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23 March 2015

Summary

In what follows we respond to the six points you raised in your email of 11 September 2014. In an attached Annex we provide a more detailed critique of the Incentives/Access trade off model developed in Valkonen and White 2007.

1. *Your Creative Destruction and Consent Comment – to quote you –* “I did not follow your argument that for creative destruction to be efficient it still needs to "include the consent of key parties" -- are you suggesting we should have asked vinyl or cassette manufacturers for their consent before moving to CD's or CD manufacturer's consent before moving to digital?"

You ask whether we were “suggesting we should have asked vinyl or cassette manufacturers for their consent before moving to CD's or CD manufacturer's consent before moving to digital?” The answer to your question is that the suppliers of the newer commodities did not need the permission of the suppliers of older products when they were introduced. This is because the older commodities were not inputs, or complements of the new product and the existing suppliers did not have enforceable property rights requiring the new entrants to seek their consent. It would have been different if for example the new entrants had drawn on the intellectual property rights of incumbents. Thus as we noted later in the paragraph where the sentence you quote occurs:

“for the creative destruction process emphasised by Schumpeter to be efficient, it has to occur with the consent of the owners of property used in the innovation. This includes the consent of owners of ‘complementary’ inputs, as opposed to that of the owners of competing products, which is not required for Schumpeter’s process of creative destruction to be efficient.”

If the new products are pure substitutes for the existing product, and if they do not involve a breach of the property or other legal rights of the existing suppliers there is no need for consent. Thus limits should exist to the creative destruction process, as we note in our paper, this was recognized in one of the earliest competition law cases in common law where it was commented that:

“I can see no limit to competition, except that you shall not invade the rights of others.” (Per Lord Morris *Mogul Steamship Co v McGregor, Gow & Co* [1892] AC 49, p.50.)

2. *Downstream Externalities – to quote you –*: “Your main Pareto argument fails because you are limiting the analysis to only the Rights holders and Intermediaries, and ignoring the significant positive externalities to the broader society from the DMCA and eCommerce Directive (the "Safe Harbor Laws"). Even if there would be some market de-efficiency (which I disagree there is, see below), such harm is overwhelmed by the societal benefits to the broader population from a more fluid flow of information and cultural goods.”

You may be conflating external benefits with “externalities”. Our Pareto argument does not fail because there are downstream “external benefits” or “societal benefits” from creative activity. Creators have incentives to license or sell access, and downstream beneficiaries have incentives to buy access to copyright they value. The question is why would market transactions not internalise any downstream benefits?

Downstream value can be realized in factor, input markets or wholesale markets where copyright is bought as an input, or hired as a complementary factor into the downstream production or consumption activities, whether it involves intermediaries, downstream creators or other members of the wider society. Benefits created downstream by creativity are thus not a problem, but are instead often the incentive for creative activity, and for the fluid distribution of information and cultural goods that is fostered by copyright.

It is not clear from your paper why you think there are externalities arising from the removal of the obligation to pay by means of the DMCA and eCommerce Directive. The immunities do not enhance incentives for greater creative output, nor for more fluid distribution of information and cultural goods; on the contrary, they weaken incentives to create and distribute.

Even if there were market failures and externalities downstream (in say education, research, news reporting, comment and other activities that are the subject of fair dealing and fair use rules), it is not clear why copyright owners should bear the burden of subsidizing these activities by being forced to give away their copyright. General tax funding, direct or indirect levies on, or blanket licences for such downstream activities to fund the creation of information and cultural goods would seem the more efficient solution, all of which are currently practised in various contexts.

3. *Incentive/Access Trade off – to quote you –:* “As you can see from the attached excellent law review article you should read at some point (you can skip the legal stuff in the beginning and start at page 371), copyright needs to be analyzed through balancing the property right with the societal costs of limiting access. The suggestion in your article would create a regime that would be well into the downward slope of the overall societal benefit of copyright propertisation in the graph on page 395.”

In the attached comment we discuss the model of copyright developed from page 371 on the article you co-authored with White. The article derives the net benefits curve you refer to on page 395 from the difference between what are called the “incentive benefits” (I) and the “access costs” (C) of increasing the strength of copyright (z).¹ As we show, errors in the underlying analysis of I and C and z lead to errors both in the position and the shape of the net benefits curve on page 395. Correcting for these errors it becomes clear that the optimal strength of copyright or point z* identified in your diagram should be moved to the right, implying stronger copyright protection is warranted than you assume, in particular a level of copyright protection closer to our recommendations.

4. *Anti-Commons Transaction Costs – to quote you –:* “You appropriately mention Coase in the article but then give short shrift to the massive inefficiencies from transaction costs your approach would result in. Given the fragmented nature of copyrights both geographically and substantively (master rights, mechanical rights, performing rights, etc.) the copyright economy is probably one of the least Coasian market structures that exist.”

¹ The effect of the level of z on both incentive benefits and access costs are presented in figure three of page 394 of the V/W article, with the incentive benefit curve taken in turn from figure 1 on p387, and the access cost relationship from figure 2 on page 393.

Once again your analysis of transaction costs misses a key point. The risk of an anti-commons problem, and the problem of high transaction costs arises upstream as much as downstream, and indeed both are massively increased by the DMCA and eCommerce Directive. As we discuss in detail in our review of your article attached, the fundamental problem is that your analysis focuses on the transaction, search and enforcement costs of downstream user-creators, and ignores upstream creators, who also face transaction, search and enforcement costs. The approach taken in Valkonen/White overlooks a fundamental point raised by Ronald Coase, namely that any transactional problem tends to be reciprocal – or two-sided. The one-sided view of transaction costs in Valkonen/White is manifested in the graphical representation of market imperfection costs in your article, which assumes that when $z=0$ or there is no copyright protection, market imperfection costs are zero as:

“everything is freely useable the value of the work is immediately conveyed to society”²

Thus the Valkonen/White model assumes that market imperfection costs are zero when $z=0$ or there is no copyright protection; market imperfection costs then increase exponentially from zero as copyright protection is increased. This is incorrect - market imperfection costs are unlikely to be zero when $z=0$. Counter-intuitively perhaps, and contrary to the assumptions made in the article, when copyright protection is zero ($z=0$) everything is NOT likely to be freely useable and the value of copyright works will not be immediately conveyed to society. Quite the contrary. In fact, access costs are likely to be positive and increasing as copyright protection approaches zero. This is because the creator will have increasing and very high contracting costs, combined with rapidly falling incentives to market creative goods as copyright protection falls to zero. Access costs are not zero when there is no copyright, because one must consider the transaction costs of creators when considering the access costs of users. If creators are deterred by transaction costs when copyright protection is low, users will face very high costs accessing creative works.

Your article thus makes the mistake of taking a one-sided view and considering only the users' side of the transaction rather than a reciprocal one. You also appear to adopt a static, or *ex-post*, point of view (ie assume that creative goods exist already). In considering the transaction costs effects of the boundary drawn between copyright enforcement and copyright exceptions like those in the DMCA and eCommerce Directive, it is important to examine the nature of transaction costs both *ex-ante* and *ex-post* under the alternative allocation of rights, having regard to cost shifting and reciprocity, or effects on both sides of the transaction, as each side's transaction costs will affect outcomes in terms of access to copyright works. One needs to consider the *ex-ante* and *ex-post* transaction costs of both sides of the relationship, or *total* transaction costs. It is an oversimplification to focus on transaction costs that exist upstream after goods have been created (*ex-post*).

If instead one considers transaction costs *ex-ante*, or prior to creation and publication, it is generally accepted that by allocating the entitlement to creators (who are few) rather than potential users (who are many), copyright saves on the total transactions costs of writing contracts *ex-ante*, and allows exchange to take place *ex-post*.³ This is a familiar aspect of many other workable exchange systems.⁴ Thus total transaction costs *ex-ante* fall as z increases from zero; they are not rising from zero, but rather falling from a high number. This is the opposite result to the one you assume.

² *ibid* p395.

³ Landes and Posner, 1989, Gordon, 1992a, 1992b, 1992c, Gordon and Bone 2000 Copyright Encyclopedia of Law and Economics (eds B Bouckaert, G De Geest) Edward Elgar Publishing, Stan Liebowitz and Richard Watt (2006) How best to ensure Remuneration for Creators in the Market for Music? Copyright and Its Alternatives. Journal of Economic Surveys Vol 20 No. 4 footnote 11

⁴ Holderness, C. G. (1985) A legal foundation for exchange. Journal of Legal Studies 14: 321–344.

5. *Monopoly Power* – “A fully efficient market for copyright is an impossibility because an efficient market requires goods to be substitutional (i.e. if I think pears are priced too high I can buy apples). A Lady Gaga copyright is not substitutable and this monopolistic nature of copyright (which we see in practice every day) is a much bigger inherent market inefficiency than the issues you raise in your paper. The Safe Harbor Laws are valiant attempts to minimize the societal deadweight from monopolistic behavior”

This central assumption that the key benefit of copyright exceptions in the DMCA and eCommerce Directive is that they reduce the deadweight costs of monopoly pricing is clearly incorrect. Copyright does not create significant market power. Many writers point out that even ‘strong copyright’ does not in itself justify an assumption that monopoly profits and deadweight costs will exist, which copyright exceptions can then reduce. The exclusivity granted by copyright protection creates monopoly power only if substitutes are unavailable and entry barriers prevent either free entry, or the emergence of any such substitutes in the foreseeable future.⁵ Clearly however particular copyright goods (like Lady Gaga’s works) are subject to competition from close substitutes, and from free entry and are therefore unlikely to enjoy a monopoly. A key point here is that copyright exists only in the expression of an idea, not the underlying idea itself. So in addition to competition from copies of their own work, a copyright holder faces competition from other expressions of the same idea. As Klein, Lerner and Murphy (2002) note:

“in contrast to patents, a copyright does not grant exclusive rights to an idea, but merely to the specific expression of an idea. Hence, in spite of the fact that the price of copyrighted works is greater than marginal cost, a copyright generally does not create monopoly power”⁶

Your model of copyright, which assumes that it confers monopoly power which will be used to restrict supply, is thus incorrect. Indeed Yoo (2004) has shown instead that strengthening copyright facilitates entry and competition in an approach to copyright law based on the economics of product differentiation. Yoo suggests that strengthening critical aspects of copyright benefits *both* creators *and* consumers because it generates product differentiation, promotes competition, and nurtures incentives to create:

“The “idea-expression dichotomy” limits copyright protection to the form of expression without offering any protection for the underlying ideas expressed in the work. This basic principle effectively guarantees that any competitor willing to undertake the same fixed-cost investment as the original author remains free to create alternative works with the same functional characteristics as any existing work. ... [T]he differentiated products approach to copyright largely renders moot the objection that strengthening copyright protection and facilitating price discrimination raise distributional concerns.”⁷

⁵ see Yoo (2004) citing SENATE SUBCOMM. ON PATENTS, TRADEMARKS, AND COPYRIGHTS OF THE SENATE COMM. ON THE JUDICIARY, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM 53-54 & n.238 (Comm. Print 1958) (prepared by Fritz Machlup) (arguing that property and monopoly have different meanings in economic theory and should be distinguished); and Edmund W. Kitch, Patents: Monopolies or PropertyRights?, 8 RES. L. & ECON. 31 (1986) (offering classic statement of this principle in patent law context). As Yoo notes as a common example, the exclusive right to sell the land upon which a house is located does not give the power to charge supra-competitive prices unless no other land with the same functional attributes is presently available or expected to be available in the near future.

⁶ Klein, B., Lerner, A.V. and Murphy, K.M., 2002. The Economics of Copyright "Fair Use" in a Networked World. American Economic Review AEA Papers and Proceedings.

⁷ Yoo (2004) at p.250.

As Yoo concludes, the fact that copyright promotes product differentiation ensures that wide scale *access* to copyrighted works may be promoted by the “strengthening of copyright protection”:

“[T]hese insights falsify the claim that simultaneous promotion of access and incentives is impossible and that copyright necessarily devolves into a tradeoff between the two. The supposed tension between access and incentives turns out to be nothing more than an artifact of the traditional approach’s reliance on monopoly and oligopoly models that fail to account for entry. The differentiated products approach reveals that encouraging entry can promote both types of efficiency simultaneously.”⁸

6. *Intermediary liability*: “With respect to your “parasitic growth” argument, the biggest problem is your neglect of the fact that copyrights are incidental to the economic success of the Intermediaries. You also disregard the substance of the term “Intermediary” -- taking your argument to its logical conclusion you would say Xerox was the beneficiary of parasitic growth because it did not obtain consent from every person ever making a copy of anything copyrighted.”

We are not sure what you mean when you say “copyrights are incidental to the economic success of the Intermediaries”. Are you saying “incidental” as in only a minor part of the intermediaries’ business? And therefore that perhaps intermediaries could do without copyright, as it is only a minor or incidental part of their business? In case you are saying this, let’s be clear, consumers are NOT interested in internet intermediaries’ services in and of themselves, or *per se*, but rather primarily or to a large degree because those services give them access to valuable copyright goods (like music, film, book, TV, etc. etc.). Demand for intermediary services is derived demand. It is derived to a large degree from the value of copyright goods to the consumer. Intermediaries’ services are paid for out of the value created by the delivered copyright good. People don’t pay for the services of empty delivery vans.

Intermediaries as distributors are in a competitive market, and of course they face costs and risks, and would obviously prefer it if consumers did not have to pay for the goods they are delivering - like copyright – as that would “incidentally” leave more of the value for the intermediaries. The DMCA and eCommerce Directive clearly enable people to benefit from copyright without paying. The law in effect creates a subsidy to unauthorized copyright use associated with hosting, search, caching and conduit services. As a result, intermediaries will inevitably enjoy the “incidence” of this “industry subsidy” which the DMCA and eCommerce Directive create.

The *incidence* of a subsidy, describes who benefits from it. Copyright owners “pay” for the immunities, bear the immunities costs, or bear the incidence” of what is in effect a tax, while intermediaries will share in the benefits, or enjoy part of its “subsidies incidence”. The industry subsidy doesn’t all accrue to consumers who no longer have to pay for the copyright/s. The “incidence” of the subsidy, or the parties to whom it will accrue, depends on elasticities of demand and supply. Intermediaries will enjoy a share of the “incidence” of subsidies. Therefore the only relevance of the word “incidence” here is as follows: intermediaries will benefit from the incidence of the safe harbour rules; intermediaries will enjoy a share of the subsidy created by the safe harbour rules - incidentally.

This benefit to intermediaries from unauthorised use of copyright in hosting, search, caching and conduit services forms one of the three elements that together define situations when intermediaries should be liable for harm: when intermediaries *benefit* from copyright breach,

⁸ *Ibid.*, p. 251.

if they also *know* about the copyright breach (or have constructive knowledge), and they *could stop it at low cost*, then they should be liable for the harm caused. The DMCA and eCommerce Directive override this Pareto efficient test for liability and this comes at some cost to society.

If Xerox could be said to have benefited from copyright breach, and knew about the breach, and could have stopped it at low cost, then yes it would be efficient for it to have been liable. It would then have obtained licensing agreements. Xerox may have had a defence however if it could not be said to know easily whether what was being copied was the Gutenberg Bible, which was out of copyright, or a book in copyright. There was also perhaps little it could do to stop any breach of copyright at low cost. This is not true of most internet intermediaries however. They increasingly have low costs means of monitoring copyright breach, and stopping it. They clearly, incidentally, also benefit from it.

Annex: Review of Valkonen and White 2007

In what follows we provide a detailed response to key points arising from the co-authored article you sent us - Valkonen and White (2007) henceforth V/W. As noted you claim that the suggestions made in our article

“would create a regime that would be well into the downward slope of the overall societal benefit of copyright propertisation in the graph on page 395”

of the V/W article. In order to respond to this claim, in what follows we assess the basis of the graph on page 395 in the V/W article. Our aim in doing this is to try and establish a common understanding of the underlying problem, so that we can hopefully build on the common ground and isolate any points of difference that may explain the contrary points of view.

In the next section we will work through the key elements of the model in your paper Valkonen and White (2007) which we believe lead to the differences between our conclusions. Thus we begin by summarizing what we see are the key elements of the V/W model; this is done to identify where we are on common ground, and/or the key points of difference.

As we shall demonstrate, we believe the reason why you draw the conclusion that the suggestions made in our article “would create a regime that would be well into the downward slope of the overall societal benefit of copyright propertization in the graph on page 395” of the V/W article is because there are two fundamental problems with the V/W model:

- a) First it understates and misspecifies the benefits of copyright enforcement and
- b) Second it overstates and misspecifies the nature of the costs.

As a result the net benefits curve in your article on page 395 both understates, and misrepresents the nature of the net benefits. As a result you mistakenly conclude the strength of copyright should be more limited than a more accurate analysis would predict is optimal.

Incentives/Access Trade off Model

The graph you refer to on page 395 of the V/W article or figure 4, entitled “Net Benefits of Propertisation” is presented below.

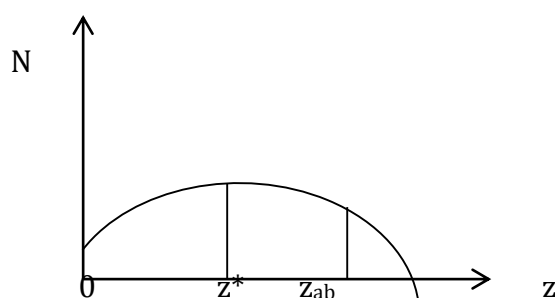


Figure 1: The Net Benefits of Propertisation

The strength of copyright is measured by the variable z , on the horizontal axis in the figure above, while the total net benefits (N) from strengthening z is measured on the vertical

access. It is important to note N measures total net benefits of copyright so the optimal level of z, occurs at the point where total net benefits of copyright (N) is a maximum, as shown where $z = z^*$.

You seem to believe current copyright law is creating such an optimum, or a situation close to it, and that our suggestions for changes to the US DMCA and the EU eCommerce Directive would take copyright strength to the right of z^* , and into the declining total Net Benefit range, perhaps a point like z_{ab} which is “well into the downward slope of the overall societal benefit of copyright propertization in the graph”.

To better understand why you make this claim one needs to understand what is driving the height and shape of the above net benefits curve, and therefore the optimal position z^* . The V/W article derives the net benefits curve in the above figure from the difference between what are called the “incentive benefits” (I) and the “access costs” (C) of copyright.⁹ Clearly it is thus possible that slight changes to the underlying analysis of the key variables, namely z, I and C, would change the shape of the above net benefits curve. It is thus possible for example that these changes may cause the optimal point z^* to move to the right, implying changes to what you understand is the effect of current law, and closer to z_{ab} or the position you suggest would result from our proposals for changes to the legislation.

To isolate the underlying points of agreement and disagreement then, in what follows we review the each of the three key variables in the V/W model as follows:

- 1) strength of copyright (z)
- 2) the “incentive benefits” (I) and
- 3) the “access costs” (C)

The Strength of Copyright (z)

The V/W paper assumes that z is a vector of a number of variables

$$z = \begin{bmatrix} z_1 \\ z_2 \\ \cdot \\ \cdot \\ z_n \end{bmatrix}$$

with each element of the vector ($z_1, z_2 \dots z_n$) representing a different copyright policy choice, such as the *duration* of copyright (e.g. z_1) or *breadth* of copyright (e.g. z_2). It is then suggested that the strength of copyright (z) can be measured as the weighted average of its various elements ($z_1, z_2 \dots z_n$). Thus the strength of z may remain the same if an element like duration (z_1) is lowered, but another element like its breadth (z_2) is strengthened to compensate for this.

The problem with the vector approach to describing and analyzing the effect of copyright law is that it obscures important differences between the various elements of copyright law ($z_1, z_2 \dots z_n$), and can deflect attention away from a more focused discussion of particular reforms. In particular, a variable like breadth is particularly vague and clearly incorporates a vast array of legal elements that operate in different ways.

⁹ The effect of the level of z on both incentive benefits and access costs are presented in figure 3 of page 394 of the V/W article, with the incentive benefit curve taken in turn from figure 1 on p387, and the access cost relationship from figure 2 on page 393.

Moreover our article is focused on the exceptions created in the US DMCA and the EU eCommerce Directive (eCD). The V/W paper however does not analyse these specific laws. It is therefore important at the outset to specifically elaborate on how to analyse the effect of the DMCA in the US, and the eCD in Europe on the strength of copyright or z .

The DMCA removed liability for damages for unauthorized copying associated with online services such as conduit, caching, hosting, and search. The eCD did the same - excluding search. These immunities for unauthorized copying associated with particular actions or activities (conduit, caching, and hosting) can be represented as weakening specific elements in the z vector (z_1, z_2, \dots, z_n). Thus z_3 might be used to represent the strength of copyright law affecting conduit, while z_4 could represent the strength of z for caching, and z_5 hosting etc. Given that each of z_3, z_4 and z_5 represents the strength of copyright law affecting only one of the respective services (i.e. conduit, caching or hosting), one can capture the effect of both the DMCA in the US and the eCD in Europe as involving a weakening of z_3, z_4 and z_5 . While for search the strength of copyright (z_6) has only been weakened in the US.

But by how much has protection been weakened in each case where it was changed? To understand this one need to understand how the immunities affect behavior. Prior to changes in the law, during the period in which any copying occurred, the copier would be liable for an expected sanction for copying, which depended on the probability of a case being taken (p) and the damages (d) or sanction that would have been awarded ($p*d$). Thus prior to the law changes there was an implicit legal price ($p*d$) for unauthorized copying, with the damages (d) set equal to the loss suffered by the copyright holder, and/or the extent of unjust enrichment of the copier. This expected sanction deterred copying which created harm. Following changes to the law the damages (d) fell to zero for harm caused during any period of unauthorized copying.

This makes it clear that the relevant comparison then is between a law that provides protection and compensation for harm caused ($z > 0$ as $p*d > 0$) as opposed to one that doesn't ($z = 0$). Clearly the problem with not allowing damages awards is that copiers no longer face *the full costs* of their actions, including losses to copyright holders, during the period in which they may engage in copying, for example up until or before an injunction preventing it is awarded, if at all.

This analysis suggests then that the DMCA and the eCD may not have set the relevant element of z (z_3, z_4, z_5 and z_6) at a positive level as you seem to suggest, but rather at zero. Using the model elaborated in the V/W article we shall argue below that this is far from an optimum. By removing civil remedies for unauthorized copying associated with conduit, caching hosting and search the DMCA and eCD reduce the strength of copyright protection z_3 for conduit, z_4 for caching, z_5 for hosting and z_6 for search. As a result the DMCA and eCD substantially increase the incentive to engage in the unauthorized copying *directly* involved in these services. Given these services are in turn inputs to unauthorized downstream copying, the DMCA and eCD also *indirectly* increase downstream copying and, as we shall see, as a result substantially increase the costs of unauthorised downstream copying.

The Incentive Benefit (I) of z

The general idea underlying the incentive benefit curve (I) in the V/W paper is that the amount of creative investment (I) increases with increases in the strength of copyright (z), or the more that copyright is "propertised". The reason given is that the higher z is, the more opportunity the copyright claimant has to recover his investment (I) and earn a return on it.¹⁰

¹⁰ *ibid* p383

A logarithmic functional relationship for the incentive benefits function is identified taking the form¹¹

$$I = \alpha + \log(z)$$

Where

I = Investment in copyrightable works¹²

α = the base level amount of creative investment that would exist absent any copyright protection¹³ or if ($z=0$)

The V/W article then links the strength of copyright (z) to welfare via the incentive effect by assuming the increase in the property grant (z) induces incremental creation, which induces more output, which has social value - so that an increase in societal value is a function of the increased output, which is in turn a function of the private incentives to create. This then enables creative investment (I) to be linked with average societal value (v) and the societal welfare (W) created by the copyright system calculated as the perpetually discounted product of the two or

$$W = (I*v)/r$$

Where r represents discount rate¹⁴ Figure 2 below shows the relationship between the strength of copyright z and the incentive benefit presented in the V/W article. It is clearly important to clarify why it is assumed to take the logarithmic shape and not instead, for example, a more exponential shape.

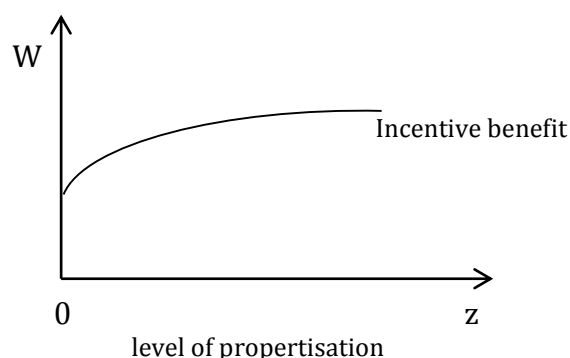


Figure 2: The Incentive Benefit Curve

Problems with the Analogy to Geographic Licensing of Real Property

The V/W article rationalizes the above shape for the incentive benefit curve by analogy with exploration rights and restaurants. In the oil exploration example the analogy drawn is with the privatization of state owned drilling rights in a desert which has oil deposits. The claim is that free riding by subsequent drillers on found oil deposits can be limited by a property grant over a defined acreage. The claim is that as the grant is increased from one to two acres and beyond, exploration will increase because oil explorers have less concern that if they do hit oil, someone will drill so close as to drain the same oil pool. The claim then is that while there

¹¹ *ibid* page 386

¹² *ibid* p383

¹³ *ibid* p386

¹⁴ *ibid* p388

will be an increase in exploration investment from a larger grant, any increase will be diminishing because oil explorers will believe the difference in benefit between the one-acre and two-acre grant is greater than the difference between an eleven-acre and ten-acre grant. In the restaurant licensing analogy the focus again is on the geographic area of a license but in this case a license to open a restaurant. While a bigger geographic area of exclusivity it is argued would increase returns from the license and induce more potential restaurant entrepreneurs to apply for a license and pay the fee, the difference between a one-block grant and two-block grant is greater than the difference between an eleven-block and ten-block grant. This then by analogy is the argument used to justify diminishing incentive returns from stronger copyright z.

While intuitively plausible, it is clear that this analogy between real property and copyright is misplaced. The geographic areas of licenses for oil exploration and restaurants relate to the geographic extent of rights over *existing* normal goods – oil and restaurant food - not *creative* goods. The licensees' benefit from extended geographic licensing of normal *existing* goods like oil deposits and restaurants is primarily the reduction in competition, and the potential geographic monopoly over the scarce *existing* goods the license creates.¹⁵ As we shall see later copyright by definition does not create such monopoly benefits, neither does copyright create rights over *existing* scarce goods like oil deposits or restaurant food in a geographic area. Copyright, by comparison, relates to *creative goods* like music, films and television programmes, e-books, games, software and database-production software. The problem copyright solves, its key effect, and therefore its incentive benefit is different from the effect of geographic licensing of existing normal goods like oil exploration and restaurants highlighted in the V/W article.

The Neglected Special Characteristics of Creative Goods

By creating rights over *creative* goods, or goods that do not yet exist, copyright solves a problem with creative goods that is not present in the context of normal existing goods like oil and restaurant food. The problem with creative goods that copyright solves arises from two economically important features of creative goods, which are not shared by oil wells and restaurants as forms of real property. The two key features which distinguish copyright goods are:

- a) first they involve high creativity or *creation costs*, being creativity intensive; and
- b) second they are *easy to copy* or imitate, and appropriate, or difficult or *costly to protect*.

It is clear that unlike copyright goods, real property such as oil wells, and restaurants do not share these characteristics.

On the first key point of difference, because copyright relates to creativity, it entails creation costs which are not inherent within other standard forms of real property like oil and restaurants. Indeed, as Demsetz notes, standard economic theory used to model real property does not contemplate creative activity:

“standard economic theory, does not allow for two classes of goods, newly created and already existing. All goods are presumed to already exist in these models ... It deals only with production of an existing, known good. This denies opportunities to engage in the sort of free-riding that is involved in the copyright debate, which is based on the ability of a copier to avoid the cost of creating the new work.”¹⁶

¹⁵ That is if ones excludes from consideration the safety or health aspects of licensing not mentioned in V/W.

¹⁶ See Harold Demsetz, 2009 p. 8

Thus oil wells and restaurants use resources that already exist, and while oil wells and restaurants involve fixed costs, so too do copyright goods, and most other goods to varying degrees. All competitors whether in oil production, restaurant services or copyright face fixed costs; they cannot be avoided. The fixed costs of standard economic theory are not however the important point of comparison here. Instead the key problem is the creation costs associated with copyright goods, which can be avoided by competitors by simply copying.

No one incurs creation costs in oil exploration and restaurants that can be avoided by competitors simply “copying” the oil for example, they have to extract their own. Neither oil, nor restaurant food can be copied at nearly zero cost, thereby avoiding any costs of creation that might have existed. Copying of copyright goods is instead the equivalent of theft in the real property examples – not the equivalent of competition over existing goods in a geographic region. Copying creative output is similar to someone stealing oil, or stealing restaurant food, and then giving or selling it to the customers of its original owner, in competition with the owner. The equivalent protection in real property rights then is protection against theft.

The key point then is that in the absence of the ability to exclude others from appropriating the creative goods one creates and then possesses through copyright, there will be greatly weakened incentives both to invest in creativity, and to engage in the exchange or transfer of creative output. This is why the enforcement of copyright is efficient. By requiring consent, copyright minimises the problem of parasitic behaviour or free riding on creative and innovative processes, and this we discuss in our paper. New license owners in the oil and restaurant examples do not “free ride” on creation costs, instead they compete with each other to produce and sell already existing scarce goods, albeit perhaps transformed in production. This gives rise to pecuniary externalities – as the competitors sell more oil or food, they tend by their actions to push down the market price. They do not however avoid any creation costs or “copy” their competitor’s real property and avoid creation costs by so doing. With an oil well or restaurant one can also readily exclude others at comparatively low cost, and so self-help can provide close to adequate protection.

The two features of creative goods creation costs and low excludability then create opportunities for copiers to ‘free ride’ on investments in creativity made by others. If copying is then extensive and cheap enough, competition from unauthorised cheap copies will force the price of copies down to the copier’s marginal cost. So long as copying is less costly than creating, the resulting market price will be less than the price required to recoup the fixed costs of creation (including opportunity and risk-bearing costs).

A More Realistic Increasing Returns Model of the Incentive Benefit

It is thus clear that the incentive benefit from copyright protection is not like the benefit from an extended geographic license over oil deposits or restaurants. The analogies with real property used in the V/W article to justify *diminishing returns* and therefore the logarithmic form for the incentive benefit curve thus appear inappropriate. Instead a more accurate analysis of the incentive benefit curve from greater copyright protection suggests it is designed to unleash the creation of new goods, not restrict access to existing ones. Strengthening copyright is thus likely to exhibit *increasing returns* suggesting an exponential curve form may be more appropriate.

This is all the more true at the level at which V/W analyse the incentive benefit curve. They focus on what they call “the societal incentive” claiming

“The societal incentive can be aggregated from the individual incentive curves of individual actors. Consequently, setting aside the complex modeling that this would entail, the correct end result can be reached by simply considering the societal

incentive curve to be identical to that of the common legal fiction of the average creator”¹⁷

The key feature of the creative process which this V/W analysis then overlooks is that at the aggregate level there are increasing returns from creativity. The increase in the output of one creator due to stronger copyright, thus *indirectly* also enhances the creative output of others in a virtuous circle leading to increasing returns at the aggregate level.

It is clearly accepted in the V/W article that strengthening copyright (*z*) *directly* increases individual creativity and creative output. Strengthening copyright however also *indirectly* creates a dynamic positive feedback, first from greater specialisation and division of labour in creative activities (which leads to increasing productivity), and second from creativity synergies, or creativity spillovers, whereby creative actors indirectly benefit from the greater creative output of those around them in their creative community.

Creative synergies and spillovers from increased creative production are particularly important. Given copyright only protects expression and not the underlying ideas, an increase in creative expression will also stimulate an increase in creative ideas. Creators will be able to learn from and draw on an expanded range of creative “ideas” that will inevitably underlie an increase in creative “expression” - without breaching copyright. Thus owing to creativity synergies and spillover effects the returns to strengthening copyright at the margin are likely to be increasing, not diminishing. This implies the graph of the incentive benefit should exhibit an exponential shape - not a purely logarithmic one as assumed by V/W.

Limits to the Incentive Benefit

The primary or direct beneficial effect of copyright then is that it supports the operation and expansion of the market for creative goods, by limiting copying and “market bypass”. As noted, this in turn enables greater specialization, and division of labour, which together with creativity synergies and spillover effects, lead to increasing returns to creativity, and indirectly therefore increasing investment in a virtuous circle.

One thus expects increasing returns as copyright protection (*z*) increases. There is however a natural limit to increasing returns in the incentive benefit from stronger copyright. As noted, this limit is determined by the extent of the market for creative goods. This is, in turn, limited primarily by the extent to which copying, and market bypass can be limited as it is copying that erodes the market. Thus limits to the extent of the market, and therefore limits to the increasing returns from copyright strength, depend on the limits that can be imposed on copying.

As Landes and Posner note, greater legal protection can then potentially increase incentives for greater creation *up to the point that it fully deters copying*.

“Although the author's gross profits will increase with greater copyright protection until copiers cease making copies - after which additional copyright protection can yield no benefit since there are no more competitors to exclude...”¹⁸

Thus the increasing returns from the incentive benefit of copyright, or the exponential range of the incentive benefit, will hit a limit once copying has been fully deterred, implying benefits from stronger copyright can be expected up to the point copying is deterred.

Landes and Posner however assume there may be a further factor limiting the extent to which greater copyright protection can increase incentives for creation, in that although *gross profits*

¹⁷ V/W pp 383-384

¹⁸ Landes and Posner (1989) p337

may increase with increased copyright protection, *net profits* may not because

“The cost of expression to authors of copyrighted works increases as copyright protection increases. The less material an author (not a copier) can borrow from other copyright holders without infringing their copyrights, the greater will be the cost of creating his work.”¹⁹

This, however, may fail to capture a key effect of copyright on the supply and therefore costs of complementary use of copyright - including collaboration.²⁰ Stronger copyright may not mean there is “less material an author can borrow from other copyright holders”, or that the cost of complementary use will increase. Rather than reducing material available for complementary use, it is more likely that strong copyright expands both supply of (and demand for) copyright for complementary uses, by facilitating its licensing where efficient. There is always an incentive to license complementary use if it is value creating, so efficient creative outcomes will not necessarily be prevented by strong copyright – it depends on transaction costs which, as we discuss in detail later, copyright reduces.

Strong copyright facilitates complementary uses by acting like a “magnet” or “beacon” to collaborators and complementary users and uses. Making copyright title stronger makes it less open to bypass and enhances certainty, which reduces the transaction costs of negotiating complementary uses, increasing both the demand for and the supply of copyright for complementary use. Although the main benefit of copyright protection cited by V/W is the investment effect, this is actually only one of the indirect effects of copyright. The point is that the primary benefit from what V/W call “propertisation” is that it supports the operation of a market, encouraging what Adam Smith called “truck, barter, and exchange”²¹ or the taking of copyright goods to market for sale. In the absence of copyright protection people have weak incentives to market or sell and therefore disseminate their creative goods, as copying will undermine their value. Property rights like copyright are thus not barriers to exchange in a geographic area. They do not limit downstream use but instead form the basis of exchange, creative learning, implicit collaboration, and the formation of markets leading to greater dissemination of creative goods and services, and greater downstream use.²² The increased returns on investment associated with this process in turn forms the basis of investment in creativity and growth of markets over time adding further to the available or potential downstream use.

Copyright requires rights holders’ consent for actions relating to their creative works which would harm them – i.e. copying. As noted, the strength of this protection is determined by the expected liability award, or the probability of being sanctioned for unauthorized copying (p) multiplied by the damages imposed (d). By reducing the expected liability award (p*d) to zero for unauthorized copying associated with conduit, caching, hosting and search, the DMCA and eCD reduce the incentive to pay creators for their output, thereby reducing returns from creative investment and the incentive benefit of copyright. Failure to obtain consent will thus increase. This will lead to “market bypass”, and give rise to reduced demand and “missing markets” in creative content, reducing market exchange and returns to investment and, hence, reducing investment and growth. The gains from exchange and sale which provide the incentive for increased production of creative goods are reduced. This in turn reduces the growth of the creative market, or sales and welfare, as a result.

Diminishing returns from the effect of stronger copyright on creative output may eventually set in, with a slowing of the increase in gross profit and/or net profit, and, therefore, the

¹⁹ *ibid* p 337

²⁰ This argument is made by analogy using results from recent research on patents see Scott Kieff (cite)

²¹ Adam Smith (1776) *Wealth of Nations* Book 1 Chapter 2

²² As we shall see by reducing transaction costs copyright enhances access to, and increases the distribution, and dissemination of copyright goods.

incentive to invest induced by greater copyright protection. If slower growth of creative output in response to stronger copyright sets in, this may in turn slow the extent of increasing returns from such increased output due to creativity synergies and spillovers. However, the marginal increase though slower output growth should still be positive up to the point copying can't be reduced any more by changes in the law, and thus the *total* incentive benefits should continue to increase, just at a slower rate.

Finally on the effect of the digital economy over time as Landes and Posner note

“Practical obstacles limit copying the original works of others even in the absence of any copyright protection. But these obstacles, while serious in some cases, can easily be exaggerated. When fully analyzed, they do not make a persuasive case for eliminating copyright protection.”²³

The implication of this economic analysis of copyright then is that higher “practical obstacles” to copying might imply less economic benefit to “copyright protection”. This implies that if practical obstacles rise in number, the benefits of legal protection fall. It also implies a *vice versa* effect, in that if practical obstacles to copying fall - the benefits of legal protection rise.

Given that the benefits of copyright protection increase as the practical costs of copying decline, then logically there should be greater and greater investment in legal protection alongside the digitization of creative works and the introduction of the internet – both of which have reduced the practical costs of piracy. The legal protection of copyright sets a legal sanction (or legal “price” or legal “cost” of copying) which can be used to offset the falling practical cost barrier, and maintain returns to creation and incentives to invest.

Conclusion

The foregoing tends to imply that because activities like conduit, caching, hosting and search all lower the costs of copying and increase the risk of theft, the expected legal sanction (p^*d) for copying relating to these activities should be positive and high, and not zero as under the DMCA and eCD.

This implies a quite different relationship between societal welfare (W) and the degree of copyright protection (z) than presented in V/W as shown in figure 2 above. Rather than the incentive benefit curve starting at a high level and increasing only slowly as copyright protection (z) is increased, the curve would appear as drawn in figure 2(a) below. This shows how as z increases the incentive benefit from creative activity increases.

²³ Ibid page 329

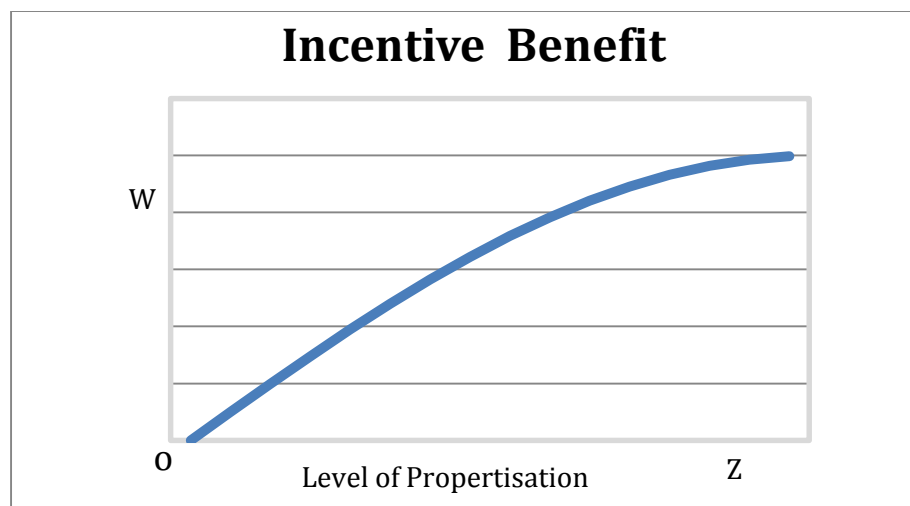


Figure 2(a); *The Revised Incentive Benefit Curve*

The Access Cost (C)

V/W claim that the access cost of copyright protection (C) includes “societal costs” that allegedly arise from the limit which copyright protection puts on the copying of already created works, and on the creation of new works. It is argued that potential authors and investors in creativity are dis-incentivised by a concern that their work would be considered infringing due to a close similarity to previous work.²⁴ Thus as z increases it is claimed the space left for new creation diminishes, which in turn creates a “social cost” through its “output limiting” effects.

This appears to underlie your second concern identified in your email of 11 September

5. *Downstream Externalities*: “Your main Pareto argument fails because you are limiting the analysis to only the Rights holders and Intermediaries, and ignoring the significant positive externalities to the broader society from the DMCA and eCommerce Directive (the "Safe Harbor Laws"). Even if there would be some market de-efficiency (which I disagree there is, see below), such harm is overwhelmed by the societal benefits to the broader population from a more fluid flow of information and cultural goods.”

It is thus being suggested that strengthening copyright brings with it an access cost, that it limits access to creative output and thereby limits the “societal benefits to the broader population from a more fluid flow of information and cultural goods”. It also suggested that there are positive externalities downstream to broader society from weakening copyright through the DMCA and eCD. No doubt there are external benefits downstream from creative activity - but external benefits have to be distinguished from externalities. The question is: why won't market transactions internalize any downstream benefits? Downstream value can be realized in factor markets, or input markets or wholesale markets, where copyright is bought as an input into downstream production or consumption activities, whether it involves intermediaries or other members of the wider society, including downstream creators. Benefits created downstream by creativity is thus not a problem, but rather instead often the reason for creative activity. Creators have incentives to license or sell access, and downstream

²⁴ *ibid* p 388

beneficiaries have incentives to buy access to copyright they value. What needs to be clear is why the downstream value won't be realised; why would access be limited in such a way as to generate negative externalities of societal costs?

This question needs to be answered for both of the two independent elements, factors or drivers which V/W identify in relation to the access cost function C. The access cost function is said to incorporate the societal costs or negative externalities of increasing copyright protection, not internalized in markets incorporating two distinct cost components:

- a. C_q = the “frictionless society” or “Coasean” costs, which are costs said to exist even with no transaction costs, and said to arise from “pricing above marginal costs - a phenomenon necessary for the claimant to recoup the initial fixed investment in the copyrighted system”²⁵
- b. C_m = “market imperfection related costs”, which are said to include primarily transaction costs, search costs and the costs of enforcement²⁶

We review the analysis of each of these cost functions in turn.

a. Frictionless Society Costs (C_q)

As the strength of copyright (z) increases V/W assume “frictionless society costs” (C_q) increase linearly. Thus in the graphical representation C_q (i.e. “frictionless society” or “Coasean” costs) are assumed to be an approximated linear function of z (strength of copyright), with the mathematical depiction of the functional relationship between the C_q and z described as follows:

$$C_q = g(z)$$

$$dC_q/dz > 0$$

$$d^2C_q/dz^2 > 0 \text{ or } < 0$$

where the g costs represent the societal value of the access loss imposed by the strength of property regime (z). Why strengthening z would create costs in a frictionless society is however unclear. The assumption appears to be that copyright confers monopoly power. It is then assumed that the DMCA and eCD reduce monopoly power, and therefore reduce the social costs from the “pricing above marginal costs” said to arise under monopoly conditions. This is confirmed in the fifth point from your email of 11 September where you commented:

5. *Monopoly Power* – “A fully efficient market for copyright is an impossibility because an efficient market requires goods to be substitutional (i.e., if I think pears are priced too high I can buy apples). A Lady Gaga copyright is not substitutable and this monopolistic nature of copyright (which we see in practice every day) is a much bigger inherent market inefficiency than the issues you raise in your paper. The Safe Harbor Laws are valiant attempts to minimize the societal deadweight from monopolistic behavior.”

This central assumption that the key benefit of copyright exceptions in the DMCA and eCD is that they reduce the deadweight costs of monopoly pricing is clearly problematic for two reasons

First copyright does not create significant market power. Many writers point out that even ‘strong copyright’ does not in itself justify an assumption that monopoly profits and

²⁵ *ibid* 388-389

²⁶ *ibid* 389

deadweight costs will exist, which copyright exceptions can then reduce. The exclusivity granted by copyright protection creates monopoly power only if substitutes are unavailable and entry barriers prevent free entry, and prevent any substitutes emerging in the foreseeable future.²⁷ Clearly, however, particular copyright goods (like Lady Gaga's works) are subject to competition from close substitutes and from free entry, and are therefore unlikely to enjoy a monopoly. A key point here is that copyright only exists in the expression of an idea, not the underlying idea itself. So in addition to competition from copies of their own work, a copyright holder faces competition from other expressions of the same idea. As Kitch (2000) emphasizes, copyright offers relatively thin protection, that allows others to create works,

“with the same functional characteristics, as evidenced, for example, by the numerous dictionaries available, by the many television shows, novels, and movies with similar themes and characteristics, or by the many competing software programs.”²⁸

As Klein, Lerner and Murphy (2002) note:

“in contrast to patents, a copyright does not grant exclusive rights to an idea, but merely to the specific expression of an idea. Hence, in spite of the fact that the price of copyrighted works is greater than marginal cost, a copyright generally does not create monopoly power”²⁹

Those models of copyright that have monopoly power as one their attributes have been shown to suffer from a number of problems. As Liebowitz and Watt 2006 note

“Any inherent monopoly power must reside in the product with the property right, not in the property right itself. Second, the models typically assume that copyright law allows the creator to sell as a monopolist to a legitimate demand curve, but does not exclude the possibility of *free entry*. Third, some unauthorized copying still occurs, and so legitimate copies (normally called ‘originals’) may have to compete with illegitimate copies. Thus market power, as economists typically know it, may be severely eroded, and it is possible that the appropriate setting may be one of monopolistic competition (see Yoo, 2004). Finally, in the case of copyright, without the grant of copyright there is a clear danger that far too little creation will exist, so the ‘deadweight loss’ from equating marginal cost to a downwards sloping marginal revenue is productive, to use the terminology of Liebowitz and Margolis (2005).”³⁰

Indeed Yoo (2004) has argued that strengthening copyright facilitates entry and competition in an approach to copyright law based on the economics of product differentiation. He suggests that

“The differentiated products approach further suggests that the tension between access and incentives, commonly regarded as the central problem of copyright policy,

²⁷ see Yoo (2004) citing SENATE SUBCOMM. ON PATENTS, TRADEMARKS, AND COPYRIGHTS OF THE SENATE COMM. ON THE JUDICIARY, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM 53-54 & n.238 (Comm. Print 1958) (prepared by Fritz Machlup) (arguing that property and monopoly have different meanings in economic theory and should be distinguished); and Edmund W. Kitch, Patents: Monopolies or PropertyRights?, 8 RES. L. & ECON. 31 (1986) (offering classic statement of this principle in patent law context). As Yoo notes as a common example, the exclusive right to sell the land upon which a house is located does not give the power to charge supra-competitive prices unless no other land with the same functional attributes is presently available or expected to be available in the near future.

²⁸ Edmund Kitch, “Elementary and Persistent Errors in the Economic Analysis of Intellectual Property”, 53 *Vanderbilt Law Review* 1727 (2000) at p. 1730. Also see Michael Ryan, Director of Creative and Innovative Economy Center at George Washington University: “the ease with which the legal hurdle can be cleared means that copyright does not prevent someone from producing a similar work. ... That is, no one may copy verbatim a short story and distribute it as the author's own work, but a storywriter is free to take plotlines from another story.” Michael P. Ryan, “Knowledge-Economy Elites, The International Law of Intellectual Property and Trade, and Economic Development”, 10 *Cardozo J. Int'l & Comp. L.* 271 (Spring 2002) at p.288.

²⁹ Klein, B., Lerner, A.V. and Murphy, K.M., 2002. The Economics of Copyright "Fair Use" in a Networked World. American Economic Review AEA Papers and Proceedings.

³⁰ Liebowitz and Watt 2006 p517

may not be as intractable as generally believed. Because facilitating entry by substitute works typically involves strengthening certain aspects of copyright protection, promoting access in this manner can have the added benefit of simultaneously promoting the incentive side of the tradeoff as well. In this manner, the differentiated products approach also contradicts the conventional wisdom by demonstrating how strengthening certain aspects of copyright protection can actually cause economic welfare to increase.”³¹

Yoo suggests that the strengthening of critical aspects of copyright benefits *both creators and consumers* because it generates product differentiation, promotes competition, and nurtures incentives to create:

“The “idea-expression dichotomy” limits copyright protection to the form of expression without offering any protection for the underlying ideas expressed in the work. This basic principle effectively guarantees that any competitor willing to undertake the same fixed-cost investment as the original author remains free to create alternative works with the same functional characteristics as any existing work. ... [T]he differentiated products approach to copyright largely renders moot the objection that strengthening copyright protection and facilitating price discrimination raise distributional concerns.”³²

As Professor Yoo concludes, the fact that copyright promotes product differentiation ensures that wide scale *access* to copyright works may be promoted by the “strengthening of copyright protection”:

“[T]hese insights falsify the claim that simultaneous promotion of access and incentives is impossible and that copyright necessarily devolves into a tradeoff between the two. The supposed tension between access and incentives turns out to be nothing more than an artifact of the traditional approach’s reliance on monopoly and oligopoly models that fail to account for entry. The differentiated products approach reveals that encouraging entry can promote both types of efficiency simultaneously.”³³

Thus the idea/expression dichotomy in copyright implies that copyright does not confer a monopoly but rather sets up the conditions for monopolistic competition. V/W in fact acknowledge this in a footnote, that does not sit well with the analysis of the paper commenting that

“We have refrained from describing copyright in terms of “monopoly” because the latter seems inappropriate to describe a system in which hundreds of thousands of new pieces of property are created every year. Instead like real estate, every piece of copyright property is unique and different from the other. The models of “monopolistic competition” and imperfect competition” seem more appropriate”³⁴

A second fundamental reason why the so-called “frictionless society” costs, or “Coasean” costs from strengthening copyright are unlikely to exist is precisely because in a frictionless society with zero transaction costs markets would work perfectly and there would be no market failure, and no social costs (including no externalities and no monopoly deadweight

³¹ Yoo (2004) at p.221-222

³² Yoo (2004) at p.250.

³³ *Id.*, p. 251.

³⁴ *Ibid* p388 Footnote 95

costs as Coase himself pointed out).³⁵ Thus even if copyright did create a monopoly (which it doesn't) there would be no social costs in a zero transaction cost world as the monopolist could engage in perfect price discrimination. Output would not be restricted at a point where price was greater than marginal cost. If there are zero transaction costs then perfect price discrimination is possible, and the copyright holder would sell at different prices which reflected different consumers' product valuations. Thus so long as the price any consumer was willing to pay exceeded marginal cost, then the copyright owner would sell the copyright good to the customer at the price they were willing to pay, and book the net revenue as a contribution to creation costs.

The conclusion is that the frictionless society costs described in the V/W article simply do not exist, as copyright does not create a monopoly. Moreover even if it did create a monopoly, in the frictionless world posited monopoly deadweight costs would be avoided by perfect price discrimination, and any negative externalities from output limitations would be overcome by contract, or internalized through markets.

b. Market Imperfection Costs (C_m)

In the graphical representation in figure 3 market imperfection costs (C_m) are assumed to be an exponential function of z . The general mathematical depiction of the functional relationship between market imperfection costs C_m , and strength of copyright z , is specified as:

$$\begin{aligned} C_m &= h(z) \\ dC_m/dz &= h'(z) > 0 \\ d^2C_m/dz^2 &= h''(z) > 0 \end{aligned}$$

V/W then choose to characterize the slope of the societal cost of the copyright system from market imperfections as *exponential*, or

$$C_m = z^y$$

with $y > 1.0$

V/W then assume that these market imperfection costs z^y , together with the assumed frictionless society costs $g(z)$ from the last section sum to give us the total access cost as a function of z in figure 4 as follows:

$$C = g(z) + z^y$$

This derivation of C was previously represented graphically in figure 2.

Given we have shown in the last section that $g(z)$ is zero, the downward sloping part of the total access costs curve C in figure 4 now depends wholly on the assumption that market imperfection costs are an exponential function of z , or that $C_m = z^y$. The assumption of exponential market friction costs also therefore drives your conclusion that our suggestions for the DMCA and the eCD would take policy into the downward sloping part of the total benefit curve.

So what are these market imperfection costs and why are they assumed to be an exponential function of z ? The market imperfection costs associated with copyright are said to be greater than the effect of property rights in other markets because of the cumulative nature of

35 V/W in fact again acknowledge this point later in footnote 97 which again does not sit well with the main text, commenting that "Again in a Coasean world the parties would be able to bargain to a mutually advantageous agreement that would allow the subsequent creator to build upon earlier work (so long as greater social value is created in the process)" p390

copyrights. Creative works are claimed by their nature to be connected to a social context and draw on ideas and concepts from works before them. V/W thus refer to the “on the shoulders of Giants” or “OTSOG” principle.

As noted the mere fact that copyright is cumulative, and that creative works draw on works, or draw on ideas from works before them, based on the “OTSOG” principle, does not necessarily mean there will be a problem, so long as copyright is a tradable property right. Once again the question is why won't market transactions internalize any and all downstream or cumulative benefits from copyright? Why isn't any downstream value fully realized in factor markets, or input markets or wholesale markets, where copyright is bought as an input into downstream production or consumption activities? Why won't the downstream or cumulative value be realized? Why would access to copyright be limited in such a way as to generate negative downstream externalities or societal costs?

The basic notion advanced by V/W is that market imperfection costs are due primarily to transaction costs, search costs and the costs of enforcement. It is not clear however why market imperfection costs rise exponentially with increases in z so as to generate the market imperfection curve in figure 3 in the V/W article. V/W however make a number of suggestions as to why they claim this.

First, the V/W article tries to justify exponential market imperfection costs as z increases by repeating the market power argument described in the last section. Thus it is claimed that:

“A broad copyright grant is said to also enable copyright claimants engage in strategic behavior – e.g. by leveraging copyright to achieve anticompetitive ends.”³⁶

As previously noted, however, the idea/expression dichotomy in copyright implies that copyright does not confer a monopoly, but rather sets up the conditions for monopolistic competition. V/W however claim that:

“Although copyright law enshrines the “idea/expression dichotomy” it is claimed a bright line between the two is not conceptually possible. A higher level of z is said to connote that more abstract concepts would be copyrightable.”³⁷

Market imperfection costs are also claimed to arise from the fact that the perimeters of a copyright grant are said to be always abstract, or involve “fuzzy metes and bounds”³⁸. This is said to be unlike tangible property, which it is claimed can be demarcated precisely. The broader the grant, it is claimed, the more situations there will be when the limits of the property may have been crossed. This will drive up both transaction costs and enforcement costs.

V/W claim that these market-friction-related costs are zero when copyright protection is zero, ($z=0$). The market-friction-related costs are then said to increase non-linearly in relation to increases in z , and are said to more likely be a convex function of z . The fundamental problem with the analysis presented in the article however is that it focuses on the transaction, search and enforcement costs of downstream user-creators, and ignores the transaction costs of upstream creators who also face transaction, search and enforcement costs. The V/W analysis is thus partial. It assumes the copyright holders' transactions costs remain constant as z changes, which they don't. Instead they increase in a more than offsetting manner. The important point being ignored is that the higher transaction costs of copyright holders from

³⁶ *ibid* p 390

³⁷ *ibid* p 390

³⁸ *ibid* p391

lower copyright protection (z) can mean they are deterred from making copyright goods available to users, thereby reducing access. The approach taken in Valkonen/White thus overlooks the fundamental point raised by Ronald Coase, namely that any transactional problem tends to be reciprocal– or two sided.

In what follows we review the three claims made in the article as to how the transaction costs of downstream users fall as copyright protection (z) falls. As we shall see on each of the three points, the implications of lower copyright protection for the transaction costs facing copyright holders are ignored, even though they are likely to more than offset any cost savings suggested by V/W.

The first reason why it is claimed that market-friction-related costs increase non-linearly in relation to increases in z is stated as follows:

“The reason for this can be more easily illustrated with a limitation on de minimus use: the smaller is the de minimus allowance (i.e. the higher z is) the lower the trigger for a secondary creator to need to find and obtain a license from every prior copyright claimant, whose work could be in any way incorporated into the secondary creation. This will lead to an escalating number of small licenses, where search and transaction costs would make the secondary output impossible....the need for a copyright user to search and transact with increasing numbers of parties who may claim an interest in the secondary work due to a prior copyright will result in exponentially growing transaction and search costs”³⁹

This is quite simply false - stronger copyright directly reduces the costs users face negotiating or gaining access. Stronger copyright also indirectly reduces the access costs. Basically the above analysis ignores the effect of stronger copyright protection on copyright holders rather than users. As z is made *stronger* the need for copyright holders to identify and negotiate with a vast number of low value users declines exponentially, thereby encouraging copyright holders to distribute the goods more widely on a low cost basis, relying on legal protection against piracy. With wider copyright exceptions, on the other hand, the copyright owner has to identify, monitor and ensure that all users are compliant with exceptions law, and not reclassifying their use. Copyright owners are also forced to negotiate with those who are not compliant from a position of greater weakness. This implies exponentially increasing transaction costs from lower z.

Turning to the second claim V/W make the same mistake in their discussion of fair use as follows:

“As fair use is progressively limited (i.e. z is increased) this will drive up transaction costs exponentially, as z becomes very high (i.e. there is practically no fair use safety valve). For example, if every private photocopy of a newspaper article would require a formal license, the sheer number of transactions would become astronomical. The mere transactional costs of such a regime would engulf much of the societal benefit of the regime”⁴⁰

Once again, however, the transaction costs of copyright holders are being ignored. As fair use becomes more limited, the uncertainty and transaction costs for copyright holders distributing their goods to the mass market declines exponentially. This offsets the costs of users and, indeed, by encouraging copyright holders to distribute the goods more widely may

³⁹ *ibid* p 391

⁴⁰ *ibid* p 391

benefit them.

Third, V/W also claim that:

“As z increases the judicial enforcement costs will also rise *exponentially* because there will necessarily be more claims of infringement, and claims of overlapping rights. In terms of copyright length it has been argued that very long protection would likely begin inducing an anti-commons effect because older rights are more splintered either between heirs, or various partial assignees or licensees.”⁴¹

On the contrary, judicial enforcement costs will rise exponentially rather than fall with increasing copyright exceptions, as there will be more claims of exceptions and overlapping complementary uses. In terms of copyright length for example, shortening copyright length, as seems to be proposed, will only increase copyright owners' transaction costs, and lead to an anti-commons, as downstream users claims for complementary exceptions multiply. Greater copyright exceptions will raise the costs of copyright owners maintaining or developing the value of their copyright property, and lead to its overuse, or congestion and ultimately the complete dilution of its value. If the copyright protection offered to Mickey Mouse had not been extended, the value of the property to society would have declined radically through overuse, and less would have been invested in its maintenance, development and distribution.

The one-sided view of transaction costs in Valkonen/White is manifested in the graphical representation of market imperfection costs which assumes that when $z=0$ or there is no copyright protection, market imperfection costs are zero as

“everything is freely useable the value of the work is immediately conveyed to society”⁴²

Thus the model assumes that market imperfection costs are zero when $z=0$ or there is no copyright protection; it then increases exponentially from zero as copyright protection is increased

This is clearly incorrect - market imperfection costs are unlikely to be zero when $z=0$. Counter-intuitively perhaps, and contrary to the assumptions of V/W, when copyright protection is zero ($z=0$) everything is NOT likely to be freely useable and the value of copyright works will not be immediately conveyed to society. In fact, access costs are likely to be positive and increasing as copyright protection approaches zero. This is because the creator will have increasing and very high costs of contracting, combined with rapidly falling incentives to market creative goods as copyright protection falls to zero. Access costs are not zero when there is no copyright because access costs are reciprocal, and one must consider the transaction costs of creators when considering the access costs of users. If creators are deterred by transaction costs when copyright protection is low, users will face very high costs accessing creative works.

V/W not only make the mistake of taking a one-sided point of view and considering only the users' side of the transaction (rather than a reciprocal one), they also appear to adopt a static or *ex-post* point of view. In considering the transaction costs effects of the boundary drawn between copyright enforcement and copyright exceptions (as in the DMCA and eCD), it is important to examine the nature of transaction costs *ex-ante*, and *ex-post* relating to the alternative allocation of rights, having regard to cost shifting and reciprocity or effects on

⁴¹ *ibid* p 392

⁴² *ibid* p395.

both sides of the transaction - both sides' transaction costs will affect access outcomes. One needs to consider the transaction costs of both sides of the relationship, or *total* transaction costs.

If one first considers transaction costs *ex-ante*, or prior to creation and publication, it is generally accepted that by allocating the entitlement to creators (who are few) rather than potential users (who are many), copyright saves on the total transactions costs of writing contracts *ex-ante*, and allows exchange to take place *ex-post*.⁴³ This is a familiar aspect of many other workable exchange systems.⁴⁴ Thus total transaction costs *ex-ante* fall as *z* increases from zero. They are not rising from zero but rather falling from a high number. In addition to the simple relative numbers problem driving this outcome (creators are few, users are many), the costs of *ex-ante* contracts are likely to be high due to the difficulty the parties face predicting the success or failure of a creative process, and the associated moral hazard problem; once a contract for the creation and supply of a creative work is written and any payment is made, the incentive to be creative is reduced. By allocating the entitlement to creators, copyright not only minimizes search costs *ex ante*, it also allocates the initial risk of failure to the party best able to minimize the costs and risk of failure, and therefore maximizes the likely value of the creative process. This implies that contrary to the graphical representation of market imperfection costs underlying figure 4, total transaction costs *ex-ante* fall as *z* increases from zero. They are not rising from zero as assumed by V/W, but rather falling, and from a high number.

Copyright also appears to minimise the costs of contracting *ex-post*, or once the creative process is complete and the creative goods have been produced and published.⁴⁵ As noted earlier, where there are significant fixed creation costs and low costs attached to copying and distributing a creative good, there are significant incentives for consumers and competitors to "free ride" (copy and distribute creative works avoiding the costs of creation). Under copyright exemptions like those enshrined in the DMCA and eCD, this would imply high transaction costs, not only *ex-ante* where creators would have to negotiate contracts limiting free riding prior to publishing, but also *ex-post* where creators would have to monitor and enforce contracts to limit free riding on their works.

The high private costs of monitoring and enforcing contracts limiting the copying of creative works *ex-post* essentially leaves opportunities for copiers to 'free ride' on investments in creativity made by others. If copying is then extensive enough, competition will force the price of copies down to the copier's marginal cost. So long as copying is less costly than creating, the resulting market price will be less than the price required to recoup the fixed costs of creation (including opportunity and risk-bearing costs). Therefore, insofar as prospective authors are motivated by the expectation of economic reward, and publication is necessary to reap that reward, allocating rights to copiers can lead to suboptimal incentives to create *ex-ante*.

The risk of greater free riding under copy privilege also reduces or undermines the incentive to publish or share creative goods, as it enables copying without payment. This in turn limits the extent of the market because creative goods tend to be experience goods, in that it is hard to judge their quality without use. The constraint requiring authorization or permission to copy does not prevent the formation of markets in creative goods, but rather forms the basis

⁴³ Landes and Posner, 1989, Gordon, 1992a, 1992b, 1992c, Gordon and Bone 2000 Copyright Encyclopedia of Law and Economics (eds B Bouckaert, G De Geest) Edward Elgar Publishing, Stan Liebowitz and Richard Watt (2006) How best to ensure Remuneration for Creators in the Market for Music? Copyright and Its Alternatives. Journal of Economic Surveys Vol 20 No. 4 footnote 11

⁴⁴ Holderness, C. G. (1985) A legal foundation for exchange. Journal of Legal Studies 14: 321–344.

⁴⁵ The high transaction costs of monitoring and enforcing contracts to protect exclusive rights *ex-post* has been described in the literature as involving high exclusion costs, leading to creative goods being described as exhibiting "non-excludability", or non appropriability.

for them. Why would people buy creative goods on a market if they can take them for free? Why would people then create goods for sale if people can simply take them?

The general conclusion in the literature then is that in the absence of copyright where $z=0$, transaction costs will initially be high, while allocating copyright to creators and increasing the level of protection (z) will lower transaction costs considerably, both *ex-ante* and *ex-post*, and enable greater welfare. First, copyright will enhance the incentive to disseminate creative works or take the works to market, and it is likely therefore to have enhanced access to creative output over time, reducing access costs. Second, increasing copyright protection from $z=0$ will also then indirectly strengthen incentives for creative activity and such an increase is likely to enhance investment and therefore output over time – again increasing access to copyright goods over time.

The problem is that V/W focus only on the access costs of downstream user-creators who seek to gain access *in order to benefit* from such access, but ignore the (reciprocal) transactions costs of upstream creators who seek to grant access *in order to benefit* too. As the breadth of copyright narrows, due to exemptions like those in the DMCA and eCD, increasing numbers of users who used to have to pay for use no longer do, so the costs of original creators contracting with them go up exponentially. An anti-commons problem is also created where the original creator not only has to contract with those who make first use of their work, but any related participating co-owners of the upstream work, as ownership of the downstream work becomes splintered amongst numerous participating resource owners.

Conclusion

It is thus clear that V/W misrepresent access costs due to market imperfections. With zero copyright protection $z=0$ it is clear that market imperfection costs will be high. Strengthening copyright protection from $z=0$ is likely to reduce market imperfection costs. The relationship between copyright protection z and market imperfection costs thus appears likely to be an inverse exponential function

$$C_m = Y e^{-\epsilon \cdot z}$$

where the parameter ϵ is a kind of elasticity showing the rate at which market imperfection costs change in response to changes in copyright protection (z). This captures how effective increasing legal protection (z) is in deterring copying, and therefore encouraging market exchange, with higher ϵ implying the law is more effective in deterring copying and market bypass. The variable Y is a shift variable that changes the position of the market imperfection cost curve, so that lower Y shifts the curve down, implying lower transaction costs at any level of protection (z). This might arise, for example, from the internet lowering transaction costs, in which case, as we show below, optimal z is likely to increase.

Summary and Revised Graphical Analysis

The following two graphs identify how the Valkonen White (V/W) Graphs should be redrawn based on the above revisions to the underlying analysis.

1. Figure 3: Incentive Access Paradigm

The so-called “Incentive Access paradigm” diagram shown in Figure 3 on Page 394 of the Valkonen White (V/W) paper should be redrawn in two ways.

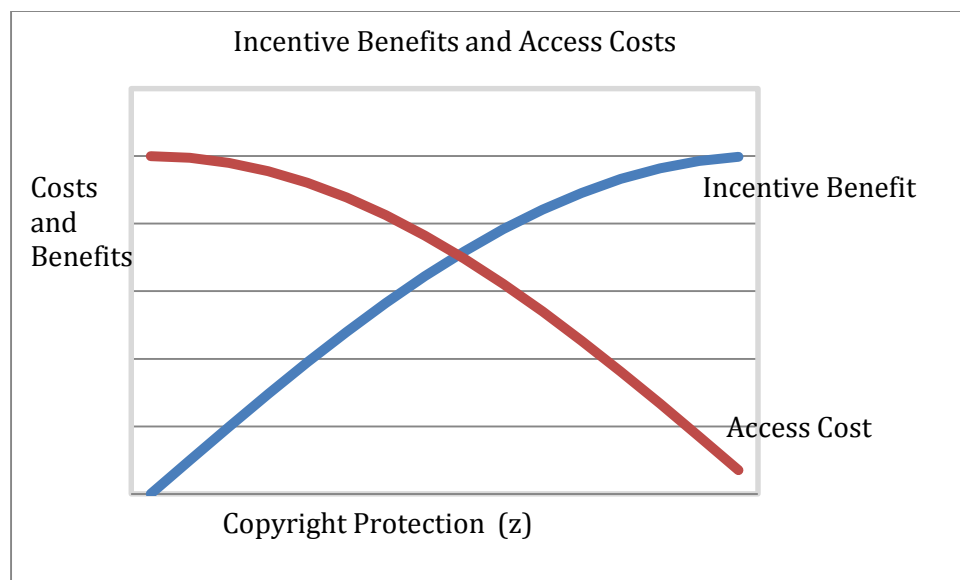
- i) First as shown earlier in figure 2(a) above, the incentive benefit from increasing copyright protection should be shown as increasing up to the point that copying is fully deterred, reflecting increasing social returns to creative output as copyright

protection increases. A revised incentive benefit curve is shown in the revised V/W Figure 3 below

- ii) Second the *access costs* curve in Figure 3 on Page 394 of the V/W paper should be redrawn to capture the fact that access costs are highest when copyright protection (z) is zero and then gradually decline as shown in the Access Cost line drawn in the revised figure 3 below.

These two revisions to Figure 3 on page 394 of the V/W paper are shown below

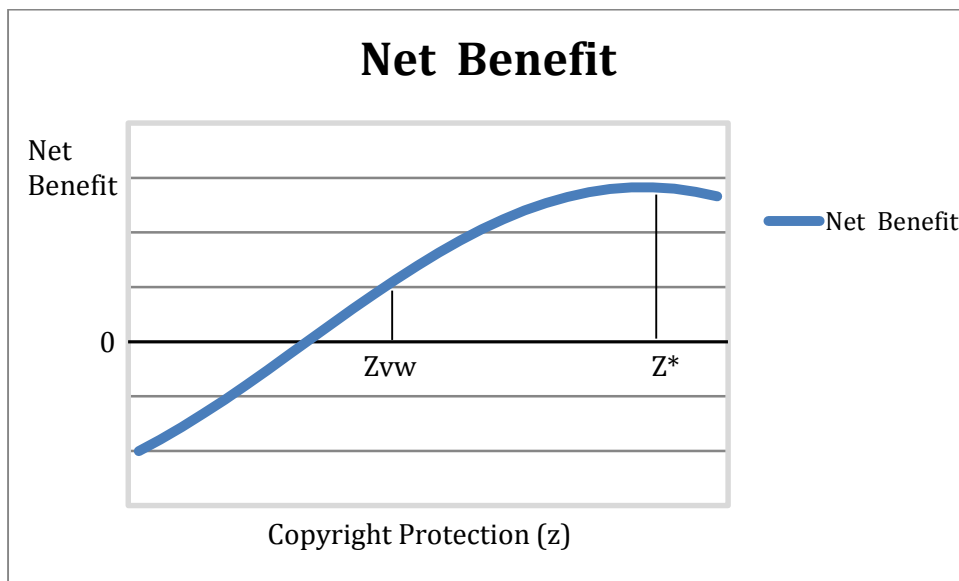
Revised Figure 3: Incentive Access Paradigm p394



The implication of lower transaction costs, for example due to the advent of the internet, would be to lower the access cost curve at any level of z . As we show below this will increase the net benefits from any level of legal protection z .

2. Figure 4: The Net Benefit Costs of Propertisation

The net benefits curve in Figure 4 on Page 395 of the Valkonen and White (V/W) paper is meant to show the difference between the above incentive benefit and access cost curves at different levels of copyright protection (z). Given the need to revise the Incentive Benefit and Access Cost curves as shown in the revised Figure 3 above, the Net benefit curve should also be redrawn. As shown in the Revised Figure 4 below, the net benefits curve should reflect the fact that net benefits are *negative* when copyright protection (z) is zero. Net Benefits then gradually increase to become positive as copyright protection is increased, as shown in the figure below, with copyright protection reaching an optimum when copying is fully deterred at z^* . This optimum is at a point much further to the right of the diagram than assumed by V/W. As shown in the diagram below the level of protection suggested in V/W is Z_{VW} or at too low a level, given that the optimal level of copyright protection now lies to the right at z^* , where copying is deterred.

Revised Figure 4 The Net Benefit-Costs of Propertisation

The implication of lower transaction costs due to the advent of the internet is then to lower the access cost curve at any level of z . This will move the net benefit curve up, implying greater benefits from legal protection.