) of individuals who gain access to the ISP via WiFi or other means of communicating through local area networks,²² (estimates of the number of people affected are provided in Section 1.4). These customers might be displeased to receive notices from ISPs and may choose to terminate their service rather than risk re-occurrence of the implicit threat, resulting in a loss of revenue to the ISP. We are not in a position at this time to estimate the size of this loss due to the unique and large scale of the potential effects of the Act on these customers.

Third, there are risks to ISP customers that are not households stemming from the individual behaviour of users of their Internet connections. Schools, libraries, and other public organisations as well as businesses and users in the third sector (charities and

21 (Bennett & Raab, 2003).

22 (Hampton & Gupta, 2008) and (Lindner, et al., 2004).

other not-for-profit organisations) will need systems to track and ‘log’ individual users’ Internet connections or to disable the usual means of employing the Internet, e.g. to prevent the possibility of saving information (estimates of the number of users affected by these issues are provided in Section 1.4). The costs of implementing these systems, monitoring their use, and taking measures to counter their misuse will be borne by these organisations. This will have an impact on the demand for ISP services and revenues. It also will have consequences for other public purposes associated with the public availability of Internet connection. We are not in a position at this time to estimate the size of these effects other than indicating the numbers of users who are likely to be affected.

1.2.2 Costs of ISP Compliance

Estimates of the costs of ISP compliance with the Act, that is, the direct effects, are unreliable for several reasons.

First, the potential inclusiveness of the Act makes it extremely difficult to predict the number of CIRs (Copyright Infringement Reports) that is likely to be generated. The unknown number and variety of types of content over which rights holders may claim copyright protection and the possibility that the emerging online participatory culture will foster a greater variety of ISP subscriber sharing behaviours, make estimates of the number of CIRs likely to be generated an exercise in speculation. The impact assessments rely on a study by Mott MacDonald.²³ Only the direct costs of compliance are examined in this study which relies on a limited set of assumptions to reach its cost range conclusions and provides a basis only for guessing what the numbers of CIRs will be. The implied model is that only P2P file-sharing is to be the subject of CIRs. However, the wording of the Act opens the CIR mechanism to all those who hold copyright in photographs, texts, ‘blueprints’, musical scores, cross-stitch patterns, etc. The Government asserts that “File sharing of audio, video, data, or anything in digital format between users on a computer network has increased significantly in the last few years”, indicating the potentially inclusive reach of the Act.²⁴ Moreover, the Authors’ Licensing and Collecting Society (ALCS) indicated in its submission to the consultation on the legislation that “Our concern is that, in allocating dedicated resources to this

23 (Mott MacDonald, 2010).

24 (Department for Business Innovation and Skills, et al., 2010b), pp. 18, 19.

project, there may be a tendency to focus on the ‘higher-end’ offenders, leaving a significant proportion of more routine infringements untouched”.²⁵ This statement suggests that the scope for the pursuit of copyright infringement could be very broad.

In attempting to assess the costs of the Act, the apparent aim was to maximise certainty about the costs for all industry stakeholders. This requires robust prediction of the level of CIRs that is likely to be generated which, in turn, requires a high level of certainty in the modelling of the cost elements. The Mott MacDonald report emphasises the sensitivity of the charging algorithm: “the charging algorithm is extremely important and will have a major impact on the effectiveness of the scheme. The reason is that the effectiveness will depend to a large extent on the volume of CIRs/notifications per year requested...”²⁶. As there is no discussion about the impact of assumptions alternative to those made by Mott MacDonald, we have little basis for assessing the magnitude of the impact of alternative scenarios on ISPs. However, costs would increase with a larger number of CIRs.

Second, there are potential costs associated with the lack of clarity with respect to the scope of the measures. The measures appear to be aimed most directly at P2P file-sharing. They are targeted at the fixed line network initially, although BT’s wireless network may also be included since it operates a large wireless network. To the extent that users perceive that other networks offer lower risks of being accused of copyright infringement, fixed line network ISP providers will experience customer loss to other networks. There are reports in the trade press about the discontinuation of ‘unlimited’ mobile data contracts announced by O2 and Vodafone in response to a tiny number of users who are downloading large amounts of data. Users engaged in large-scale downloading may already be connecting to mobile networks to work around ‘fair use’ restrictions on wired connections.²⁷ In addition, since ISPs also serve as Internet-based intermediaries customer dissatisfaction towards them may be extended to hosting services and search engines,²⁸ creating additional reasons for dissatisfaction. Customers may switch to other suppliers not included in the initial implementation of the Act. This raises questions about competition in the ISP market and whether there is a ‘level playing

25 (Authors' Licensing and Collecting Society (ALCS), 2010), p. 4.

26 (Mott MacDonald, 2010), p. 26.

27 (Arthur, 2010).

28 (Strowel, 2009).

field' for all ISPs in the UK market. We are not in a position at this time to assess the magnitude of these effects.

1.3 Impact on Subscribers

The impact of the online infringement of copyright provisions of the Act on subscribers is considerable given the confusion experienced by subscribers as to what constitutes legal and illegal use of P2P file-sharing, the procedures being adopted by different ISPs and whether alternative strategies for acquiring online digital content constitute user misbehaviour.

1.3.1 Changing Online Behaviours

In line with the Act, the Ofcom Draft Initial Obligations Code is expected to balance legitimate uses and freedom of expression against the costs of implementing technical sanctions authorised by the courts. However, the establishment of a threshold for determining “who is a relevant subscriber who may be the subject of a copyright infringement list that the ISP provides to a copyright owner” is unlikely to be clear to subscribers. Although the threshold could be set by reference to any matter, “including the number of CIRs made”,²⁹ this is the method selected. The explanatory notes to the Act state that before approaching the courts to implement technical sanctions against copyright infringers “the Secretary of State must be satisfied that online copyright infringement is having a serious adverse effect on businesses or consumers and that making regulations would be a proportionate way to address that effect ... They must also require the court to consider the effect on legitimate uses or users of the online location and the importance of freedom of expression”.³⁰ The Ofcom Draft Code indicates that where there is discretion “the interests of citizens and consumers are central”. Any appeals of allegations against ISP subscribers must include a right to anonymity and allegations must be based upon credible evidence.³¹ In our assessment, the procedural complexities of implementation will lead to confusion on the part of subscribers. The approach described in the Ofcom Draft Code does not consider adequately the dynamic and changing nature of the behaviours that the Act is intended to regulate.

29 (UK Government, 2010b), para. 44.

30 (UK Government, 2010b), paras. 81, 83.

31 (Ofcom, 2010), para 1.3.

1.3.2 Reduced Benefits of Internet Use

If subscribers are confused about the legality of their use of the Internet or the likelihood of punishment this is likely to have the effect of reducing Internet use and the benefits citizens and consumers receive from such use. This confusion is likely to reduce some users' willingness to experiment in using Internet services and functionalities. This runs counter to the Government's aim of encouraging innovative and inclusive participation in the digital economy in the UK. Surveys conducted by the Oxford Internet Institute (OII) suggest that there is an 'experience curve' in Internet use that results in varying levels of trust in the Internet at different levels of experience.³² Experimentation is a key element in the learning process that leads to creative and rewarding uses of the Internet.³³ This has been demonstrated empirically in cases where Internet users become co-creators of content and then seek to share the results of their work.³⁴ The ethos of online sharing is one that needs to be fostered if the full benefits of the digital economy are to become available to UK citizens and consumers.

Subscribers will perceive that their online behaviour is being monitored and experience a loss of privacy in their use of the Internet. This may negatively affect their willingness to use the Internet and thus reduce the benefits that might otherwise accrue from such use. There is a large literature on the issue of trust in the Internet which suggests that trust in technology is very easy to lose and very difficult to rebuild.³⁵ Studies of surveillance online and offline find that citizens and consumers behave in different ways depending on the culture, their socio-economic income group, the political context and their intentions.³⁶ Surveillance and monitoring and the effect these have on human values, relationships and daily practices have been studied, with findings, for example, that increased surveillance often involves disproportionate interference with privacy, data protection and democratic principle and practice, and can enhance Internet users' efforts

32 (Dutton & Shepherd, 2005) research on trust and the Internet suggests that users' perceptions of different types of online behaviour varies with their experiences online, an argument that could be extended to experiences associated with online file-sharing.

33 (Jenkins, et al., 2009).

34 (Van Der Graaf, 2009).

35 (Mansell & Collins, 2005).

36 (Lyon, 2007).

to find alternative ways of obtaining the types of digital content that they value which they may believe to be either legal or illegal.³⁷

The monitoring of online behaviour is associated with changing social mores with respect to the protection of personal privacy and data protection. Surveys indicate that the erosion of information privacy as a result of manipulation of information on the Internet is seen as regrettable by large portions of respondents.³⁸ In the field of privacy protection, where strong forms of legal enforcement have been employed, enforceability instruments have been found to operate in complex and contingent ways “to the extent that it is impossible to draw a uni-dimensional continuum from weak to strong enforcement and to place each of the instruments at some specified and stable point”.³⁹

The Ofcom Draft Code notes that while “this document focuses on the Code of practice, we note that its measures were always expected to be complemented by a wider set of activity on online copyright infringement including consumer education, the promotion of lawful alternative services and targeted legal action against serious infringers”.⁴⁰

As the technological environment offers an increasing array of personalised, networked, convergent and mobile media products and services, it is known that the social environment is changing the contexts of use. Digital and online media are becoming more integral to all spheres of life, blurring the boundaries of home and school, and the public and private spheres.⁴¹

“As technologies, digital forms and spaces of mediation converge, we are witnessing the blurring of hitherto distinctive social practices of information and entertainment, work and leisure, public and private, national and global, even childhood and adult”.⁴²

These developments mean that Internet users’ abilities to understand social and legal norms about legal and illegal uses of the Internet cannot be taken for granted. Livingstone’s work on young people’s use of digital technologies indicates that “use depends on the abilities to access, analyse, evaluate and create and each of these is, further, part of a dynamic and mutually supporting process of engagement and

37 (Brown & Korff, 2009) and (Brown, 2009).

38 (Raab, 2005).

39 (Bennett & Raab, 2003), p. 169.

40 (Ofcom, 2010), para 1.9.

41 (Livingstone, 2010).

42 (Livingstone, 2009), p. 181.

learning”.⁴³ Children and adults vary considerably with respect to their abilities to use the Internet. There is uneven understanding of systems for selection, control of user protection or even how content is produced, disseminated, financed or regulated.

Numerous education initiatives are underway to fill this knowledge deficit,⁴⁴ but most are directed at whole populations, tending to reach those who have the strongest abilities, rather than those who have the least knowledge and experience.⁴⁵ There is no evidence that such initiatives to educate in this way have positive effects. Such initiatives may have counter-intuitive effects and, even where they are found to work, the knowledge acquired may not be used in ‘real-life’ circumstances. Policy makers are seeking to promote the use of the Internet through online education, participation, and creativity, but it is not clear what specific interventions are needed. There is an emerging consensus in the UK that “maximizing opportunities while minimizing risks is a task for multiple stakeholders”, but it is not yet apparent specifically what new forms of expertise are needed.⁴⁶ This observation applies as much to file-sharing behaviour as it does to other kinds of information search behaviour using the Internet.

There is also evidence of a growing gap between legal and user perspectives on what constitutes good online behaviour.⁴⁷ Moral reasoning and involvement in current fashions have been found to influence Internet user behaviour.⁴⁸ In addition, new approaches to online education are making use of file-sharing in order to offer students access to a wealth of digital content,⁴⁹ augmenting the impression that the use of P2P software is always legal. These developments are likely to send conflicting signals to younger and older Internet users about the appropriate norms that should govern their file-sharing behaviour and contribute to confusion about acceptable and unacceptable online behaviour on the part of ISP subscribers. If the strategy is to limit the use of P2P software in order to send consistent signals to users, the perceived value of Internet use could decline.

43 (Livingstone, 2009), p. 186.

44 Such as those discussed at the elearningeuropa.info site

http://www.elearningeuropa.info/directory/index.php?page=doc&doc_id=4935&doclng=6.

45 (Livingstone, 2009).

46 (Livingstone, in press), np.

47 (Pouwelse, et al., 2008).

48 (Chen, et al., 2008).

49 (T. Anderson, 2009).

Users also obtain value from the use of P2P distribution methods because they are a source of content for MP3 players. The value of the use of such devices will be diminished if the measures to reduce copyright infringement are effective, although a balanced approach is important if the producers of these players depend on infringements for their value. It is claimed, for example, that the users participating in 'bootleg' (unauthorized recordings) sharing communities "care deeply about the music they share, go to great pains only to work with materials which are not officially available, and are driven by loyalty and enthusiasm for the artists whose bootlegs they share, rather than by a desire to harm them".⁵⁰ Although distinctions are drawn in the literature between open source software communities and communities of file-sharers, the voluntary and altruistic ethos that often typifies both is indicative of the cultural and social shifts that characterize the broader phenomenon of social networking based on the Internet.⁵¹ For instance, it has been suggested that participants involved in both restoring and sharing recordings engage in a form of content curation, not unlike museum and archive curators who are charged with preserving the cultural record for their field of interest.⁵²

1.3.3 Avoiding Detection

A response by subscribers to the perceived risks of the threat of charges of illegal file-sharing is that they will seek alternative means of avoiding detection.

The social scientific literature on the perception of risk on the part of users of ICTs and the Internet indicates that "different individuals and different communities might judge a risk more or less seriously because they value the consequences differently – they value differentially what is being harmed and who is doing the harm".⁵³ Such evaluations are political, aesthetic and moral matters. There is evidence that people's actual behaviour frequently departs from the predictions of rational choice theory. It is known that laypersons respond to perceived risks, such as the threat of punishment or embarrassment, "based on common patterns for interpreting events, which are heavily influenced by the media".⁵⁴

50 (Bruns, 2010), p. 9.

51 (Berdou, 2007).

52 (Bruns, 2010), p. 9.

53 (Jackson, et al., 2005), p. 247.

54 (Jackson, et al., 2005), citing Wiedemann, p. 271.

By reducing the value of sharing practices, this may create other social risks, e.g. a greater volume of encrypted traffic between users may serve to increase security risks. There are reports in the trade press that since the passage of the Swedish Anti-Piracy Law there is greater interest in encrypting Internet traffic and a growth in trade for businesses that provide encrypted virtual private network services.⁵⁵

There is also evidence of an evolving effort by users to protect themselves from surveillance by infringement detection organisations. One strategy of these organisations appears to be entry into P2P networks in order to monitor user file exchange activity. In response, groups of individuals have devised ‘filters’ to block access from particular IP sites – denying these sites access to inter-computer communication including P2P file-sharing.

A study by Banerjee et al.⁵⁶ revealed that ordinary or ‘unshielded’ P2P exchange *inevitably* would disclose a user’s IP address to one of the sites blocked by lists maintained by groups such as I-Blocklist.⁵⁷ Lists of blocked sites are designed to protect users from invasions of their privacy, sources of spyware or malicious software, or from government or company monitoring of their activities. We note that the first of the lists indexed by I-Blocklist, which is available for an annual subscription of 8€, is named ‘Anti-Infringement’. This indicates to us that a significant use of IP blocking software involves attempts to avoid detection of copyright infringement or fear of monitoring by organisations that have taken legal actions against those accused of sharing copyright infringing files. We are unsure about the extent of user awareness of such monitoring, but note that a group developing open source software, PeerBlock, for the purposes of P2P blocking uses lists such those produced by I-Blocklist and reports 250,000 downloads of their software as of mid-December 2009.⁵⁸

The IP addresses used by organisations to monitor P2P networks are subject of course to change as are the contents of the lists of blocked sites posted by users. A similar issue is the effort to disguise IP addresses for the use of BitTorrent. While one source indicates

55 (Techdirt, 2009b).

56 (Banerjee, et al., 2008).

57 See <http://www.iblocklist.com/>, accessed 1/07/2010.

58 See <http://www.peerblock.com/news>, accessed 1/07/2010.

that it is possible currently to detect IP addresses associated with specific newly uploaded files, it also indicates ways in which practices of uploaders and downloaders might be changed to make such identification more difficult or impossible.⁵⁹ These accounts suggest the existence of an ‘arms race’ between those seeking to identify infringing behaviour and those seeking to protect themselves from such surveillance activity.⁶⁰

1.4 Impact on Others Who Use the Internet

The Act makes every Internet subscriber liable for possible misuse of his or her Internet connection for copyright infringement. What does this mean in practice? Current methods of accessing the Internet are varied. Almost all individuals who access the Internet do so at home (95% in 2009), which statisticians refer to as households.⁶¹

The issue that is raised by the Act for households is that a single individual in the household may, through engaging in copyright infringing behaviour, affect others in the household. How many people are potentially involved? Using Office for National Statistics on household composition in the UK, we find that as many as 15 million individuals may be at risk if there is a single infringer in the household.⁶² The Internet access of these individuals is at risk for several reasons – doubts about what constitutes legal and illegal online behaviour engendered by the Act may reduce the desirability of subscribing to Internet access, the subscriber may choose to discontinue a subscription after being threatened, or further technical measures contemplated by the Act may affect his or her use.

The home is not the only place of Internet access. Each point of access is likely to involve an ISP subscription and a subscriber who will be concerned about possible

59 (Le Blond, et al., 2010).

60 The point about an ‘arms race’ is further developed by (Collins & Mansell, 2005) and (Ekblom, 2005).

61 As in other countries, the UK has many different types of households. Although some households may have more than one Internet connection, this is unusual because of the use of Internet routers with wireless and wired connections for sharing a single subscription. In the estimates here, we assume a single ISP subscription per household. The estimate of the share of users who access the Internet at home is from (Dutton, et al., 2009), p. 9.

62 This estimate is based on applying the average household Internet subscription rate (61.5%) to all households with two or more people in them, counting the number of people in the household other than a single assumed ‘infringer’, applying to all household members the OII estimate that 70 per cent of all adults (14 years of age and older) are Internet users (Dutton, et al., 2009), p. 7 and subtracting an estimate of the number of children under the age of 5 from the European standard population age structure (Office for National Statistics (ONS), 2009), pp. 14, 232. As stated in the text, ‘as many as’ refers to uncertainties concerning younger children’s usage of the Internet and other possible refinements that might affect the estimate.

misuse of his or her connection and the resulting threats and possible sanctions. This is likely to lead to a variety of responses: denying access, requiring users to assume liability and closely monitoring access, or purchasing an insurance policy to protect against misuse. Some of these responses will raise costs; others will erode trust between people. None of these impacts was acknowledged or quantified in the impact statements prepared for the Act. How large is the scale of these potential impacts?

In the sample selected by the OII for its 2009 survey, some 41 per cent of users access the Internet at work.⁶³ In the UK, 29.3 million people were employed full or part-time in 2008.⁶⁴ OII estimates that 70 per cent of adults are current Internet users. Thus, a reasonable estimate of the number of people using the Internet at work is 12.5 million.⁶⁵ While many places of employment may record Internet use by employees systematically, the Act now will make them liable for the possible misuse of every Internet connection at all times. It is reasonable to predict that this liability will have a chilling effect on the freedom and ease with which people make use of the Internet in the workplace.

People also use the Internet in many other places. In each of these places, the subscriber to the Internet connection will face the liability associated with the misuse of a computer. For example, according to the OII, 35 per cent of Internet users report accessing the Internet from *someone else's home*. This may mean that over 10 million people are, at least occasionally, using the Internet from someone else's home.⁶⁶ Some of these 10 million users will represent a liability for the person allowing someone else's use of his or her Internet connection. Again, it is reasonable to predict that this will have a chilling effect on the willingness of individuals to allow their friends or household guests to use their Internet connections.

63 (Dutton, et al., 2009), p. 9

64 (Office for National Statistics (ONS), 2009), p. 52.

65 This estimate is based on the 29.3 million people employed multiplied by 70 per cent of adults who are current users, which equals 20.5 million employed people who use the Internet. Then, the 20.5 million users who are employed multiplied by 41 per cent of users who use the Internet at work, yields the 12.5 million reported.

66 Some 35 per cent of users between the ages of 15 and 75, estimated as 70 per cent of the population of this age group (46 million multiplied by 70 per cent is 32 million) and recognising that those aged from 60 to 75 are less likely to be users, but that children under the age of 15 are likely to be both Internet users and using the Internet at the homes of friends. The estimate is based on 35 per cent of 32 million (11 million).

These impacts also will be felt by public institutions such as schools, libraries, museums, hospitals and universities. For example, the OII found that 16 per cent of those aged 14 and over use the Internet at school or university (over 7 million people) and 14 per cent (over 6 million people) access the Internet from libraries.⁶⁷ These are large numbers of users who might previously have enjoyed access without the need to prove their identity or risk that a friend or other person might gain access in their name and misuse their access privileges. All of these sites as well as others such as Internet cafés (with over 3 million people accessing the Internet)⁶⁸ will be threatened with possible misuse of the access they provide as a public service or as the basis for their business or mission. In each environment, access to the Internet will become more tightly regulated, subject to suspicion and involve a test of trust.

In addition, users of the Internet who do not subscribe to ISPs participating in the initial phases of implementation may find their access curtailed, also becoming confused about the legality or illegality of their file-sharing behaviour. Ofcom claims that, initially, the Government anticipates that most small and medium-sized ISPs and mobile network operators will fall outside the cut-off point during the initial implementation of the scheme.⁶⁹ For ISPs, especially those whose business models would be severely affected by the cost of implementing the obligations, and that are not initially subject to the Code, Ofcom suggests that they “may wish to consider whether they can reduce or avoid the possibility of being brought within the scope of the scheme by controlling the incidence of infringement on their networks”.⁷⁰ Any such actions taken by these ISPs and wireless network providers may lead to curtailment of the legal uses by those who use the Internet in public places, for example, using WiFi networks. User registration requirements might be introduced that would reveal user identities if ISPs seek to avoid inclusion within the future scope of the scheme. This will create the potential for subscribers and other users to believe that the confidentiality of their identities is being, or is likely to be, breached or to become confused about what ISPs offer as conditions for the protection of their identities.

67 (Dutton, et al., 2009), p. 9. The estimated number of users is derived from the total number of adult users (32 million) estimated earlier.

68 Estimated as number of Internet users, as in the above footnote, multiplied by the share of users who report Internet café access (Dutton, et al., 2009), p.9.

69 (Ofcom, 2010), para. 3.15.

70 (Ofcom, 2010), para 3.24.

1.5 Summary

The impact of the online infringement of copyright provisions of the Act, in our assessment, will be affected by a wide range of interacting factors. Studies of these factors yield contradictory results as to the likelihood that Internet users will use existing methods to acquire copyright protected online content. No clear logic is presented in the impact assessments of the Act concerning what a 'socially appropriate level' of investment by the creative industries in such content might be. In our view the question of balance or proportionality with respect to the Act must be considered in the light of innovative developments in ICTs including the Internet. We are witnessing the development of an online 'participatory' or 'remix' culture in which people are being encouraged to experiment with the applications offered on the Internet. The online participatory culture is emerging rapidly in the UK consistent with fostering the development of the UK digital economy. The specific interventions that will be implemented under the Act have the potential to disrupt or alter the course of Internet development in ways that cannot be anticipated or assumed to be benign.

The impact of the Act on ISPs includes reputational costs and damage to customer goodwill. These are likely to be damaged by the risk of 'false positives' where customers receive notifications of infringement or are charged with infringements erroneously and these costs were not estimated in the impact assessments. It is likely that ISP reputations will be impacted by a loss of customer goodwill as a result of the effects on non-infringing users by actions to pursue infringement. These other users include other household members, those sharing their Internet connections, and users in various public places. The inclusiveness of the Act of all rights holders means that the costs of compliance are based on misleading assumptions. The costs of compliance are subject to assumptions about the (unknown) level of CIRs that will be generated by the implementation of the Act. In addition, customers may switch to ISPs not included in the initial implementation of the Act. The implementation proposals also raise questions about competition in the ISP market.

The impact of the Act's provisions on copyright infringement will lead to confusion on the part of ISP subscribers. This confusion will include doubts about what specific online activities will be deemed to be legal and illegal and which specific misbehaviours will attract a punishment. This is likely to have the effect of reducing Internet use and the

benefits citizens and consumers receive from such use. This runs counter to the Government's aim of encouraging innovative and inclusive participation in the digital economy in the UK. Citizens and consumers will perceive that their behaviour is being monitored, raising issues of the protection of personal data and privacy as well as trust. Internet users' abilities to understand changing social and legal norms about legal and illegal uses of the Internet cannot be taken for granted. Research shows that copyright education campaigns have unpredictable effects, and in some cases, no effect. Any such campaigns aimed at educating people about legal behaviour need to be framed in the broad context of increasing digital literacy in an online participatory culture. If education about copyright is not framed in this way, it will run counter to the cultural and social shifts that are characterizing the phenomenon of social networking on the Internet and have little effect. ISP subscribers will seek alternative means of avoiding detection, increasing encrypted traffic and the use of IP blocking software, and potentially raising security issues.

The Act also will have effects on parties other than the subscriber. Within the home, there may be as many as 15 million people at risk of having their Internet use affected by the pursuit of copyright infringing Internet users. In the workplace, businesses will face costs of monitoring carefully the Internet use of some 29 million employees to avoid liabilities. Today, it may be estimated that some 10 million people access the Internet at other people's homes, raising concerns about the assignment of responsibility and the culture of sharing in Internet use. It is likely that more than 7 million people use the Internet from school or university and that 6 million access the Internet at libraries. All of these access sites face risks from those they allow to connect to the Internet and are likely to restrict, control or deny, access in the face of the risk of misuse. These sites also will face increased costs of establishing and maintaining monitoring systems for Internet use. Collectively, the scale of those likely to be affected by the Act who are not infringers is very large. In addition, the conditions and culture of Internet use are likely to be affected in profound ways that we think are unlikely to be benign.

2 Losses Suffered by Rights Holders and the Impact of the Act

The losses suffered by rights holders as a result of online infringement of copyright and the impact of the Act on those losses are examined in this section.

The Digital Economy Act 2010 includes provisions with respect to online infringement of copyright as a response, in part, to infringements in the fields of music, film, games and recreational software. ISPs that meet specified criteria are required to:

- Notify their subscribers if the internet protocol (“IP”) addresses associated with them are reported by copyright owners as being used to infringe copyright; and
- Keep track of the number of reports about each subscriber and, on request by a copyright owner, compile on an anonymous basis a list of those subscribers who are reported on by the copyright owner above a threshold set in the initial obligations code (“relevant subscribers”). After obtaining a court order to obtain personal details, copyright owners will be able to take action against those included in the list”.⁷¹

We examine the potential losses suffered by the creative industries and the likely impact of the Act on those losses in this section.

2.1 Losses Suffered by Rights Holders

A large number of studies attempt to ascertain what losses have been incurred by rights holders as a result of online infringement of copyright. Most of them conclude that it is very difficult to provide a definitive estimate.

2.1.1 Market Analysis

A 2010 US Government Accountability Office (GAO) report indicates that sectors affected by infringing use of digital content include the music, motion picture, television, publishing and software industries and that the methods of infringement include not only P2P networks, but also streaming sites and one-click hosting services.⁷² The report suggests that there are direct benefits of such behaviour, though it provides little information to document them. These direct benefits include customers’ perceived benefits of freely acquiring such goods and the increased sales of legitimate goods as a result of consumer ‘sampling’ of infringing goods. In addition, copyright infringement increases the demand for bandwidth, generating benefits to other sectors, e.g. router suppliers, ISPs and mass storage producers, including the makers of MP3 devices.

The GAO report concludes that “it is difficult, if not impossible, to quantify the net effect of counterfeiting and piracy on the economy as a whole”. Both this report and an internationally focused 2008 OECD report conclude that “neither governments nor

⁷¹ (UK Government, 2010b), para. 31.

⁷² (Government Accountability Office (GAO), 2010) and (OECD, 2008).

industry were able to provide solid assessments of their respective situations”.⁷³ The OECD study did not try to quantify the economic effects on industry revenues as a consequence of online digital copyright infringement due to the many methodological challenges such a study would entail.⁷⁴ Important factors in industry estimates include assumptions about the rate of substitution between legal and illegal products and about the extent of deception on the part of the content creator or confusion on the part of the Internet user as to whether a product is legal or illegal. These findings are taken into account in our assessment of the relevant literature.

A 2010 review of the literature on the economics of copyright and digitalisation for the Strategic Advisory Board for Intellectual Property Policy (SABIP) emphasises that it is an empirical question as to whether any given copyright system is likely to offer a net welfare gain or a reduction in losses to the industry.⁷⁵ This report highlights gaps in the research literature including: the effect of digital copying on user welfare; the effects of digital copying on major firms and fringe and new entrant suppliers; differences among markets; and the impact of copyright systems on follow-up creativity and socially desirable aspects of technological change. It highlights the contradictory empirical results on the impact of file-sharing on music industry revenues; results ranging from a strong, to virtually no impact.⁷⁶

“The effect of file-sharing on authorised sales remains contentious. Results and their interpretations vary considerably and none of the existing studies seems sufficiently conclusive as to settle the issue single-handedly”.⁷⁷

A key to deciding on copyright enforcement strategies is the incentives of both producers and consumers to break the law.⁷⁸ A 2009 report to WIPO observes that the present state of understanding of the impacts of copyright violations does not provide insight into the complexity of behaviour in ‘real world’ markets.

“Most academic studies are of a theoretical nature, that is, they develop models of supply and demand to ascertain how unauthorized uses of intellectual property impact on different agents in the economy. ... By nature these models cannot capture the sophisticated complexities of how markets for IPR-protected goods function in the real world”.⁷⁹

73 (Government Accountability Office (GAO), 2010), p. 16.

74 (Government Accountability Office (GAO), 2010), p. 24 and (OECD, 2008), Executive Summary p. 16.

75 (Strategic Advisory Board for Intellectual Property Policy, 2010).

76 (Strategic Advisory Board for Intellectual Property Policy, 2010), p. 61.

77 (Strategic Advisory Board for Intellectual Property Policy, 2010), p. 64-5.

78 (World Intellectual Property Organization (WIPO), 2009), p. 4.

79 (World Intellectual Property Organization (WIPO), 2009), p. 5.

The WIPO report emphasises that the welfare effects in any particular case are an empirical question.

Liebowitz argues that explanations other than file-sharing have little or no support in explaining the decline in music industry revenues. He speculates that file-sharing has received greater visibility because of parallel discussions of the 'creative commons' and debates about whether open or closed networks foster innovation most effectively. Liebowitz says, with respect to the US studies, that the data come from only a few sources, that panel data may be unreliable, and that fear of reporting on actual behaviour if it may be subject to legal action, are factors to consider in assessing claims about losses. Reviewing evidence on substitution effects, sampling and network effects, and indirect appropriability (quality of copies), he concludes that, while file-sharing is the principal cause for revenue decreases, "we do not yet have enough evidence to draw any but a preliminary conclusion".⁸⁰

Oberholzer-Gee and Strumpf's⁸¹ study is often cited as indicating that downloading has a statistically insignificant impact on music sales. Like other studies it makes a number of assumptions in an attempt to isolate the effects of file-sharing on sales. Hietanen et al. draw attention to the variability of the evidence base, pointing to the importance of diverse entertainment content in estimating the effects. They find that users, generally, are aware that they are breaking the law, many believing that file-sharing is morally commendable.⁸²

Studies of losses also make assumptions about the impact of legal threats on user behaviour. Users who share large amounts of music have been found to react differently to legal threats than those who share a smaller number of files. Based on a before-after research design of users in the context of Recording Industry Association of America (RIAA) legal actions in the US, Bhattacharjee et al. found that there was evidence of a decline in sharing and acknowledged that their results do not reflect the possibility that users switched to other means of downloading.⁸³ Their study of the impact of file-sharing on the survival rate of music albums on a leading 'top 100' chart suggests that

80 (Liebowitz, 2006a), p. 25; see also (Liebowitz, 2006b).

81 (Oberholzer-Gee & Strumpf, 2007).

82 (Hietanen, et al., 2008).

83 (Bhattacharjee, et al., 2006), see also PhD Thesis by (Lertwachara, 2004).

sharing reduces the survival of albums that debut on the charts at lower levels, but not on the highly ranked albums. They also found that superstar and female artists are more likely to survive on the charts and that this continues to be so with the advent of greater file-sharing.⁸⁴

The evidence from the business and economics literature reviewed above is inconclusive regarding the behavioural relationship between file-sharing and physical or online acquisition of non-infringing content, a conclusion shared by the authors of two recent reviews of the literature.⁸⁵ Most studies are concerned with losses stemming from copyright infringement related to music recorded on compact discs and there is relatively little evidence concerning effects in other content markets. In addition, as the issue of copyright infringement has become increasingly prominent in the media, self-reported consumer behaviour is more difficult to interpret. Survey respondents may become strategic with respect to their behaviour and intentions: “students, who are often the subjects in surveys of illegal file-sharing, may either not admit that they are engaging in illegal activity, or may admit to such behavior because it may be popular for this demographic”.⁸⁶

There is little question that some sales of copyrighted material would have been made in the absence of infringing content on the Internet. However, the assumptions made in most studies, and in the impact assessments for the Act, about *behavioural change* are central to any assessment of industry reported losses generally, and to an assessment of the losses or gains to the creative industries in the wake of the implementation of the Act.

2.1.2 Intentions and Behavioural Analysis

In addition to studies employing analytical methods from business and economics, many experimental studies have been conducted within the theoretical framework of a social psychological understanding of the relationships between reported intentions and actual behaviour and within the framework of sociological theories of deviant behaviour and the propensity for ‘neutralisation’ behaviour.

84 (Bhattacharjee, et al., 2007).

85(Oberholzer-Gee & Strumpf, 2010); (Strategic Advisory Board for Intellectual Property Policy, 2010).

86 (Government Accountability Office (GAO), 2010), p. 21.

Harris, for example, examined the self-reported justifications of file sharers – suggesting that P2P file-sharers employ (multiple) techniques of neutralization to pre-justify or post-event rationalize their activities (denial of victim; denial of injury; denial of responsibility; claim of normality; claim of relative acceptability; justification by comparison; and appeal to higher loyalties).⁸⁷ Ingram and Hinduja used a similar framework to consider deviant behaviour, suggesting that universities may facilitate infringement because of the high value placed on group norms (in the US).⁸⁸

Holsapple et al. discuss factors likely to influence infringing behaviour in the case of software, including perceived value, inertia, visibility, access, legal sanctions, technical solutions, informal sanctions of self-control and ethics, and perceived benefits of noncompliance, including fairness, and a host of other contextual factors. They find that infringing behaviour cannot be assumed to be similar to crimes like arson and, therefore, that theories of behaviour change drawn from criminology are difficult to apply in the case of illegal sharing of software, leading them to argue for a forward-looking research agenda.⁸⁹

Li and Nergadze examined the deterrence effect of legal and non-legal approaches to infringing behaviour in the US based on a survey. They found that reported behaviour is most affected by the certainty of punishment and that awareness of the law plays a weak role in deterring the likelihood of future file-sharing. More important factors were the perceived stigma of being labelled a pirate and agreement or disagreement with the law. In this study the majority of students was not deterred by the threat of RIAA legal suits.⁹⁰

LaRose and Kim provide a social cognitive perspective on music downloading based on a study of college students in the US, finding that expected outcomes of downloading behaviour and deficient self-regulation of that behaviour are determinants but that habit is a stronger influence than perceptions of norms. Perceived norms did not influence intentions to download and this, in turn, had no relation to CD purchases or subscriptions to online paid music services. Variables considered were moral

87 (Harris & Dumas, 2009).

88 (Ingram & Hinduja, 2008).

89 (Holsapple, et al., 2008).

90 (Li & Nergadze, 2009).

justification, descriptive norms (pride in being a ‘pirate’), self-efficacy, ‘out of control’ downloading, social outcomes, novelty, saving money, and perception of moral norms.⁹¹

The ‘Theory of Planned Behaviour’ has been used to predict the illegal use of software. Liao et al. found that perceived risk influences the likelihood of intentions – but that perceived risk is a complex matter involving performance, social aspects, prosecution and psychological concerns. Here, perceived norms of behaviour had little impact on intentions,⁹² but this finding is contradicted by another study based on a different sample and somewhat different research design.⁹³ Still another study found that deterrence did not affect the intentions of non-downloaders, but did affect the intentions of both light and heavy downloaders. Attitudes, subjective norms and behavioural control had no effect on the intentions of non-downloaders in this study.⁹⁴

Overall, studies from several disciplines indicate that it is unclear what effects that various types of prosecution, threats of prosecution and other sanctions are likely to have.⁹⁵

2.1.3 Studies of Creative Industry Strategies

Another fact to be taken into account in assessing losses is the unpredictable behaviour of companies within the creative industries. Some music industry strategies may be having the opposite effect of what is intended (e.g. law suits, technical solutions, information campaigns, and lobbying for stricter laws). When Apple launched its downloading service – iTunes Music Store 2003 - its sales quickly rose to 70 per cent of the level of infringing downloads on Apple Macs. Case studies suggest that legal digital services appeal to certain more mature users but that illegal digital services continue to appeal to bootleggers, aficionados and singles-buying youths.⁹⁶ In research conducted in 2003, Bakker assumed that most sharing was of MP3s. He also pointed out that companies are developing new functionalities and services in the package offered by their

91 (LaRose & Kim, 2007).

92 (Liao, et al., 2010).

93 (Morton & Koufteros, 2008).

94 (Plowman & Goode, 2009).

95 (Strategic Advisory Board for Intellectual Property Policy, 2010), p.66; (Blackburn, 2004); (Maffioletti & Ramello, 2004); (Rob & Waldfogel, 2006).

96 (Bakker, 2005) notes that Kazaa, Gnutella and Morpheus services filled a gap when Napster was closed down. Other services like MusicMatch, MusicNor, pressplay, Rhapsody MusicNet, Weblisten and Napster 2.0 have more complicated digital rights management systems the earliest services.

paid services, including reliability, reduced security problems, faster and porn-free access with extra features such as celebrity play lists, exclusive tracks, album art, gift certificates, allowances and streaming audio, leading to changes in the attractiveness of legal services. As a result the behavioural changes of users cannot be assumed based on the recent past.

If segments of the music industry begin adopting new business models in response to changing consumer behaviour such as, for example, a ransom model (only part of a story available until payment), a tipping model, a promotion model, a customer data model (charge per use), preferred placement models on search engines, or the industry accepts a statutory levy, or music is bundled with other subscription-based content, shifting to a service concept,⁹⁷ there could be many unexpected changes in customer behaviour that are not taken into account in studies of industry losses. Revenue sharing arrangements through collaborations within online communities,⁹⁸ including voluntary payment models and complementary product and service-based models are also being suggested. Regner et al. observe that, for the creative industry, government intervention is the safest option as compared to investing rapidly in new methods of online revenue generation.⁹⁹

The long-term impacts on losses associated with changes in the creative industries' business models, cultural diversity, and the accessibility of content need to be considered in the assessment of impacts and claims about losses. The proliferation of digital distribution networks, combined with the availability of digital technology, have loosened the industry's control over access to these products, such that only part of the decline in music sales can be attributed to file-sharing. However, information is in short supply on everything from business models for the music industry to the growth of games that is accompanying broadband expansion. In addition file sharers are also important customers of the creative industry. Research results offer static snapshots of developments in file-sharing and do not take into account the dynamics of changes in both industry and user behaviour. van Eijk et al. conclude that:

“It turns out that online media provide a number of new avenues for creators and producers to reach their intended audiences, without significant gatekeepers preventing them from doing so. It is up to government, as part of its cultural policy and its policy to strengthen the country's innovative power and competitive edge, to consider identifying the promotion of innovation in the

97 (Dubosson-Torbay, et al., nd).

98 (Quiring, et al., 2008).

99 (Regner, et al., 2009).

entertainment industry as a key priority. Introducing new protective measures does not seem the right way to go”.¹⁰⁰

Another important factor in assessing assumptions about changes in behaviour that are embedded in studies of industry losses is the extent to which users ‘blame’ technology for any online misbehaviour. Selwyn’s study of self-reported online misbehaviour in the UK concludes that users “blame” the Internet for encouraging misbehaviour or deviant behaviour.¹⁰¹

2.1.4 Regulation in a Changing Environment

The Government acknowledged that “technology used for the purposes of online infringement of copyright is changing fast and it is not possible at the time of enactment to know which technical measures would be effective”.¹⁰² In assessing the Act’s impacts, it is important to consider the indications of changes in citizen and consumer behaviour and perceptions of the value of file-sharing as well as the continuously changing business models employed by the creative industry to generate new revenue streams associated with the online distribution of digital content.

In the light of our review in the preceding sections, considerations in assessing the impact of losses on the industry include effects related to legal and other actions taken against sites that provide or facilitate access to copyright infringing content.

There is little question that some sales of copyrighted material occur *because* of copyright infringement, e.g. sharing of an infringing item leading to a desire to purchase an ordinary copy (one that is more permanent and includes other features as in the case of music CD ‘liner’ material). There is also little question that some sales are lost due to the availability of infringing content. Different balances between these possibilities are found in the literature and there is some evidence that the magnitude of the losses or gains depends upon the specific group of customers attracted to a particular good.¹⁰³ In addition, the volume of file-sharing appears to be influenced by the (changing) relative convenience of acquiring infringing and non-infringing content. In short, the Act is an intervention in a rapidly changing environment in which several effects are at work.

100 (van Eijk, et al., 2010), p. 53.

101 (Selwyn, 2008), p. 462.

102 (UK Government, 2010b), para. 61.

103 (Dutton, et al., 2009).

A *first effect* on online file-sharing infringement is the closure of certain sites that significantly reduces the availability of infringing material. This may have contributed to a reduction in the extent of infringing downloading, in part, because users seeking infringing content must devise new ways of acquiring such content. There are also issues of the perceived quality of content. If there is a very low probability of consumers obtaining high quality copies of digital content by illicit downloading this may influence user behaviour towards high quality legal content.¹⁰⁴

A *second effect* is the entry and growth of merchants selling musical content online, a development that began by selling ‘copy protected’ content (content only playable through a ‘player’ that automatically verifies the ownership rights for a particular item). This market subsequently evolved to provide music that is not ‘copy protected’ in a bid to increase the attractiveness of downloading music to be used in other ‘players’ including MP3 devices. Even in the first stage, iTunes, the largest online music vendor, made such transfers possible with copy-protected content. Prices charged for online music vary and are sometimes lower than those for the physical product, although costs are also lower. To our knowledge, there is no definitive research-based evidence concerning the net effect of legitimate online sales on the overall revenue or gross profitability of music copyright owners. In addition, the relative convenience and added service available from legitimate vendors of copyright music may be reducing the demand for infringing content.

A *third effect* on online infringement is the increasing availability of material where the copyright owner has, through various means including the ‘creative commons’ license, indicated that those who copy will not be required to pay for copying. We are not legal experts, so we do not offer an opinion on whether copying of such material constitutes ‘infringement’ in a legal sense. However, the availability of such content diverts some user demand from copyrighted content, regardless of whether it is acquired by online infringement or other, legitimate, means.

In addition, a number of other effects that may have an impact on downloading of infringing content include education campaigns, the placing of ‘rubbish files’ (those not

104 (Fetscherin, 2005); see also (Fetscherin, 2006).

containing the infringing content expected or containing incomplete, distorted or otherwise imperfect copies of infringing content) in P2P distribution networks to disrupt user aims of acquiring infringing content, and the deceleration of growth in online users in the UK, which reduces the number of new users who might engage in acquiring infringing content.

None of these other effects is systematically examined in the academic or business literature to our knowledge.

2.2 Impact of the Act on Rights Holders' Losses

The balance of the above effects is unclear given rapid changes in the online participatory culture in the UK and elsewhere. The evidence based on empirical studies is contradictory, but there are indications of a growing gap between what citizens and consumers perceive as 'good' online behaviour, i.e. sharing of many forms of digital content, and the rights holders' view of such behaviour. This makes it very difficult to estimate the impact of the Act on rights holder losses. A central issue is what the 'behavioural response' (how people choose to act differently) to the Act will be and how people will respond to the measures it sets in place. As above, the research literature indicates that this assessment is extremely difficult to make because of the rapid and continuing changes in the online participatory culture in the UK.

Estimates of revenue restoration to film and television rights holders made by IPSOS,¹⁰⁵ a key study cited in the Government's impact assessments for the Act, are based upon the assumption that individuals who acquire copyright infringing material will reliably predict their own behaviour if this alternative is unavailable. This is defective for several reasons:

- It is a well-known principle that a zero or very low price leads to greater consumption and that increasing the price will reduce the quantity demanded.
- It cannot be assumed that the answers of individuals confronted with the question of how they would otherwise acquire or view a film or television programme for which they had previously not paid, can be used to predict purchase behaviour.

105 (IPSOS, 2007).

- In the survey upon which the estimates were based customers were not confronted with the costs of their alternative choices (these were assigned afterwards in the analysis).
- In the survey upon which the estimates were based customers were not given the option of selecting ‘would not have seen’, but this answer is assigned if they respond, ‘none of these’ (to a list of alternative non-infringing methods of viewing or acquisition).

It is assumed that measures taken under the Act will be very effective in foreclosing the exchange of infringing material. This assumption does not appear to be warranted based upon historical and contemporaneous experience.

Alternative technological means exist for the exchange of infringing material that cannot be readily detected, e.g. cryptography. The Act and its provisions for enforcement create incentives for further innovations. A core group of individuals engaged in extensive file exchange is likely to continue using such innovations or creating them. An analogous case is that of child pornography where an outright ban with criminal penalties for violating it has, unfortunately, not eradicated the exchange of these materials. The efforts to avoid detection (discussed further in Section 1.3.3) will reduce the effectiveness of the Act, particularly for those most heavily engaged in infringement.

As indicated by studies adopting theories of the relationship between intentions and behaviour, the evidence is contradictory. The willingness of typical users to follow users who are more determined to engage in the exchange of copyrighted material depends upon the interaction of many factors. In addition to issues of changing perceptions of norms, moral behaviour and learning, these include: innovations in the means of sharing that make it more difficult or less reliable to detect copyright infringement; media reports of experience with the Act’s implementation providing insights into the likelihood of detection; the availability of alternative means of accessing networks where identity is not recorded or is obscured; and the record of copyright holders in pursuing those who are identified to them following a petition to a court. Media reports of social movement organisations that become involved in discussions about different forms of infringement are likely to shape the attitudes and behaviours of users. For instance, the case of Sklyarov, arrested for cracking the encryption of Adobe’s e-Book in 2001, was an

instance where the mobilisation of a social movement against digital rights management gave a high profile to issues of fair use, free speech and innovation.¹⁰⁶ These issues are not adequately considered in the Act's impact assessment statements or in developing estimates concerning future user behaviour.

2.3 Summary

Research on the losses suffered by creative industry rights holders focuses on market analysis, Internet user intentions and behaviours, and the business strategies of the creative industry companies. While there is little question that some sales of copyrighted material would have been made in the absence of infringing content and file-sharing the results of market analyses do not provide robust conclusions, in part, because of the assumptions made about behavioural change. The results of studies of intentions, behavioural change, deviant behaviour, the effects of deterrents, and cognitive perceptions of moral behaviour online, are ambiguous at best. These studies call into question assumptions about the impact of interventions as required by the Act and consequent reductions in infringing behaviour using P2P file-sharing. The creative industries are continuously developing new business models, with effects on infringing behaviour that cannot be predicted. The changing volume of file-sharing is also influenced by the changing relative convenience of file-sharing. This may be affected by the closure of certain sites, changes in the availability of high quality copies, the growth of legitimate outlets for sales of copy-protected content, the growth in the availability of content under 'creative commons' licenses, the introduction of education campaigns, and techniques to disrupt user acquisition of infringing files.

Given the difficulties in estimating the extent of industry losses attributable to file-sharing and the evidence that the efficacy of interventions in changing user behaviour by threatening what citizens and consumers otherwise regard as 'good' online behaviour is questionable, the impact of the Act on rights holders' losses is difficult to predict. Studies that purport to show the direct effect of measures, such as those incorporated in the Act, are forced to rely upon hypothetical assessments of future behavioural change. Existing studies, such as the IPSOS study, have employed questionable methods to make such assessments. For example, it is not appropriate to assume that barring access to infringing files will lead to acquisition of the estimated amount and type of content at

106 (Postigo, 2010).

prevailing prices. Even if the assumption is granted that illicit file-sharing has reduced the price of content, an intervention that seeks to suppress illicit file-sharing will only ‘restore revenue’ to the extent that it is effective. Even if attempts to suppress file-sharing enhance demand for non-infringing content, they also create a demand for new technologies to facilitate infringement and, in some social groups, may even enhance the attractiveness of illicit behaviour.

3 The Impact Assessments for the Act

In this section we examine the impact assessments for the Act with regard to the benefits to rights holders and the impact on ISPs and users so as to comment on the balancing exercise they reveal. We consider this in three parts: 3.1, the assessment of benefits to rights holders; 3.2, the impacts on ISPs; and 3.3, the impacts on users as set out in the impact assessments. Section 3.4 summarises our comment on the balancing act that it reveals. The Government’s assessment of the benefits to rights holders is based, in part, on the results of eight studies reported in Table 1 “Selection of Studies Estimating the Sales Displacement Effect” in the Impact Assessment Study.¹⁰⁷ We have reviewed seven of the studies available to us. In our assessment, these studies are interpreted in a light that favours the Government’s position without acknowledging alternative explanations for the results or the questionable assumptions upon which they are based in some instances.

3.1 Assessment of Benefits to Rights Holders

The Government concludes that the benefits to the rights holders from the Act will be an average annual benefit of £200 million.

This figure is based upon an argument presented in two steps.

The *first step* is to estimate the revenues foregone by rights holders as the result of infringement stemming from downloading – this is estimated to be in the vicinity of £400 million. The second step is to argue that roughly half of this foregone revenue will

¹⁰⁷ Table 1, (Department for Business Innovation and Skills, et al., 2010b), p. 107 and see (Oberholzer-Gee & Strumpf, 2007); (IPSOS, 2007); (Zentner, 2006); (Rob & Waldfogel, 2006); (Hennig-Thurau, et al., 2007); and (Peitz & Waelbroeck, 2004).

be recovered by curtailing one-half of infringing downloads. Each of these steps is considered in turn.

The estimate for rights holder losses is based upon several industry studies with some reference to academic studies of the revenue ‘displacement’ effects stemming from downloading.

The specific method for reaching the £400 million estimate is to assign values for the losses to three classes of rights holders: a) film and television, b) music, and c) games and entertainment software. For example, the method used to estimate the loss to film and television rights holders (£152 million) is based upon asking a statistical sample of individuals who admit to acquiring infringing content what they would do if they did not acquire the material by file-sharing.¹⁰⁸ While standards for predicting behaviour differ among academic disciplines, asking a question about an issue about which respondents might be embarrassed or feel challenged and providing a ‘safe’ and predictable alternative, as was done in the IPSOS study, is not likely to be a reliable predictor of actual behaviour. In the case of the IPSOS study, these answers are then used to infer the revenues that would flow to the various non-infringing sources of such material (theatre attendance, DVD purchase or rental and so on).

This method of assessing behavioural change is highly speculative. It is not based upon actual behaviour nor does the question asked to these individuals identify the costs of their choices. The music component of the total (£160 million) is based upon a study by Jupiter Research (2007) which we have not had the opportunity to examine.¹⁰⁹ The videogames and software component of the total is based upon an ad hoc assumption that the industry revenue share of the loss, measured by the above speculative method for film and television which amounts to 2 per cent of industry revenue, is applicable to this segment, implying a loss of £80 million.

Our view of the balance of the evidence is that the industry has experienced a loss from file-sharing activity. The methodology employed in the impact assessments for

108 (IPSOS, 2007). See Section 2.2 for further commentary on this study.

109 We found only a summary of this report online. The report was requested but was not provided to us. As a result the methodology underlying the figure £160 million could not be reviewed.

concluding that it amounts £400 million per year is, to the extent that we have been able to examine it, seriously flawed.

The *second step* in the logic of the impact assessment reports is to estimate the reduction in infringing file-sharing that might follow from the series of actions taken by rights holders (the CIRs) and ISPs (notification letters). Based upon experience with the memorandum of understanding in which a trial of notification methods was conducted, it is estimated that the reduction of file-sharing activity would be 50 per cent.

Regardless of whether this would, in fact, be the case in any longer term experience when alternative means of acquiring infringing content will be devised, the assumption is that this 50 per cent reduction in downloading of infringing files will lead to a corresponding increase in sales – i.e. that if an item cannot be freely downloaded, it will be purchased. No other basis is given for the estimate that one-half of the value of estimated losses from copyright infringement is taken as the appropriate projected increase in revenues for rights holders. This is inappropriate as a matter of both common sense and economic logic. In terms of common sense, it is unrealistic to assume that everyone will pay for something he or she has previously acquired for free. In terms of economics, it assumes that demand is perfectly inelastic, that is, a change in price does not have an effect on the quantity demanded. To propose that this ‘revenue recovery’ would continue over a decade, yielding a present value benefit of £1.7 billion for rights holders is inappropriate not only because it perpetuates the original flaw in the estimate of annual revenue gain, but also because people’s valuations of the benefits of digital content are subject to change, especially when innovation is giving rise to many new sources and distribution outlets for such content.

The ways that people legally acquire music already are undergoing major change towards digital forms of distribution where prices are lower. Over the next decade, further increases in digital distribution of other content will occur. This content also is likely to command as high a price as that received in other channels of music distribution. This estimate takes no account of other influences on demand such as the growth of user-produced content or other competing alternatives for customer time and money, some of which are identified in Section 2.1.4 above.

3.2 The Impacts on ISPs

The estimates of the costs to ISPs of the implementation of the relevant part of the Act are confined to two effects: 1) the direct costs of implementing the notification system and 2) the loss of customers stemming solely from the assumptions about the increased price of ISP services stemming from the Act.

A key assumption driving the estimated costs of the notification system is the number of notification letters that will be generated. The industry estimate of 6.5 million infringing users is used as the basis for this estimate, along with the assumptions about the need to send a second letter or take further action. The actual number of CIRs that will be generated is, however, unknown. NERA has estimated the number of such CIRs using a series of assumptions that is also based upon a large estimate of infringing users and additional assumptions concerning the effectiveness of detection.¹¹⁰ Ultimately NERA takes industry estimates from the film, television, and ‘record’ industries concerning the number of CIRs they expect will be sent and then make additional assumptions about the number of CIRs generated by other rights holders based upon surmise.¹¹¹ The result is that NERA expects that there will be 365,617 CIRs *per week*, noting that “each infringing IP address will not correspond to a unique account holder and each notification may refer to more than one CIR”.¹¹² It is assumed that this volume of CIRs will be matched effectively to subscribers to generate notification letters. It is outside our expertise and the information available to us to assess whether the costs attributed to the operation of this system have been appropriately estimated. We are sceptical, however, of the proposition that the translation of CIRs to user notification letters will be as straightforward as is assumed based on experience in examining the implementation of other large-scale data processing systems.

The other component of cost estimated for ISPs is the loss of customers from the assumed increase in ISP subscriber service prices as compliance costs are passed on to customers. This amounts to the revenue that would have been earned from the loss of between 10,000 and 40,000 customers due to an increase in the price of ISP service of between 0.2 and 0.6 per cent. The estimate of the number of customers lost is based upon a traditional demand elasticity study (which translates changes in price into changes

110 (NERA Economic Consulting, 2010).

111 (NERA Economic Consulting, 2010), p. 7.

112 (NERA Economic Consulting, 2010), p. 7.

in quantity demanded based upon prior experience with price variation). It does not include any allowance for the possible cancellations of subscriptions due to a loss of ISP reputation or customer trust or to cancellations by subscribers who derived value from their ISP connection from infringing activity.

No acknowledgement is made of the likelihood that when ISPs become agents of copyright enforcement the resulting compromise in trust in the privacy of personal communications or the misidentification of customers as infringing will lead to a further loss of customers. The size of this effect may be substantial. It may also result in a specific loss to individual ISPs as customers migrate to other ways of accessing the Internet or subscribe to other networks.

3.3 The Impacts on Users

The impact assessments prepared for the Act barely acknowledge that Internet users may be affected by the Act. The apparent reason for this is the argument that the Act will affect only those users who are infringers and that their welfare, because of their infringement, should not be considered. Those unable to pay for digital content also will suffer a welfare loss from the unavailability of the infringing content. Similarly, however, these users only benefit because their behaviour infringes copyright and so their losses are also excluded. Whether there is a legal basis for this exclusion is outside our expertise. It is, however, not an appropriate economic analysis of costs and benefits, one of the purposes of an impact assessment.

The impact assessments prepared for the Act do not acknowledge and, therefore, fail to estimate any other costs that might be borne by users. In Sections 1.3 and 1.4, we identify a number of effects, including the costs associated with false positives in the identification of infringing users; the costs of establishing and maintaining user monitoring systems in businesses and public institutions such as schools, libraries and universities; the liabilities incurred by users sharing their connections with others in their homes; and the risks of exclusion or reduction in the quality of Internet use for those not involved in infringing behaviour. We are not in a position at this time to make an estimate of the size of these costs. However, the number of people affected and the implications this has for the current culture of Internet access and use suggest that these costs will be substantial.

3.4 The Balancing Revealed

The methods chosen for assessing the costs and benefits of the Act and their implementation reveal a strong bias favouring rights holders over any other segment of society.

Infringing users are eliminated from consideration because their actions are taken to be a violation of law, even if otherwise they would not be able or willing to contribute to rights holder revenues. Thus, no estimate is made of the welfare effect on these users other than the note that if they were considered, “US evidence indicates that were this cost [the welfare loss of those unable or unwilling to pay] to be monetised it could outweigh the monetised benefits”.¹¹³ The corollary or collateral effects of this welfare loss are not considered, such as those noted above in Sections 1.3 and 1.4.

ISP costs are confined to two narrow categories: the costs of compliance with the Act and the loss of customers and revenue stemming from passing these costs onto customers.¹¹⁴ The possibilities that ISPs will lose reputation or customers as the result of the implementation are not acknowledged or estimated. We note that although the costs to schools, universities and libraries are not considered in the impact assessments, the issues and costs are beginning to be acknowledged (though not quantified) in subsequent implementation guides related to the Act.¹¹⁵

3.5 Summary

The impact assessments for the Act appear to be based on: 1) estimates of revenue loss that are methodologically unsound; 2) estimates of behaviour change that are inappropriate as a matter of common sense (consumers will not necessarily buy what they previously have obtained freely) and economic analysis (demand is never perfectly inelastic); and 3) failure to acknowledge, let alone estimate, costs that could readily have been anticipated. In our view, the impact assessments fail to weigh or balance adequately

113 (Department for Business Innovation and Skills, et al., 2010a), p. 55.

114 Additional costs include customer service costs associated with greater use of helplines with subscribers calling for advice than was assumed by the Government, additional migration costs when subscribers switch to other ISPs, the costs of competitive distortions, set up and administration costs, the costs of operating the appeals system for subscribers claiming they have been accused falsely.

Witness Statement of Andrew Heaney, TalkTalk Telecom Group Limited, June 2010.

115 (Department for Business Innovation and Skills, et al., 2010c).

the interests of all those in society who will be affected by the Act. In addition, by increasing the liability for and risk of all forms of Internet connection sharing, the Act's provisions alter the course of development of the Internet in ways that cannot be captured fully by a cost benefit analysis.

Our conclusions – that social welfare may be greater with file-sharing than without, that the industry losses due to file-sharing cannot be accurately assessed, and that, on balance, it is not possible to conclude that actions aimed at behavioural change will produce a net social welfare gain - are very similar to those reached by a report commissioned for SABIP, the UK Strategic Advisory Board for Intellectual Property Policy.¹¹⁶

“Despite considerable progress, the existing empirical literature does not yet provide a solid grounding for determining whether, and to what extent, it is worth fighting private, unauthorised copying in its newest guise of digital copying. Judging by the considerable interest the issue has received during the last few years, further studies on the effect of digital copying on demand for authorised copies are likely to be produced. It remains to be seen whether better data and research coverage of more recent years will at least resolve the issue of whether digital copying has a detrimental effect on rights holders. The inclination may be to go with the majority of studies and to accept that file-sharing has harmed the record industry. *The few studies that incorporate the benefits to consumers tend to find that social welfare has improved nevertheless*” (emphasis added)¹¹⁷

In assessing the issue of the proportionality of the Act there are a number of important issues that were not considered in the impact assessments and that we were not able to assess fully in this report. A more complete assessment would take into account the specific structure of the ISP industry in the UK, providing an analysis of the competitiveness of the top tier and other ISP providers when only some of these providers are required to implement the measures required by the Ofcom Draft Code. It would provide a full quantitative welfare analysis with consideration given to the welfare gains and losses to all stakeholders including consumers. It would take account of the implications for privacy protection in the light of the rights of citizens and the impact on ISP reputations and as a result of the notification measures and the potential release of subscriber identities to representatives of the creative industries. Greater consideration would also be given to the possible technical restrictions that ISPs and others, not initially included within the scope of the scheme, may place on the use of their networks in terms of the costs incurred by providers and the reduction in the value of network

116 According to its website (<http://www.sabip.org.uk/home/about.htm>) “The Strategic Advisory Board for Intellectual Property Policy (SABIP) is an independent, Non-Departmental Public Body with the Intellectual Property Office as its sponsoring agency”.

117 (Strategic Advisory Board for Intellectual Property Policy, 2010), p. 71.

access to users (including those who access WiFi networks as mobile offices). In summary, the full disruptive effects and social costs of the intervention called for by the Act have not been examined sufficiently in the impact assessments.

4 Alternative Approaches to Reducing Impacts of Online Infringement of Copyright

In this section we consider whether there are any other ways in which the objective of reducing the impact of online infringement of copyright could be achieved, looking first at whether there are innovative solutions (4.1) and, second, at the experiences of other countries (4.2). The measures set out in the Act and Ofcom's Draft Initial Obligations Code are predicated on the assumption that a system of mass notifications will "educate consumers about copyright and bring about a change in consumer behaviour".¹¹⁸ In other words, there is a strong assumption that consumer and citizen behavioural change will occur, such that infringing behaviour declines. The robustness of these assumptions has been called into question by our review. The Government asserts that "copyright offences are usually committed for economic gain and the Government wants to ensure that the courts have effective remedies to deny offenders the profits of their crimes".¹¹⁹ In the case of file-sharing and related activities, there are indications that motivations to engage in illegal downloading may be associated only weakly with the incentive of economic gain. It is also claimed that the level of file-sharing has reduced the incentive for the creative industries to invest in the development, production and distribution of innovative content.¹²⁰ We are not in a position to evaluate this claim as, for the purposes of this assessment, we did not have access to evidence on the actual rate of investment by segments of the digital content industry in new innovative content or on the incentives facing shareholders and investors. However, the preceding sections of this report suggest that there is good reason to question whether the current approach as mandated by the Act is proportional, given the overall weakness of the evidence on the costs and the contradictory evidence about Internet user responses.

118 (Department for Business Innovation and Skills, 2010), p. 36.

119 (Department for Business Innovation and Skills, et al., 2010b), p. 32.

120 (Department for Business Innovation and Skills, et al., 2010b), pp. 18, 19.

4.1 Alternative Measures

The provisions of the Act with respect to online infringement come at time when it appears that the creative industries' associations and firms are beginning to reassess the benefits in revenue recovery that are likely to result from threatened and actual legal actions aimed at the majority of Internet users. Ofcom's initial target is to encompass seven ISPs, each with more than 400,000 subscribers accounting for 96.5 per cent of the residential and small and medium-sized business broadband market in the UK.¹²¹

In the US, after thousands of legal suits against individuals, the RIAA is said to have begun seeking greater cooperation with ISPs in a bid to target only the major alleged offenders.¹²² In the US, the US Copyright Group, a group of lawyers, has sent large numbers of letters to alleged infringing individuals demanding payments of USD\$1,500 to \$2,500 to avoid further legal action. This involved obtaining the agreement of independent film makers and observers note that the expectation is that individuals will prefer to settle rather than face court action.¹²³ One of the risks of broad inclusion of rights holders is the creation of incentives for this sort of legal entrepreneurship. It seems likely that the dynamic process of innovation across the industry is resulting in a cycle where those firms whose profit margins are threatened by illegal activity seek first to change individual behaviour and then to reconsider the balance in terms of the costs and reputational set-backs to brands as a result, then moving on to devise more innovative solutions.

Alternative solutions that may curtail infringing practices, include:

- The strategy of pursuing, at a global level, those responsible for either hosting or facilitating access to large amounts of infringing content which appears to have an effect through the case-by-case suppression of such sites.
- 'User education' campaigns are encouraged by the Act, but there is little evidence that they are effective with the typical or casual copyright infringer. One way of pursuing the objective of reducing the impacts of online infringement of copyright may be to carry on with existing campaigns, finding

121 (Ofcom, 2010), para 3.15.

122 (Murtagh, 2009).

123 (N. Anderson, 2010b).

ways to more effectively provide support for education within the framework of programmes to enhance digital literacy. This could embrace many forms of digital participation and encourage the excluded population to go online, focusing on young people and adults beginning their online experience.¹²⁴ To conclude that narrowly focused copyright education campaigns have failed, suggests that a new narrow campaign directed at individuals may also be ineffective. If the issues are placed in the broader context of enabling citizens to fully participate in a digital society and consumers to fully access and evaluate the trustworthiness of online information, there is a greater likelihood of influencing the intentions and behaviours of Internet users.

- Further promotion of legal means by rights holders of acquisition of content, combined with greater public recognition by other stakeholders (government, ISPs, consumer groups and others) of innovations and improvements in legal services is likely to shape the future development of the creative industries in the interests of all stakeholders. Attention to issues of market structure and competition in legal downloading markets with the aim of assuring a level of competition compatible with innovation and investment in such services will continue to be needed.
- The requirement of notifications to users of P2P software. In the US legislation is being passed which mandates warnings to users which requires software producers to incorporate a message that appears during the installation and use of P2P software products.¹²⁵ This legislation is intended to prevent inadvertent disclosure of information on a computer through P2P file-sharing programmes without first providing notice and obtaining consent from an owner or authorised user of a computer. These measures are targeted mainly at protecting privacy and mitigating security threats from accidental sharing of information, but they offer a means through which user education could be enhanced without recourse to the intervention of ISPs.

124 Ofcom has an ongoing programme of monitoring digital literacy described at <http://www.imlrf.org/member/ofcom> as does the European Commission, described at http://ec.europa.eu/information_society/tl/edutra/skills/index_en.htm which is part of the i2010 strategy aimed at inclusion and e-learning, accessed 1/07/2010.

125 Senate P2P Cyber Protection and Informed User Act (United States Government, 2010) and House of Representatives Informed P2P User Act (United States Government, 2009).

- The most innovative alternative solutions involve rethinking how digital content producers might be compensated for their efforts other than by the direct use of market exchange.¹²⁶ For the most part, these involve taxes applied to the use of the Internet or general taxation and mechanisms to allocate the resulting pool of resource to individual content providers.¹²⁷ While such proposals are sound in theory, no practical means of implementing them has been developed as yet.

In addition, alternative approaches noted by the European Data Protection Supervisor (EDPS) in 2010 include the suggestion to consider alternative models of compensation for rights holders.¹²⁸ If actions are to be taken that involve the identification of individual users, the EDPS notes that data protection considerations should limit disclosure to individual activities occurring at a commercial scale,¹²⁹ and that measures should not be highly invasive of individual privacy and should respect values such as due process and freedom of speech. The EDPS also notes ‘user notification’ as a less intrusive means of intervention citing the ‘Citizens Rights Directive’ of 2009¹³⁰ obligation to ensure that rules and procedures to limit small scale copyright infringement by consumers are addressed through member states’ obligations to produce “standardised public interest information ... specifically mentioning infringements of copyright and related rights, and their legal consequences.”

4.2 Experience of Other Countries

International experience suggests that there are differences in the relationships between the increasing availability of high bandwidth to users and the extent of illegal file-sharing. There also appear to be differences in the extent to which young people are sharing illegal content before or after the implementation of copyright enforcement measures. These differences are not surprising given the importance of the cultural, social and economic factors highlighted earlier in this report. A variety of approaches to the involvement of ISPs in the enforcement of existing (or planned) legislation can be found.

126 (Mansell & Steinmueller, 2000a), pp. 301-310.

127 See (Noam & Pupillo, 2008) for a discussion.

128 (Hustinx, 2010), p. 10, para. 41.

129 (Hustinx, 2010), p. 11, para. 43.

130 (European Commission, 2009), para 26.

In the United States developments to counter copyright infringements are subject to the Digital Millennium Copyright Act,¹³¹ and, in particular, to Title II of the Act (Liability Limitation Act) which involves ISPs insofar as they must reveal the identities of suspected infringers, although the courts have found the language in the Act ambiguous as to the obligations of ‘carriage ISPs’. In the US between 2003 and 2005 the RIAA - the trade association which represents some 85 per cent of manufacturers or distributors of copyrighted music in the US - is reported to have filed 17,000 lawsuits against direct infringers. In 2005 there were estimated to be some 5.7 million US households that had downloaded an unauthorised song using P2P software at least once. The result of RIAA enforcement initiatives within the US has, it is argued, led to charges of censorship and damage to innovation and succeeded in shifting file-sharing from a centralised activity to a decentralised foreign-based activity,¹³² suggesting that measures taken in a single country may succeed in shifting the main infringing websites to other jurisdictions.

In 2008 it was reported that the numbers of legal suits brought by the RIAA against individuals alleged to be engaged in online infringement of copyright using P2P networks was in decline or had stopped and that the RIAA was seeking greater cooperation with ISPs to deter this behaviour. In the US, some have argued that proposed actions involving termination and suspension of Internet connections based “upon mere suspicion” could deprive users of lawful content.¹³³ The Federal Communications Commission (FCC) in the context of its Internet Policy Statement, has indicated that ISP-RIAA collaborations may be disallowed as an ‘extreme form’ of network management which risks cutting subscribers off from legitimate content and interferes with the principle of network neutrality.¹³⁴

Internationally, the RIAA campaign to strengthen measures to ensure that copyright protection is respected on a global basis and to reduce file-sharing of copyrighted digital images and texts is pursued via the International Intellectual Property Alliance (IIPA) and the national copyright industry associations. In the case of the EU, a 2010 report on the EU digital economy claimed that in 2008 the EU’s creative industries contributed 6.9 per cent, or approximately €860 billion, to total European GDP. The sectors most

131 (United States Government, 1998).

132 (Hambidge, 2007).

133 (Murtagh, 2009).

134 (Federal Communications Commission (FCC), 2005) and (Broache, 2008).

affected by infringement of copyright (film, television, recorded music and software) were estimated to have experienced retail revenue losses of €10 billion. Estimates attributable to downloading were based on assumptions made in academic studies and are subject to multiple caveats. The report claimed, nevertheless, that assuming no significant policy changes, these industries could expect to see cumulative retail revenue losses of as much as €240 billion by 2015.¹³⁵ However, based on data for 2009, International Federation of the Phonographic Industry (IFPI) has reported that music sales increased in some EU markets including the UK and Sweden,¹³⁶ suggesting that the gains and losses to the creative industries will continue to fluctuate and that reports will be based on differing assumptions.

Actions by EU member states aimed at curtailing copyright infringing activity include legislation and implementation measures with respect to file-sharing. These have been initiated within the framework established by the 2001 EU Directive on harmonising copyright and related rights in the information society.¹³⁷ Member state legislation is also informed by the 2004 EU Directive on intellectual property rights enforcement.¹³⁸ In September 2008, the European Parliament expressed opposition to a ‘three-strikes’ type of policy involving notifications to customers by ISPs, indicating that restrictions on the fundamental rights and liberties of Internet users, including the right of access to information, should not be made without a court decision. This was discussed by the Parliament and the European Commission in the context of the Telecom Reform Package leading to a decision in November 2009.¹³⁹ Concerns arose not only from the question of suppressing illegal entertainment content, but also from concerns about Internet access controls that might be used in ways that fail to respect the rights and freedoms of the citizens of EU member states. These concerns arise not only with respect to controlling file-sharing but also in attempts to control violent radical and

135 (TERA Consultants & Commerce/BASCAP, 2010).

136 (N. Anderson, 2010a).

137 (European Commission, 2001).

138 (European Commission, 2004).

139 An ‘Internet Freedom’ provision was incorporated in the Telecom Reform Package as Annex 1, Article 1(3)a which makes reference to the fundamental rights and freedoms of natural persons, as guaranteed by the European Convention for the Protection of Human Rights and Fundamental Freedoms and general principles of Community law (Europa RAPID Press Releases, 2009).

pornographic content.¹⁴⁰ The role of ISPs in this context continues to be under debate within the EU.¹⁴¹

Our assessment of the experience of other countries is based on a review drawn mainly from the trade literature. The introduction of legislation aimed at involving ISPs in the bid to curtail infringing file-sharing is relatively recent. As a result there are few academic studies of these specific developments and their consequences in countries in different regions of the world. We highlight some of the differences in approaches and experience that can be gleaned from trade magazines, online newspapers and blogs.

The use of technical methods

- Differences in the perceived feasibility of using technical filtering systems to detect infringing file-sharing activity.¹⁴²
- Inconclusive discussions about the use of technical systems to block individual customer attempts to share copyrighted files over P2P networks.
- The effectiveness of using warnings delivered to the screens of suspected illicit file-sharers or to all users of P2P software is uncertain.¹⁴³

Requirements for ISPs to disclose identities of customers accused of infringement

- Controversy over the privacy implications of disclosing user identities.¹⁴⁴
- Debate concerning the negative effects of ISP disclosure on customer trust or ISP reputation.¹⁴⁵

Differences in whether new legislation has been introduced to tackle file-sharing

- EU member states are proceeding at different rates and adopting different approaches in introducing legislation specifically to address infringing file-sharing, subsequent to the 2004 EU Directive on anti-piracy matters.¹⁴⁶

140 (Ryan & Heintl, 2010).

141 (Strowel, 2009).

142 (Pasche, 2009), a dissertation evaluating the benefits and disbenefits of legal approaches; Japan - (P2PNet, 2010).

143 Finland (Enigmax, 2009).

144 Germany (Cheng, 2009).

145 (Enigmax, 2008).

146 Belgium, 15 May 2007 - Law concerning the punishment of counterfeiting and piracy of intellectual property (LPCP): <http://www.bordermeasures.com/IMG/pdf/EM.pdf>; Denmark - (TorrentFreak, 2009); Finland - IPRED Law implemented 1 January 2006; France - 12 June 2009 Loi Hadopi, <http://www.senat.fr/dossierleg/pil07-405.html>; Italy - May 2004 at <http://www.parlamento.it/parlam/leggi/041281.htm>; Sweden - IPRED law 1 April 2009, <http://www.sweden.gov.se/content/1/c6/11/69/38/c18e5f5a.pdf>, all accessed 26 June 2010.

- Some countries (e.g. Germany) continue to debate whether there is a need for new legislation or whether it is possible to rely upon existing legislation.¹⁴⁷

In the countries that we surveyed, the use of technical methods or ISP disclosure of individual user identity continues to be very controversial.

The debate concerning possible measures reveals considerable differences in opinion about the need for action or what actions should be taken:

The approaches of nationally-based creative industry associations

- Variations in the apparent willingness of the creative industries to charge individuals with file-sharing offences.¹⁴⁸
- Differences in strategies aimed at flagrant individual illicit file sharers and strategies aimed at all potentially infringing file sharers.¹⁴⁹
- Debates about whether those allegedly engaged in infringing file-sharing are also important paying customers of creative industry firms.¹⁵⁰

ISP positions

- Variations in the willingness of ISPs to participate in a ‘graduated approach’ or ‘three strikes you are out’ plan without being ordered by a court to do so.¹⁵¹
- Differences in whether ISPs have or have not made statements about whether they view disclosure of identity as violating personal data protection legislation.¹⁵²

Public and Media responses

- Differences in the public response to new measures to curtail illegal file-sharing ranging from the formation of a political party (Sweden) to highly visible media profiles for social movement groups protesting actions they believe to be targeted at online fan communities.¹⁵³
- Variations in the reported decreases or increases in file-sharing traffic following the implementation of new measures.¹⁵⁴

147 Germany - (FreakBits, 2009).

148 Denmark - (Techdirt, 2009a); (Freeform101.org, 2009).

149 (Ou, 2008).

150 (Mtima, 2009), p. 691; and (Murtagh, 2009).

151 Canada - (Canada - Standing Committee on Canadian Heritage, 2010).

152 Ireland - (Murtagh, 2009); Italy - (Enigmax, 2010).

153 France - (Murphy, 2010); (Sage, 2010); Sweden - (Schofield, 2009); Australia - (McLelland, 2010)

154 Norway - (Molde, 2009); Sweden - (BBC, 2009); (ExtraTorrent.com, 2010); Canada - (Andersen & Frenz, nd).

- Differences in the media profile given to police raids of the premises of those alleged to be engaged in facilitating file-sharing through their websites.¹⁵⁵

The courts have also exhibited considerable variation in response to legislation that has been enacted:

- Ambiguities as to whether a court will convict an individual offender on the basis of a technical identification of an IP address and the technical recognition of files or if there is no confession.¹⁵⁶
- Variations in whether ISPs have been ordered by the courts to block customer access to BitTorrent sites such as The Pirate Bay (based in Sweden) or other sites based within EU member states.¹⁵⁷
- Reports of absence of action subsequent to the introduction of legislation and differing claims about its implementation.¹⁵⁸
- Variations in court rulings on whether ISPs are required to reveal the identities of allegedly infringing customers – with or without a specific court order.¹⁵⁹
- Variations in the punishments given to individuals convicted in connection with file-sharing sites and infringing file-sharing activities with no punishment to suspensions of Internet access for several months up to a year, two years, three years, or permanently.¹⁶⁰
- Variations in court decisions as to whether file-sharing of copyrighted content may be allowed for non-commercial purposes and when copies can be said to be ‘degraded’.¹⁶¹

On this basis, while noting that we do not have expertise in the interpretation of the law, it appears that the strategy favoured by the UK Government in the Act is not favoured throughout the EU or internationally. The trend in policy and legislation is clearly to ensure that copyright law is respected, but there is very wide variation in the extent to which action is being targeted at individual users of the Internet. These variations are indicative of the changing perceptions of appropriate behaviour online as citizens and

155 (Libbenga, 2006).

156 Denmark - (P2Pon!, 2010a).

157 Denmark - (P2Pon!, 2010a); France - (Wray, 2009).

158 Sweden - (P2Pon!, 2010b).

159 Italy - (Vivarelli, 2010); Sweden - (AFP, 2009); (P2Pon!, 2009); Canada - (Geist, 2009).

160 Finland - (Libbenga, 2006); (IFIP, 2007); Italy - (Smith, 2004); Canada - (Ernesto, 2010a); Japan -

(Fumijp Blogspot, 2009); South Korea - (ZeroPaid, 2009).

161 Italy - (Bangeman, 2008).

consumers increase their involvement in an online participatory culture that enables them to produce and consume digital content in multiple new forms, mixing content from many sources and sharing it with those active in their local and global online communities.

Some indication of the possible reaction of UK Internet users to the Act's implementation and the spread of the use of BitTorrent to enable the legal P2P distribution of digital content is suggested by the following:

- ACS: Law announced that from January 2010 it would bring some 15,000 cases against individuals, but then argued that mass law suits may not be the way forward.
- The consumer organisation, *Which?*, reported complaints from some 150 individuals claiming that they had wrongly received letters from the law firm.¹⁶²
- In 2008 Virgin Media sent warning letters to customers without the threat of disconnection from the Internet for allegedly infringing behaviour but has ceased this practice.
- P2P legal applications include the use of open source BitTorrent servers by the BBC to enable the public to access content, although after the launch of iPlayer, the BBC switched to streaming content from its own servers.¹⁶³
- In June 2010 the UK Treasury used BitTorrent to release public data on Government spending through its Combined Online Information System (COINS) initiative.¹⁶⁴

Finally, the RIAA's own strategy may be changing as the numbers of its suits against individuals in the US has declined since a peak in mid-2000s. Similarly, the Motion Picture Association of America (MPAA) is reported to be no longer pursuing individual file sharers.¹⁶⁵ US law firms are approaching content creators directly to bring law suits against alleged infringers of copyright, in the hope of financial settlements. An indication of RIAA's current strategy is the publication of its first list of the top six illegal file-sharing websites that are used for the global exchange of copyrighted movies, music and

162 (ZeroPaid, 2010).

163 (EBU, 2010).

164 (Ernesto, 2010b) and see <http://data.gov.uk/dataset/coins>.

165 (N. Anderson, 2010b).

other works. These were Baidu (China), IsoHunt (Canada), mp3fiesta (Ukraine), RapidShare (Germany), RMX4U (Luxemburg) and The Pirate Bay (Sweden).¹⁶⁶ This suggests a renewed targeting of those firms and associations that support and encourage individual infringing file-sharing behaviour.

4.3 Summary

We conclude that the current approach mandated by the Act is not proportional in the light of the overall weakness of the evidence on the balance between social benefits and costs, contradictory evidence about user responses and the rapidly changing online participatory culture which is influencing the conditions of Internet use. The creative industries are themselves considering a variety of alternative approaches. Alternative solutions to file-sharing of copyrighted digital content include: pursuing those either hosting or facilitating access to large amounts of infringing content; digital literacy campaigns aimed at enabling citizens to fully participate in a digital society; promotion of legal means for accessing content by rights holders; attention to issues of market structure and competition in legal downloading with the aim of assuring a level of competition compatible with innovation and investment in such services; notifications to users of P2P software; and rethinking how digital content producers might be compensated for their efforts.

Our review of the trade literature, based on the recent experience of other EU member states and several other countries, indicates that the strategy favoured by the UK Government is not one that is favoured throughout the EU or internationally, though we do not claim expertise in the interpretation of existing law. Our review indicates that there is considerable variation in the approaches being adopted by governments, ISPs and the creative industries, and in the impact of measures to curtail infringing behaviour on Internet users. These variations include: differences in the use of technical methods to monitor or control infringing behaviour; differences in requirements for ISPs to disclose the identities of customers alleged to be infringing; and differences in whether new legislation is introduced to tackle file-sharing. In the countries surveyed the use of technical methods or ISP disclosure of user identity continues to be very controversial. There are differences in the approaches being taken by national creative industry associations and ISPs with respect to the adoption of ‘graduated approaches’, varying

166 (RIAA, 2010).

public and media responses to these initiatives, and inconsistencies in rulings by the courts on cases that have been brought before them.

The trend in policy and legislation clearly is to ensure that copyright law is respected, but there is wide variation in the extent to which action is being targeted at individual users of the Internet. The mix of developments at national, regional and global levels has substantial implications for the creative industry, ISPs, and consumers and citizens, the latter being subject to inconsistent conditions, rules, and procedures in different countries. In our opinion, these inconsistencies are a source of confusion for many Internet users that is likely to retard innovative developments and impede the full potential offered by the use of the Internet.

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References

- AFP. (2009, 13 October). Swedish Court Overturns Landmark File Sharing Ruling.
- Andersen, B. & Frenz, M. (nd). *The Impact of Music Downloads and P2P File-Sharing on the Purchase of Music: A Study for Industry Canada*. London: Department of Management, Birkbeck, University of London.
- Anderson, N. (2010a). Piracy Problems? Music Industry Grew in 13 Markets in 2009. *Ars Technica*.
- Anderson, N. (2010b, June). The RIAA? Amateurs. Here's How You Sue 14,000+ P2P Users. *Ars Technica*.
- Anderson, T. (Ed.). (2009). *The Theory and Practice of Online Learning*. Edmonton: Au Press.
- Arthur, C. (2010, 11 June). Why File-sharing has Killed 'Unlimited' Mobile Data Contracts. *Guardian*.
- Authors' Licensing and Collecting Society (ALCS). (2010). *ALCS Response to BERR Consultation on Legislative Options to Address Illicit P2P Sharing*. London: ALCS at <http://www.bis.gov.uk/files/file49708.zip>.
- Bakker, P. (2005). File-Sharing - Fight, Ignore or Compete: Paid Download Services vs. P2P-networks. *Telematics and Informatics*, 22, 41-55.
- Banerjee, A., Faloutsos, M. & Bhuyan, L. (2008). The P2P War: Someone is Monitoring Your Activities. *Computer Networks*, 52(6), 1272-1280.
- Bangeman, E. (2008, 1 February). Whoops? Italy Inadvertantly Legalise Some P2P Music. *Ars Technica*.
- BBC. (2009, 2 April). Piracy Law Cuts Internet Traffic. *BBC*.
- Benkler, Y. (2004). Sharing Nicely: On Shareable Goods and the Emergence of Sharing as Modality of Economic Production. *Yale Law Journal*, 114, 273-358.
- Bennett, C. J. & Raab, C. (2003). *The Governance of Privacy: Policy Instruments in Global Perspective*. Aldershot: Ashgate.
- Berdou, E. (2007). *Managing the bazaar: commercialization and peripheral participation in mature, community-led free/open source software projects* Unpublished PhD Thesis, London School of Economics and Political Science, London.
- Bhattacharjee, S., Gopal, R. D., Lertwachara, K. & Marsden, J. R. (2006). Impact of Legal Threats on Online Music Sharing Activity: An Analysis of Music Industry Legal Actions. *Journal of Law and Economics*, XLIX(Apr), 91-114.
- Bhattacharjee, S., Gopal, R. D., Lertwachara, K., Marsden, J. R. & Telang, R. (2007). The Effect of Digital Sharing Technologies on Music Markets: A Survival Analysis of Albums on Ranking Charts. *Management Science*, 53(9), 1359-1374.
- Blackburn, D. (2004). 'On-line Piracy and Recorded Music Sales'. Harvard University Working Paper at http://www.katallaxi.se/grejer/blackburn/blackburn_fs.pdf.
- Bode, K. (2010, 11 March). Researchers Aim to Reduce Copyright Infringement False Positives. *Broadband*.
- Broache, A. (2008, 25 February). FCC Chief Grills Comcast on BitTorrent Blocking. *Cnet News*.
- Brown, I. (2009). Regulation of Converged Communications Surveillance. In D. Neyland & B. Goold (Eds.), *New Directions in Surveillance and Privacy* (pp. 39-73). Exeter: Willan.

- Brown, I. & Korff, D. (2009). Terrorism and the Proportionality of Internet Surveillance. *European Journal of Criminology*, 6(2), 119-134.
- Bruns, A. (2010). Distributed Creativity: Filesharing and Producers. In S. Sonvilla-Weiss (Ed.), *Mashup Cultures*. Vienna: Springer at <http://snurb.info/files/2010/Distributed%20Creativity%20-%20Filesharing%20and%20Producers.pdf>.
- Canada - Standing Committee on Canadian Heritage. (2010). *Emerging and Digital Media: Opportunities and Challenges*. Ottawa: Interim Report of the Standing Committee on Canadian Heritage, 40th Parliament, 3rd Session.
- Chen, U.-C., Shang, R.-A. & Lin, A.-K. (2008). The Intention to Download Music Files in a P2P Environment: Consumption Value, Fashion, and Ethical Decision Perspectives. *Electronic Commerce Research and Applications*, 7(4), 411-422.
- Cheng, J. (2009, 27 April). RapidShare Hands Over User Info in Germany, Users Panic. *Ars Technica*.
- Collins, B. S. & Mansell, R. (2005). Cyber Trust and Crime Prevention *Trust and Crime in Information Societies* (pp. 11-55). Cheltenham: Edward Elgar Publishers.
- David, P. A. & Rubin, J. (2008). Restricting Access to Books on the Internet: Some Unanticipated Effects of US Copyright Legislation. *Review of Economic Research on Copyright Issues*, 5(1), 23-53.
- Department for Business Innovation and Skills. (2010). *Online Infringement of Copyright (Initial Obligations) Cost-Sharing: Consultation Document*. London: BIS.
- Department for Business Innovation and Skills, Intellectual Property Office & Department for Culture Media and Sport. (2010a). *Digital Economy Act 2010: Impact Assessments, Third Edition*. London: BIS, IPO, DCMS March.
- Department for Business Innovation and Skills, Intellectual Property Office & Department for Culture Media and Sport. (2010b). *Digital Economy Bill: Impact Assessments, Second Edition*. London: BIS, IPO, DCMS March.
- Department for Business Innovation and Skills, Intellectual Property Office & Department for Culture Media and Sport. (2010c). *Digital Economy Bill: Online Infringement of Copyright: Libraries, Universities and WI-FI Providers*. London: BIS, IPO, DCMS March.
- Dixon, A. N. (2009). Liability of Users and Third Parties for Copyright Infringements on the Internet: Overview of International Developments. In A. Strowel (Ed.), *Peer-to-Peer File Sharing and Secondary Liability in Copyright Law* (pp. 12-42). Cheltenham: Edward Elgar Publishers.
- Dubosson-Torbay, M., Pigneur, Y. & Usunier, J.-C. (nd). *Business Models for Music Distribution after the P2P Revolution*. Lausanne: University of Lausanne.
- Dutton, W. H., Helsper, E. J. & Gerber, M. M. (2009). *The Internet in Britain 2009*. Oxford: Oxford Internet Institute.
- Dutton, W. H. & Shepherd, A. (2005). Confidence and Risk on the Internet. In R. Mansell & B. S. Collins (Eds.), *Trust and Crime in Information Societies* (pp. 207-244). Cheltenham: Edward Elgar Publishers.
- EBU. (2010). *Peer-to-Peer (P2P) Technologies and Services*. Geneva: European Broadcasting Union at <http://tech.ebu.ch/docs/techreports/tr009.pdf>.
- Ekblom, P. (2005). How to Police the Future: Scanning for Scientific and Technological Innovations which Generate Potential Threats and Opportunities in Crime, Policing and Crime Reduction. In M. J. Smith & N. Tilley (Eds.), *Crime Science: New Approaches to Preventing and Detecting Crime* (pp. 27-56). Cullhompton: Willan.

- Enigmax. (2008, 3 July). Virgin Media: 'Absolutely No Possibility' of Disconnecting File-Sharers. *TorrentFreak*.
- Enigmax. (2009, 21 August). The Brand New Pirate Party of Finland on File-Sharing. *TorrentFreak*.
- Enigmax. (2010, 1 February). ISP Set for Court Hearing to Fend Off Anti-Piracy Demands. *TorrentFreak*.
- Ernesto. (2010a, 17 March). Canadian Movie Pirate 'maVen' Sent to Jail. *TorrentFreak*.
- Ernesto. (2010b, 4 June). UK Government Uses BitTorrent to Share Public Spending Data. *TorrentFreak*.
- Europa RAPID Press Releases. (2009, 5 November). Agreement on EU Telecoms Reform Paves Way for Strong Consumer Rights, an Open Internet, a Single European Telecoms Market and High-Speed Internet Connections for All Citizens. *Europa RAPID*.
- European Commission. (2001). *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*. Brussels: European Commission <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32001L0029:EN:HTML>.
- European Commission. (2004). *Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the Enforcement of Intellectual Property Rights*. Brussels: European Commission, 30 April.
- European Commission. (2009). *Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009, amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) No 2006/2004 on cooperation between national authorities responsible for the enforcement of consumer protection laws*. Brussels: European Commission Official Journal, L337/11.
- ExtraTorrent.com. (2010, 3 April). Swedish File-Sharing Rising after Anti-P2P Law, p. <http://extratorrent.com/article/392/swedish+file+sharing+rising+after+anti+p392p+law.html>.
- Federal Communications Commission (FCC). (2005). *Policy Statement*. Washington DC: FCC 05-151 at <http://www.publicknowledge.org/pdf/FCC-05-151A1.pdf>.
- Fetscherin, M. (2005). Movie Piracy on Peer-to-peer Networks: The Case of KaZaA. *Telematics and Informatics*, 22(1-2), 57-70.
- Fetscherin, M. (2006). Economics of Online Music and Consumer Behavior. *2006 ICEC: Eighth International Conference on Electronic Commerce, Proceedings*, 599-604.
- FreakBits. (2009, 19 October). No Three Strikes Anti-Piracy Law in Germany. *Freakbits*.
- Freeform101.org. (2009). Danish Anti-Piracy Agency Throw in the Towel.
- Fumijp Blogspot. (2009, 14 June). What's Happening in Japan Right Now? *Fumijp Blogspot*.
- Geist, M. (2009, 9 June). Is Canada Really the Illegal File Sharing Frontier? *The Tyee*.
- Government Accountability Office (GAO). (2010). *Intellectual Property: Observations on Efforts to Quantify the Economic Effects of Counterfeit and Pirated Goods*. Washington DC: GAO.
- Hambidge, T. (2007). Containing Online Copyright Infringement: Use of the Digital Millennium Copyright Act's Foreign Site Provision to Block US Access to Infringing Foreign Websites. *Vanderbilt Law Review*, 60, 905-937.
- Hampton, K. N. & Gupta, N. (2008). Community and Social Interaction in the Wireless City: Wi-Fi Use in Public and Semi-Public Places. *New Media & Society*, 10(6), 831-850.

- Harris, L. & Dumas, A. (2009). Online Consumer Misbehaviour: An Application of Neutralization Theory. *Marketing Theory*, 9(4), 379-402.
- Hennig-Thurau, T., Henning, V. & Sattler, H. (2007). Consumer File Sharing of Motion Pictures. *Journal of Marketing*, 71(Oct), 1-18.
- Hietanen, H., Nuttunen, A. & Kokkinen, H. (2008). Criminal Friends of Entertainment: Analysing Results from Recent Peer-to-Peer Surveys. *Scripted*, 5(1), 32-49.
- HM Treasury. (2006). *Gowers Review of Intellectual Property*. London: HM Treasury, Andrew Gowers.
- Holsapple, C., Iyengar, D., Jin, H. & Rao, S. (2008). Parameters for Software Piracy Research. *The Information Society*, 24(4), 199-218.
- Hustinx, P. (2010). *Opinion of the European Data Protection Supervisor on the current negotiations by the European Union of an Anti-Counterfeiting Trade Agreement (ACTA)*. Brussels: Official Journal of the European Union, 2010/C 147, 5.6.2101.
- IFIP. (2007, 4 June). Police Raid P2P Operators Across Finland in Major Action Against Hubs.
- Ingram, J. & Hinduja, S. (2008). Neutralizing Music Piracy: An Empirical Examination. *Journal of Deviant Behavior*, 29(4), 334-366.
- IPSOS. (2007). *Digital & Physical Piracy in GB*. London: IPSOS Wave 5: November 2007.
- Jackson, J., Allum, N. & Gaskell, G. (2005). Perceptions of Risk in Cyberspace. In R. Mansell & B. S. Collins (Eds.), *Trust and Crime in Information Societies* (pp. 245-281). Cheltenham: Edward Elgar Publishers.
- Jenkins, H. (2006). *Convergence Culture: Where Old and New Media Collide*. New York: New York University Press.
- Jenkins, H., Purushotma, R., Weigel, M., Clinton, K. & Robison, A. J. (2009). *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*. Cambridge MA: MIT Press for John D and Catherine T MacArthur Foundation Reports on Digital Media and Learning.
- LaRose, R. & Kim, J. (2007). Share, Steal, or Buy? A Social Cognitive Perspective of Music Downloading. *Journal of Cyberpsychology & Behavior*, 10(2), 267-277.
- Le Blond, S., Legout, A., Lefessant, F., Dabbours, W. & A, K. M. (2010). *Spying the World from Your Laptop*. Paper presented at the 3rd USENIX Workshop on Large-Scale Exploits and Emergent Threats [LEET'10].
- Lertwachara, K. (2004). *An Investigation of the Impact of Online File Sharing Technologies on Digital Goods Markets*. Unpublished PhD Dissertation, University of Connecticut.
- Lessig, L. (2008). *Remix: Making Art and Commerce Thrive in the Hybrid Economy*. London: Bloombury.
- Li, X. & Nergadze, N. (2009). Deterrence Effect of Four Legal and Extralegal Factors on Online Copyright Infringement. *Journal of Computer-Mediated Communication*, 14(2), 307-327.
- Liao, C., Lin, H. & Liu, Y. (2010). Predicting the Use of Pirated Software: A Contingency Model Integrating Perceived Risk with the Theory of Planned Behavior. *Journal of Business Ethics*, 91(2), 237-252.
- Libbenga, J. (2006, 30 October). Finland Convicts 22 in File Sharing Case. *The Register*.
- Liebowitz, S. J. (2006a). File Sharing: Creative Destruction or Just Plain Destruction? *The Journal of Law and Economics*, 49, 1-28.
- Liebowitz, S. J. (2006b). Testing File-Sharing's Impact by Examining Record Sales in Cities. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=829245
- Lindner, T., Fritsch, L., Plank, K. & Rannenberg, K. (2004). Exploitation of Public and Private WiFi Coverage for New Business Models. In W. Lamersdorf, V. Tschammer & S.

- Amarger (Eds.), *Building the E-Service Society: E-Commerce, E-Business, and E-Government* (pp. 131-148). Dordrecht: Springer for IFIP TC6, TC8, TC11.
- Livingstone, S. (2009). *Children and the Internet*. Cambridge: Polity Press.
- Livingstone, S. (2010). *e-Youth: (future) policy implications: reflections on online risk, harm and vulnerability*. London: Keynote address presented at e-Youth: balancing between opportunities and risks, 27-28 May, University of Antwerp, at [http://eprints.lse.ac.uk/27849/1/eYouth \(future\) policy implications \(LSERO version\).pdf](http://eprints.lse.ac.uk/27849/1/eYouth_(future)_policy_implications_(LSERO_version).pdf).
- Livingstone, S. (in press). Regulating the Internet in the Interests of Children: Emerging British, European and International Approaches. In R. Mansell & M. Raboy (Eds.), *Handbook on Global Media and Communication Policy*. New York: Wiley-Blackwell.
- Lyon, D. (2007). *Surveillance Studies: An Overview*. Cambridge: Polity Press.
- Maffioletti, A. & Ramello, G. B. (2004). Should We Put Them in Jail? Copyright Infringement, Penalties and Consumer Behaviour: Insights from Experimental Data. *Review of Economic Research on Copyright Issues*, 1(2), 81-95.
- Mansell, R., Avgerou, C., Quah, D. & Silverstone, R. (Eds.). (2007). *The Oxford Handbook of Information and Communication Technologies*. Oxford: Oxford University Press.
- Mansell, R. & Collins, B. S. (Eds.). (2005). *Trust and Crime in Information Societies*. Cheltenham: Edward Elgar Publishers.
- Mansell, R. & Raboy, M. (Eds.). (2010 in press). *Handbook on Global Media and Communication Policy*. New York: Blackwell-Wiley.
- Mansell, R. & Steinmueller, W. E. (2000a). Electronic Intellectual Property, in *Mobilizing the Information Society: Strategies for Growth and Opportunity* (pp. 289-337). Oxford: Oxford University Press.
- Mansell, R. & Steinmueller, W. E. (2000b). *Mobilizing the Information Society: Strategies for Growth and Opportunity*. Oxford: Oxford University Press.
- McLelland, M. (2010). Australia's Proposed Internet Filtering System: Its Implications for Animation, Comics and Gaming (AGC) and Slash Fan Communities. *Media International Australia*, 134, 7-19.
- Molde, A. (2009). *Downloading Music and CD Purchases*. Oslo: Norwegian School of Management at <http://www.bi.no/BI-Startpage2/Facts-about-BI-20/News/News-2009/Downloading-music-and-CD-purchases/>.
- Morton, N. & Koufteros, X. (2008). Intention to Commit Online Music Piracy and its Empirical Antecedents: An Empirical Investigation. *Structural Equation Modeling: A Multidisciplinary Journal*, 15(3), 491-512.
- Mott MacDonald. (2010). *Mott MacDonald P2P Report*. London: Mott MacDonald, February.
- Mtima, L. (2009). Whom the Gods Would Destroy: Why Congress Prioritized Copyright Protection over Internet Privacy in Passing the Digital Millennium Copyright Act. *Rutgers Law Review*, 61(3), 627-704.
- Murphy, D. (2010, 29 March). French Anti-Piracy Law Actually Increasing Piracy. *Fox News*.
- Murtagh, M. (2009). The FCC, the DMCA, and Why Takedown Notices Are Not Enough. *Hastings Law Journal*, 61(1), 233-273.
- NERA Economic Consulting. (2010). *The Costs and Benefits to ISPs of Proposed Measures to Curb Illegal File Sharing*. London: 7 January.
- Noam, E. M. & Pupillo, L. M. (Eds.). (2008). *Peer-to-Peer Video: The Economics, Policy and Culture of Today's New Mass Medium*. New York: Springer Science.

- Oberholzer-Gee, F. & Strumpf, K. (2007). The Effect of File Sharing on Record Sales: An Empirical Analysis. *Journal of Political Economy*, 115(1), 1-42.
- Oberholzer-Gee, F. & Strumpf, K. (2010). File Sharing and Copyright. *NBER Innovation Policy & the Economy* 10, 19-55.
- OECD. (2008). *The Economic Impact of Counterfeiting and Piracy*. Paris: OECD.
- Ofcom. (2010). *Online Infringement of Copyright and the Digital Economy Act 2010: Draft Initial Obligations Code*. London: Ofcom 28 May.
- Office for National Statistics (ONS). (2009). *Social Trends (No. 39)*. London: ONS, http://www.statistics.gov.uk/downloads/theme_social/Social_Trends39/Social_Trends_39.pdf.
- Office of Technology Assessment. (1986). *Intellectual Property Rights in an Age of Electronics and Information*. Washington DC: Office of Technology Assessment.
- Ou, G. (2008, 16 March). Japan's ISPs Agree to Ban P2P Pirates. *ZDNet*.
- P2PNet. (2010, nd). Japan Cops Use Mystery 'P2P' Surveillance.
- P2Pon! (2009, 19 May). TeliaSonera Must Reveal Data of Alleged File Sharers, Says Court.
- P2Pon! (2010a, 27 May). Danish Court Decides: The Pirate Bay Remains Illegal.
- P2Pon! (2010b, 2 February). Police Raids File Sharers in Sweden.
- Pasche, C. H. (2009). *Music industry v. file-sharing: Why we need a new approach to copyright protection in the digital era*. University of Toronto.
- Peitz, M. & Waelbroeck, P. (2004). *The Effect of Internet Piracy on CD Sales: Cross-Section Evidence*. Center for Economic Studies (CES), Ifo Institute for Economic Research; Ifo GmbH (Munich Society for the Promotion of Economic Research) CESI; CESIFO Working Paper No. 1122, Category 9: Industrial Organisation.
- Plowman, S. & Goode, S. (2009). Factors Affecting the Intention to Download Music: Quality Perceptions and Downloading Intensity. *Journal of Computer Information Systems* 49(4), 84-97.
- Postigo, H. (2010). Information Communication Technologies and Framing for Backfire in the Digital Rights Movement The Case of Dmitry Sklyarov's Advanced e-Book Processor. *Social Science Computer Review*, 28(2), 232-250.
- Pouwelse, J. A., Garbacki, P., Epema, D. & Sips, H. (2008). Pirates and Samaritans: A Decade of Measurements on Peer Production and Their Implications for Net Neutrality and Copyright. *Telecommunications Policy*, 32(11), 701-712.
- Quiring, O., Von Walter, B. & Atterer, R. (2008). Can Filesharers be Triggered by Economic Incentives? Results of an Experiment. *New Media & Society*, 10(3), 433-453.
- Raab, C. (2005). The Future of Privacy Protection. In R. Mansell & B. S. Collins (Eds.), *Trust and Crime in Information Societies* (pp. 282-318). Cheltenham: Edward Elgar Publishers.
- Regner, T., Barria, J., Pitt, J. & Neville, B. (2009). An Artist Life Cycle Model for Digital Media Content: Strategies for the Light Web and the Dark Web. *Electronic Commerce Research and Applications*, 8(6), 334-342.
- RIAA. (2010, 19 May). RIAA Joins Congressional Caucus in Unveiling First-Ever List of Notorious Illegal Sites. *RIAA*.
- Rob, R. & Waldfogel. (2006). Piracy on the High C's: Music Downloading, Sales Displacement, and Social Welfare in a Sample of College Students. *Journal of Law and Economics*, 49(1), 29-62.
- Ryan, J. & Heintl, C. (2010). *Internet Access Controls: Three Strikes 'Graduated Response' Initiatives*. The Institute of International and European Affairs (IIEA).

- Sage, A. (2010, 1 March). Internet Piracy Becomes a National Pastime as French Students Take on Computer Giants. *The Sunday Times*.
- Sasse, M. A. (2005). Usability and Trust in Information. In R. Mansell & B. S. Collins (Eds.), *Trust and Crime in Information Societies* (pp. 319-348). Cheltenham: Edward Elgar Publishers.
- Schofield, J. (2009, 8 June). Sweden's Pirate Party Wins EU Seat.
- Selwyn, N. (2008). A Safe Haven for Misbehaving? An Investigation of Online Misbehavior Among University Students. *Social Science Computer Review*, 26(4), 446-465.
- Smith, T. (2004, 20 May). Italy Approves Jail for P2P Users' Law. *The Register*.
- Strategic Advisory Board for Intellectual Property Policy. (2010). *The Economics of Copyright and Digitisation: A Report on the Literature and the Need for Further Research*. Rotterdam: C. Hanke, Erasmus University for the Strategic Advisory Board for Intellectual Property Policy.
- Strowel, A. (Ed.). (2009). *Peer-to-Peer File Sharing and Secondary Liability in Copyright Law*. Cheltenham: Edward Elgar Publishers.
- Techdirt. (2009a, 3 December). Danish Anti-Privacy Group Tells DVD Ripper Who Turned Himself In that It Won't Sue Him.
- Techdirt. (2009b, 6 April). Sweden's Anti-Piracy Law Boost Market for Encryption Technology.
- TERA Consultants & Commerce/BASCAP, I. C. o. (2010). *Building the Digital Economy: The Importance of Saving Jobs in the EU's Creative Industries*. Paris: http://www.teraconsultants.fr/assets/publications/PDF/2010-Mars-Etude_Piratage_TERA_full_report-En.pdf.
- TorrentFreak. (2009, 10 April). Biased Anti-Piracy Laws Cause Problems in Denmark.
- UK Government. (2010a). *Digital Economy Act 2010 (c.24)*. London.
- UK Government. (2010b). *Digital Economy Act 2010 (c.24) Explanatory Notes*. London: Department for Culture, Media and Sport and Department for Business, Innovation and Skills.
- United States Government. (1998). *Digital Millennium Copyright Act*. United States: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=105_cong_public_laws&docid=f:publ304.105.pdf.
- United States Government. (2009). *H.R. 1319: Informed P2P User Act*. United States.
- United States Government. (2010). *S.3027: P2P Cyber Protection and Informed User Act*. United States.
- Van Der Graaf, S. (2009). *Designing for Mod Development: User Creativity as Product Development Strategy on the Firm-hosted 3D Software Platform*. Unpublished PhD Thesis, London School of Economics and Political Science, London.
- van Eijk, N., Poort, J. & Rutten, P. (2010). Legal, Economic and Cultural Aspects of File Sharing. *Communications & Strategies*, 77(1), 35-54.
- Vivarelli, N. (2010, 20 April). Italy Beefs Up Antipiracy Stance. *Variety*.
- World Intellectual Property Organization (WIPO). (2009). *Enforcing Intellectual Property Rights: An Economic Perspective*. Geneva: WIPO Advisory Committee on Enforcement, Fifth Session, November 2 to 4 prepared by C. Fink.
- Wray, R. (2009, 10 June). French Anti-Filesharing Law Overturned. *The Guardian*.
- Zentner, A. (2006). Measuring the Effect of File Sharing on Music Purchases. *Journal of Law and Economics*, XLIX(April), 63-90.
- ZeroPaid. (2009, 23 July). South Korea's 'Three-Strikes' Law Takes Affect.
- ZeroPaid. (2010, 29 January). ACS:Law Threatens More than 150 Innocent People.