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## Moving Digital Britain forward, without leaving Creative Britain behind

The UK's content and connectivity industries face a problem; how can a "Digital Britain" move forward, providing Next Generation Access to the consumer, without leaving "Creative Britain" behind. Put more bluntly, how do you allow A to progress but not at the expense of B?

Will Page, Chief Economist at PRS for Music, the UK copyright collecting society for songwriters, composers and music publishers teams up with David Touve of Washington and Lee University to present to the content and connectivity industries a new framework for understanding the concerns of the various stakeholders involved in the debate. They view ISPs as Next Generation Broadcasters – operators of networks that connect supply with demand in a market for media. Contextualising this debate with the familiar term 'broadcasters', they present a seven-point case for all the relevant stakeholders to consider:

- The installation of fatter and faster pipes to support NGA will accommodate greater supply *and* facilitate greater demand for content, both licensed *and* unlicensed.
- Fatter and faster pipes will *broaden* the range of content providers seriously affected by piracy, increasingly drawing the producers of premium video content into the fray.
- Extraordinary expectations for bandwidth and service quality will be placed on providers of NGA rendering single-offer "all you can eat" fixed price access plans untenable.

- With this development, music and video rightsholders share the same problem with providers of NGA: how to price their services, enabling a return on investment needed to meet both present and future demand.
- Historically P2P was seen as a harmful problem with one solution: *control through enforcement*. The interests of access providers and media rightsholders, the creative constituency first affected by unlicensed delivery over the Internet, were opposed. Aligning these interests could lead to a market- and compensation-based solution.
- The Digital Economy Act both recognises that the transit of unlicensed content over the Internet causes 'harm' and states this harm must be *measured*. Crucially, this measurement will in turn allow the value of unlicensed media to be *priced* and therefore *traded*.
- Conditions now appear to exist which might support the development of novel, market-based solutions to the harm caused by illegal file sharing over the Internet.

They explore what legal options exist for recovering the value of that *harm*, alternatively seen as the value of content on networks, and offer an economic framework for considering the optimum route for intervention. History has shown how collective licensing overcomes *measurable* problems by developing solutions based on *compensation* in lieu of control.

## Background

Let's put this paper in context. Nearly a decade ago media rights holders first opted for control instead of compensation, a path of litigation rather than licensing, in their response to file sharing systems.

While most music owners remember the infamous Napster trial, this litigation coincided with a case against Scour, and was followed by cases against Audiogalaxy, Bearshare, Streamcast, Grokster, Kazaa, The Pirate Bay and Limewire (although this list is not exhaustive). At the time, this was the only option available as Napster et al were unwilling to discuss a viable business plan that would fairly compensate all stakeholders.

Such control-based strategies, effectively the "stick", come with costs: time, labour and money. It may be necessary to continue to deploy the "stick" to help migrate users to legal services and to persuade the operators of unlicensed sites to come to the negotiating table. At the same time, the track record of this costly strategy suggests that we must also reappraise the balancing role of incentives, in other words the "carrot". There is scarce evidence to suggest the costs of the "stick" are balanced with the benefits of new monies or even a reduced financial impact of the dilemma. File sharing measurably grows in volume even as it becomes more difficult to detect, whilst aggregate revenues for the recorded music industry have fallen in most major markets. It is time for change.

## At the crossroads

The content and connectivity industries of Britain now stand at an uncertain crossroads: How can a 'Digital Britain' move forward, providing Next Generation Access (NGA) to the consumer, without leaving 'Creative Britain' further behind? We believe the answer to this question requires two simple yet significant admissions.

First, the Internet has fundamentally and permanently changed the nature of media broadcasting and distribution. How we experience, produce, transmit, and discover recorded media is forever changed. These changes significantly affect the structure of the market in ways that impact all stakeholders, whether nascent or incumbent.

Second, alongside the market change for recorded media, society's demand for music and moving pictures remains strong. Our innate desire for what is communicated through recorded media has not shifted one iota. In fact, if this demand has shifted, we now demand access to more not less media.

Therefore, resolving the apparent conflict between Digital and Creative Britain may require a shift of perspective, but one buoyed by society's steadfast demand for cultural goods.

## Neutral Ground

Behind this problem of Digital Britain is a deeper discussion of Net Neutrality. An excellent Oxera article offers a strict definition of the neutrality principle, in that 'all internet content and applications should be treated equally, and therefore ISPs should not be permitted to implement pricing schemes or manage Internet traffic in ways that discriminate in terms of the price or quality of transport according to the type of content or application, or the origin or destination of internet traffic'.<sup>1</sup>

This perception of the Internet as "neutral ground", rooted in the common carrier spirit of the same General Post Office that would become British Telecom, now surfaces serious doubts among stakeholders. By enforcing neutrality in principle without respecting both the costs and the benefits of neutrality in practice, Britain's markets for both creative content and network connectivity find the common carrier spirit unsustainable.

In this debate over Net Neutrality, however, we must admit that neutrality has real value, value that is now enjoyed by consumers in the form of a

remarkably open network for information goods and services. Far too often, the parties involved speak only of the costs – e.g., the cost of managing traffic spikes, the cost of lost media revenues, the cost of access fees. Were the costs and the benefits of neutrality fairly considered, network operators, content owners, consumers and service providers might co-exist in relative balance. In fact, it is upon the inherent value of information networks that we hope to base some solution.

## Next Generation Broadcasters

We see ISPs as Next Generation Broadcasters (NGB), network operators connecting supply with demand in a market for media. These networks are increasingly saturated with media.

Both content and connectivity industries alike should share the objectives of understanding, capturing, and transferring the value of recorded media in this networked environment. These networks clearly benefit from rich media to an extent that far exceeds the cost of remunerating the media that transit across them; an assertion that is no more controversial than the traditional Pay TV model is viable. Presently, open high-speed networks differ from traditional cable/satellite networks in that much of the entertainment content carried by the former is not, in the current scheme of things, remunerated. Money that consumers appear willing to pay on other networks may be left on the table as these high-speed networks are rolled out.

## Networks that are built to spill

If we are to understand the market for media in the NGB environment, we must accept that media files, being information goods, are inevitably 'built to spill.' In other words, copyright's bucket did not recently spring a leak; the bucket has always been leaky. Control over media once that media is recorded is permanently elusive, just as a songwriter may lose control over their work the moment that song has been revealed. Unfortunately, economic theory and practice confirm that when these spillovers are ignored, the market story too often has an unhappy ending.

The solution to our problem comes with two related options, and each involves capturing revenue currently foregone. Importantly, these spillovers relate to revenue in two different ways.

Firstly, the availability online of unlicensed media results in a negative spillover. Unlicensed consumption substitutes for demand in the licensed market, thereby removing from this licensed music services 'decision-making' influence over customer demand and price. Legal services like Spotify might stand a greater chance of swimming, as opposed to sinking, if they did not face the challenge of competing with illegal, free services.

Secondly, and perversely, media online leads to a positive spillover. Unlicensed exploitations of copyright, while providing no direct compensation to the creators and owners of these works, do provide value for those who transmit these works to the public – in the form of willingness to pay for related goods and services. We don't pay our ISP for the opportunity to stare at a cable plugged into a router; we pay for those connections the cable and router make possible. As Jim Griffin has acutely stated, 'We buy medium, but we want message when we do.'

## Fattening those pipes increases the challenge

From the outset, it's worth noting that the UK's own Digital Britain report argued for a consumer 'levy' to fund the roll out of broadband which would help the ISP community build fatter and faster pipes. It is ironic that the music industry has resisted debating compensation models based on access fees in order to avoid the appearance of a levy, while the UK Government was willing to tout the idea of a levy to allow the consumer faster access to content (licensed or unlicensed).

<sup>1</sup> Oxera: *Is Net Neutrality not neutral? Agenda in Economics Series, March 2010.*

Ultimately, we need to communicate clearly and reasonably how the Government might balance the positive spillover effects of supplying connectivity with negative impacts upon content creators and producers. If we consider some of the broader technological advancements that accompany or enable provision of fatter and faster pipes, we can consider who benefits and who loses – at the margin – as technology keeps pace with Moore’s Law?

Legal consumption of music online is already available in a variety of forms, the main channel being transactional through the iTunes music store. At the margin, neither per track purchasing behaviour nor real time music streaming will be significantly more efficient when speed of access is accelerated from 2Mbit to 100Mbit – the difference in terms of consumer experience would be negligible.

However, it is plausible to argue the reverse holds for the illegal market, and across a broader range of content industries: NGA could very well have a positive impact upon the consumption of unlicensed media. Surprisingly, for all the consultations on NGA, there has been very little consumer research in this specific area for the UK. One of the few studies to be published comes from MoneySupermarket, who found that more than a third of consumers surveyed believe the advent of high-speed, next-generation broadband services would encourage greater piracy and make it easier to illegally download content.<sup>2</sup> The report concluded that: ‘Illegal downloading is already a big problem for the likes of the music and film industries ... with superfast broadband packages set to become commonplace, the problem seems likely to get worse.’

Another way to approach this ‘build it and they will come’ proposition is to recall the term “venues” from the PRS for Music and BigChampagne collaboration titled, *In Rainbows, On Torrents*.<sup>3</sup> In that study, we referred to the concept of “lock in” and viewed torrent search sites as “venues”, places

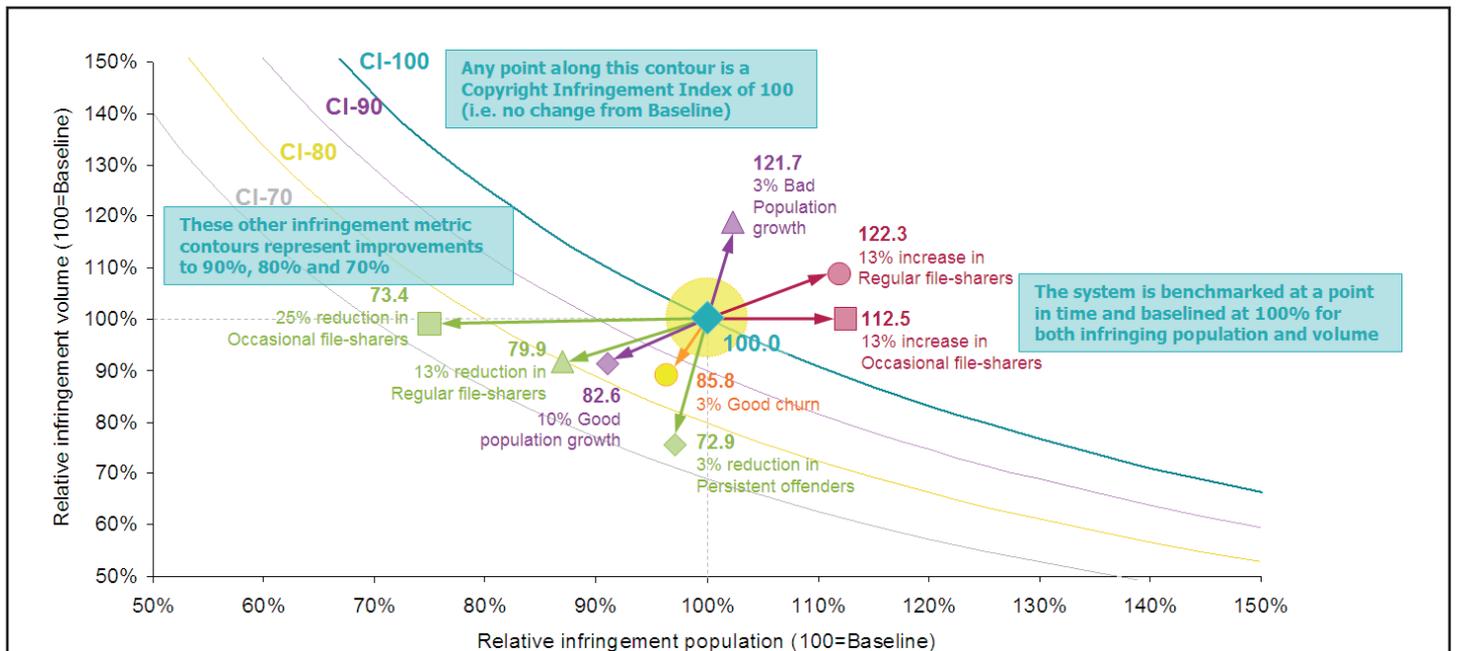
people are locked in to by habit despite there being more efficient (or more legitimate) options available. Given that TV and Film are arguably more likely to feel the direct impact of NGA, with the increased ability to download or stream high definition content, the attractiveness of these “venues” for all content is likely to increase at a cost to those legal venues unable to bundle the same range of choice. Perhaps, like iTunes, these legal venues could increase the range of content on offer, but this increase comes at a high cost when already at a significant disadvantage to “free”.

**A problem that can be measured**

In order to understand the black market media activity we need a method in place to (i) measure the scale of such activity and (ii) develop some estimate of the media consumed such that (iii) any monies collected can be distributed fairly and efficiently. Importantly, there are a variety of techniques already available for understanding – in aggregate and therefore anonymously – how consumers enjoy media on broadband networks.

Fortunately, the rights holder industry is not alone in this area. One of Ofcom’s duties under the new Digital Economy Act is to provide “...an assessment of the current level of subscribers’ use of internet access services to infringe copyright.” Based on their most recent communications this assessment will involve existing data, consumer research, and new data based on network traffic characteristics.

Detica are leaders in traffic analysis, characterising subscriber behaviour into different segments for a number of ISPs. Detica have applied these segmentation principles used in traffic analysis and management to the analysis and measurement of infringing copyrighted material on broadband networks. The result is a technology called Detica CView™, which provides an index of copyright infringement that measures and tracks over time the nature of plausibly illicit file sharing across a network.



The index is based on anonymous ISP network sampling of content being transferred using protocols that do not have licensed business models. The chart below illustrates how the index would work, by introducing two dynamics: (i) relative infringement volume and (ii) relative infringement population. This chart helps the reader think

about the ‘problem’ of P2P differently: is the number of people sharing files increasing or decreasing? Is the volume of content being shared higher or lower than before? Pulling these indices together, a move northeast suggests both population and volume are on the increase, whereas a shift southwest suggests fewer people are sharing less content.

<sup>2</sup> Available: [www.moneysupermarket.com/c/press-releases/superfast-internet-to-encourage-broad-bandbits/0009075/](http://www.moneysupermarket.com/c/press-releases/superfast-internet-to-encourage-broad-bandbits/0009075/)  
<sup>3</sup> An excellent IAEL publication titled *Collective Licensing at the ISP Level* provides vital background to the issue of “safe harbours” and the broader P2P debate in an international context. The book has been made available online: <http://collectiverights.org>

### Working out which carrots work

Debates over what to do about file sharing frequently end with an either/or trade off of carrots and sticks. What Detica CView™ allows stakeholders to do is not only measure and potentially price the problem of piracy, but also consider the aggregate effect of new licensed services, business models and events. For example, Detica CView™ would provide insight into whether a letter writing campaign was successful in reducing overall infringement. An ISP might offer its subscribers a music service discount, with the impact of this promotion assessed alongside the overall rate of copyright infringement. Similarly, content providers could use Detica CView™ to observe the usage of new licensed services and their possible effect on the overall level of piracy, whilst Government could use Detica CView™ to observe trends as part of the Digital Economy Act.

Foremost, this measurement allows all stakeholders to understand and appreciate an intuitively obvious point; not all carrots are the same and some are more effective than others. These insights would greatly inform the debate over licensing new services aiming to compete with illegal free.

We believe the key for rights users is to build the carrots (or services) in order to stem the appeal of piracy. For that tactic to work realistic and appropriate incentives need to be in place —which brings us to the issue of compensation.

### When the levee breaks: from measurement to pricing and compensation

On this matter of pricing and compensation we will now shift from a metaphor of carrots and sticks to the less dramatic position of “nudging” the market – instituting policies that guide the market of licensed and unlicensed services to a more nuanced position. This desire to nudge the market is important for many reasons, not least of which is the admission that the difference between a legitimate and a pirated media file is simply whether or not use is authorised and compensation has taken place.

The “performing right” practices and perspectives focus on compensation – value recognition as opposed to value lost. The ideal repair of the relationship between copyright and access would either (a) minimise the impact of the black market on legal consumption or (b) bridge the value gap gained by the marketplace by the availability of unlicensed works, or both.

If changes in the scale of unlicensed media can be measured, we can put a price on this spillover to bridge the value gap. Simply stated, at some date a price would be placed on the indexed measure of unlicensed media on ISP networks. If at a later date the measure of infringement increases, the value transferred (from ISP to rightsholders) would increase accordingly. Conversely, were the measure of infringement to decrease, the amount transferred would decrease accordingly. The options for pricing such spillovers should be the subject of further research.

Under such a policy, the value of a compensation pool paid to media creators and owners would move in step with indices measuring the level of infringing activity on networks, both in terms of overall volume and population. The mechanics of this transfer of value are extremely important.

### The legal toolkit

In this section, we shift to the concepts and terminology that provide the legal basis to justify a transfer of value from ISP to rightsholders. This legal perspective is complementary to the analysis of spillover effects and the positive externalities inherent to an ISP having numbers of subscribers paying to use networks to access content.

The issue in online networks and its value chain is that the direct infringer of rights is an individual consumer or file sharer whom the rightsholder cannot find or identify without the help of the key player in the value chain – the ISP. In the United States and Europe the ISP is not necessarily liable for the infringement of rights by their customers because of the safe harbours granted through e-commerce legislation.<sup>4</sup>

#### (i) Compensation based on restitution

Relevant to a goal of pure compensation there is the restitutionary principle based on reversing the unjust enrichment of the defendant at the expense of the claimant. This remedy seeks to restore the relevant benefit or enrichment to the claimant.

Restitution may have limitations, however, in that it addresses the return of values lost in the past. The challenge would be to find a mechanism to make such remedy a viable tool for future transfers of value on a meaningful basis.

#### (ii) Licensing or levy (a copyright approach)

A licence of rights is permission given by the copyright holder to another in return for payment — however small or large —to use the work.

A levy emerges as a solution where the direct licensing contract between the rightsholder and the service is impractical. The effect of a levy is to license the rights in works and therefore legalise the otherwise illegal activity (which has been referred to as a ‘global licence’). A private copying levy, for example, is intended as fair compensation paid by someone where the law provides an exception to the right (and therefore, the exposure to infringement by the end user), but ensures compensation is paid by the enabler of that use (e.g., a manufacturer of blank tapes, hard drives, mobiles, etc) and presumably passed along to purchasers.

Either a licence or a levy leads to a transfer of value from the user or a third party on their behalf to the creators. However, there are substantial differences between the two concepts in character:

Licence	Levy
Known identifiable licensee	Unknown users
Exercise of rights	Compensation in lieu of licence and control
Private negotiation	Government imposed
Terms and conditions	Statutory scope
Exchange of data on media usage	Unidentified uses
Limited to use of copyright works	Media is potentially used for non-infringing purposes
Control or limit any further uses through terms/conditions of sale or technology	No insight or control of further infringing uses

<sup>4</sup>[http://en.wikipedia.org/wiki/Coase\\_theorem](http://en.wikipedia.org/wiki/Coase_theorem)

In the online value chain the question is who would be licensed and/or who would pay a levy? Could rightsholder license the ISP for file sharing? Not without revisiting the safe harbours. Could rightsholders licence consumers for file sharing? Possibly, if that licence were issued to the ISP to pass on to the subscriber. Or would such a licence need legislation in order to remove the infringement of the consumer (an exception accompanied in some countries by a fair compensation “levy”)? And who would pay that?

Historically there has been resistance to “global licence”, which assumed a payment for access to copyright content. The concern of rightsholders was the loss of control and the cannibalisation of potential licensing: or more specifically, the payment covering not only unauthorised copying by consumers but also in effect encroaching on the possibility to licence iTunes, Spotify and other new music services with commercial business models.

### (iii) Traffic regulation

The third option assumes a regulation of the internet which provides a traffic management route — penalties for illegal traffic providing an incentive to switch to legal. Given the measurement tools exist, this could be adopted by a regulatory body as a traffic management policy. This option has been rarely discussed, often complicated by the net neutrality principles. It might also raise awkward questions over the beneficiary of the “fines” — they may not necessarily be compensation for the rightsholder but may be paid to the regulator. This approach also assumes that the objective of the penalty is to incentivise the reduction and ultimate removal of file sharing from the networks, which in turn raises the question of what action an ISP might take to reduce such traffic on its network. This is where the question of net neutrality comes to the fore alongside concerns for whether such traffic management techniques would in the long run do any more than spark a technological arms race between unlicensed venues and access providers.

### Stakeholder perspectives

Consider now the acceptability of each option to a regulator. Intuitively, restitution seems awkward, being neither tied to a legalisation of the behaviour of the consumer, nor easy to convert into a robust future mechanism. A license for royalty or a fair compensation collected under a levy might each equally work: the former has to be taken out by the user or by someone on their behalf; the latter can be paid by anyone in the value

chain. The fines in a traffic management system may achieve no more in the long run than to incentivise those who seek to hide that transit by technological means.

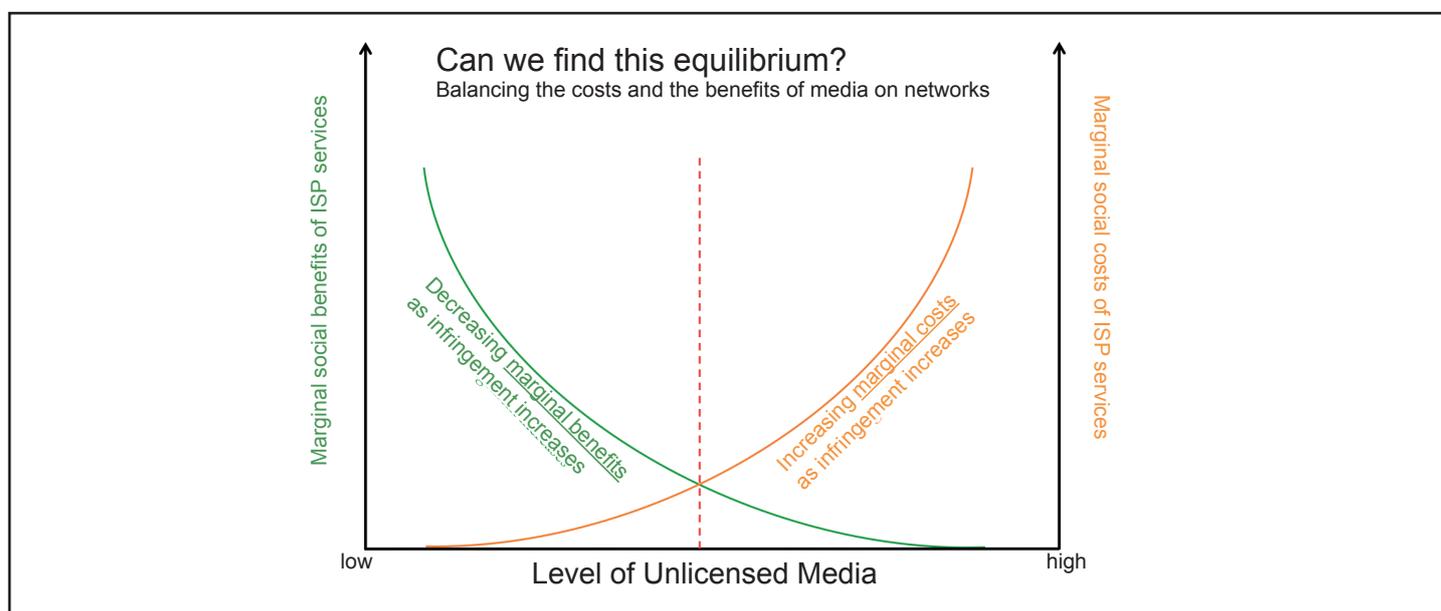
### From polluting lakes to piracy

Regardless of which legal “tools” are applied, an existing economic framework can be used to conceptualise how such tools can be put into practice — namely, *The Coase Theorem*.<sup>5</sup> Coase used property rights to tackle the problem of pollution, resulting from an oil refinery’s activities that depleted the local fisherman’s catch. The assignment of property rights over the lake to the fisherman might ensure that if the refinery were to pollute the lake, then its owners would need to pay the fisherman adequate compensation for the right to do so.

In economics, what *The Coase Theorem* highlights is the relationship between the marginal social benefits (MSB) and marginal social costs (MSC) of production, given an externality like pollution. The argument rests on the assumption that the socially optimal use of any resource occurs when the additional marginal benefits (in terms of goods and services it derives by permitting one more unit of pollution) equal the additional *marginal* costs it incurs. In economic terms, this is the optimal point at which  $MSB = MSC$  (see chart below).

If a firm realises only the benefits of its activities, without having to realise the wider cost of its activities (such as the negative impacts of pollution), it has an incentive to expand its production until the benefits from further production disappear. However, if the producing firm is responsible for both the costs and the benefits of production, then the firm will have an incentive to pollute only up to this optimal point, when the marginal benefits and costs meet. Simply put, when both marginal costs and marginal benefits must be accounted for, the rational firm stops producing when it would otherwise do more harm than good.

This classic refinery example can be transposed to unlicensed P2P file sharing by viewing the ISP as a producer of important services (a social benefit) who has not had to incur the costs of any impact upon the business of copyright (the social cost). Our concern, visualised in the following graphic, is for marginal changes in benefits and costs — the extent to which an increase or decrease in the general level of infringement leads to changes in the benefits enjoyed and costs incurred.



<sup>5</sup> To be clear, Coase’s theorem is about the assignment of property rights, not about to whom those rights should be assigned. His argument was that an “efficient” outcome might result, whether the rights were assigned to the refinery or the fisherman. In fact, the theorem also works if the fishermen pay the refinery not to pollute.

Were ISPs required to pay a price for the value of copyrighted media on networks, the mechanism would be in place to encourage a balance between these costs and benefits. This balancing act might occur through the incentive to either (a) "wise up" the dumb pipes by cleaning out the unlicensed media files in an effort to avoid paying the real costs of these files, or (b) accepting this payment for media as the cost of doing business while finding new ways to source the value of these creative works.

Should the level of infringement on networks decrease to nil by way of some traffic management scheme, the end game of this cost/benefit balance act might be no transfer paid from ISPs to media rights holders – the social cost would in fact be minimized. However, were the removal of unlicensed media from networks implausible, we would still have in place a mechanism to price these costs – the social cost would be paid. In either case, an equilibrium could emerge balancing the benefits and the previously unpriced costs.

To put this into context, it's worth recalling that droughts happen for two reasons: a real lack of water supply due to nature, or a supply drained unnecessarily due to pricing water unreasonably low. While ISPs may be complaining that their profit margins are drying up, these actors should not confuse their willingness to compete with their customers' willingness to pay for connections and content. Pricing creative works too cheaply, by not recognizing a fair price for the media from which consumers and networks benefit, may be leading to a drought for both ISPs and copyright owners.

### Going forward

Our assessment as presented in this paper was as follows: The installation of fatter and faster pipes supporting NGA will not only increase the "problem" of P2P, but also broaden the constituency of content industries affected by the problem. Until now this problem has been viewed in isolation as a matter for the content industries affected, but the Digital Economy Act states the problem must be measured by rightsholders and ISPs together, specifically recognising that both are party to the matter. Thinking through the legal tools and economic mechanisms for dealing with measurable problems allows us to develop solutions based on compensation in lieu of control.

We have offered insights into the technologies already available to measure unlicensed media distribution on networks, and to reiterate:

a problem that can be measured is a problem that can be priced and traded. This insight leads us to consider a number of compensation based options, two of which we can quickly describe here.

First, there is the possibility of a dynamic compensation model, akin to the "cap and trade" market for carbon emissions. In this case of a "negative spill over" approach, operators would face a fee for the transmission of unlicensed media on their networks though that fee would be reduced in line with reductions in the volume of unlicensed media transmitted. It would be up to operators whether and how they wish to affect the transmission of unlicensed media on their networks. This has the potential to produce an internal market of different ISP networks adopting different routes to getting their respective pollution indexes down – allowing the cost saving to be passed on to the consumer.

Alternatively, there is the "positive spillover" approach, one that converts infringing media to non-infringing by way of a legal agreement. Since as far back as 1851, Parisian restaurants have compensated composers for the value music adds to such venues. These blanket licenses, now also issued to broadcasters of all types, permit the performance and/or transmission of musical works and recordings to the public in exchange for a fee. Network operators would pay such a fee, and determine for themselves how best to capture the raw value of media on networks. A reduction of such fees might occur as a result of changes in the level of media transmitted that has been directly licensed from rights holders.

Our goal here is not to frustrate the reader with the usual two-handed exit of economists. Instead, we want to make it clear that neither of the above-mentioned options could be considered without accepting that some sort of market failure has occurred and that in consequence some form of regulation is required, and that regulation should seek to put incentives and structures in place so that a market-based solution to the value of media on networks can evolve.

We suggest that all stakeholders seriously consider the recognition of and compensation for the value creative content adds to the 'venues' that are Next Generation Broadcasters. Different stakeholders will see this problem (and therefore the solution) quite differently. However, we hope the title offers a unifying theme, which is that it is time to move Digital Britain forward without leaving Creative Britain behind.