WHALES GET BEACHED, DON'T THEY?
An essay on the law and economics of copyrights in music

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Our premise is that in the long run the law of copyrights in music must adjust to economic conditions, and that the degree and the modes of protection of such rights will ultimately integrate the economic implications of digitization. The speed of the integration will depend mostly on how fast and within what limits digital means of communication of music supplant physical means of its distribution.[2]

In the current state of the art, music in a digitized world is a consummate public good.[3] Once music is obtained in digitized format, it can be replicated in generally satisfactory quality and stored on a computer hard disk for a marginal cost approaching 0 just as it can then be distributed on the internet to virtually unlimited numbers of other users for marginal costs also approaching 0.[4] Consumption of music by any one person does not exclude its consumption by an unlimited number of other persons. Music once distributed in digital format can in fact be shared at will by the recipients.[5] According to some estimates, there are already over one billion songs available on file sharing networks.[6]

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[2] While Jupiter Research expects total music sales to remain flat over the next five years, the online portion of the market will continue to expand, reaching $3.3 billion in revenue by 2008. By 2008, Jupiter predicts one out of every two dollars spent online will be spent on digital music, http://www.jupiterresearch.com/bin/item.pl/research:vision/105/id=94443,keywords1=music+sales.

[3] Most information corresponds to a « public good », Robert COOTER and Thomas ULEN, *Law and Economics*, New York, Harper Collins, 1988, 135-149. « Public goods are ones whose benefits are indivisibly spread among the entire community, whether or not individuals desire to purchase the public good. Private goods by contrast are ones that can be divided up and provided separately to different individuals with no external benefits or costs to others. Efficient provision of public goods often requires government action, while private goods can be efficiently allocated by markets.», Paul SAMUELSON and William NORDEHAUS, *Economics*, New York, McGraw Hill, 1989, 770-771. Public goods engender the problem of « free riders » whose rational behavior is to refuse to participate in paying for a service from which they cannot in any case be excluded.

[4] In actuality, file sharing over the internet often entails loss of sound quality and inconvenience in the search and downloading processes. With a 56K modem, a 5-minute song would take about 17 minutes to download and an album about 3 hours; on the other hand, high-speed connections which are spreading rapidly, download times for songs approach 2 minutes and about 18 minutes for entire albums.

[5] While music copyright holders have apparently not devised effective technical means to limit music sharing, the video game industry would appear to have had some success in this regard and appears proportionately less vociferous in the promotion of copyright protection.

[6] Jefferson GRAHAM, « EDonkey carts load of criticism », *USA TODAY* quoting Internet measurement firm BigChampagne says 1 billion songs were available for free on P2P services in June, the same month Apple announced it had sold 100 million songs to users since April 2003 at www.usatoday.com/tech/news/2004-07-22-

Economists predict that firms behaving rationally would not participate in an unregulated competitive market for a public good such as digitized music. Once they were to introduce a product, any purchaser could replicate it for a marginal cost approaching 0 and distribute it for a marginal revenue approaching 0.[7] There would result a risk for the first entrant of never being able to generate excesses of marginal revenue over marginal cost to recoup any investment in the creation and market introduction processes.[8]

In the absence of collusion among competitors, marginal revenues much in excess of 0 for sales of digitized music are imaginable only to the extent that copyright holders can stop the copying and sharing processes whether by technical means or by the law.[9] But the need to eliminate Napster and other peer-to-peer software by legal actions would not have arisen if the industry had been able to devise technical means to prevent at bearable costs copying and sharing in the first place.[10]

No doubt the private interests represented by such organizations as the Recording Industry

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edonkey_x.htm.

[7] A variety of business strategies purport to overcome these difficulties. The most recommended seek to optimize network externalities (such as through tying agreements and lockins) which often constitute *prima facie* violations of competition laws, whether as restraints of trade or as abuses of dominant positions. See Carl SHAPIRO and Hal R. VARIAN, *Information Rules*, Boston, Harvard Business School, 1999 and Andy SULLIVAN, *Labels blacklist song-swap companies*. See also Yahoo.com reporting how the recording industry has "blacklisted" Internet file-sharing services and is preventing other companies like RealNetworks from doing business with them, according to music and technology industry officials. The record labels' attempts to isolate song swapping "peer to peer" networks like Grokster and Morpheus have blocked deals that could have potentially brought in millions of dollars in revenues and might violate antitrust law, at http://uk.news.yahoo.com/040715/80/ey4fj.html. For the treatment by competition authorities of such arrangements, one need only recall the Microsoft litigation before the U.S. courts and the European Union Commission. A favorable aspect of the internet in this respect is how it allows sellers to micro differentiate their products and to maximize sales revenue by identifying the individual buyers worldwide who are willing to pay the highest prices for such products; ebay.com is the most noteworthy example of the phenomenon while priceline.com conversely allows buyers to identify the lowest priced supplier of their desired product.

[8] Marginal cost and revenue analysis of intellectual property is for instance introduced in Richard A. POSNER, *Economic Analysis of Law*, Boston, Little Brown, 1992, in particular Chapter 3 section 2 on intellectual property, pages 38-45. Posner seems to have adhered to the perpetuity of title to intellectual property more for want of imagining any radical difference with physical property which might justify a different treatment of the question than for any conviction or other reason.

[9] James Boyle has highlighted how copyright holders have been led over time to increase the scope of protection of their rights in step with improved techniques of dissemination and how the logical extension of such arguments would entail total privatization of information, The Second Enclosure Movement and the Construction of the Public Domain, PDF file posted at

http://www.ce9.uscourts.gov/web/newopinions.nsf/4bc2cbe0ce5be94e88256927007a37b9/c4f204f69c2538f6882569f100616b06?OpenDocument.

[10] A major problem in this regard for the music industry has been the incompatible interests of the equipment and software suppliers whose individual rational behavior is to supply products that satisfy customer demand for the capacities to duplicate and to share any acquired information. With respect to audio recording equipment, the legislator had to intervene in the United States to impose on sellers of digital audio taping (DAT) equipment for consumers that they install serial copy management system (SCMS) chips to prevent the realization of perfect duplicates, 17 U.S.C. sec. 1002. As regards the capacities of hackers, the reader will recall, among other similar events, how Microsoft's Media 4.0 software released on August 17, 1999 as a secure format for music and other media files had within one month been stripped of its security features and posted on the internet in shareable format.

Association of America (RIAA)[11], Broadcast Music, Inc.[12], and The American Society of Composers, Authors and Publishers (ASCAP)[13] are best served by maximizing protection for copyrights,[14] but the social purpose of copyrights in music is rather to induce investments in the creation and propagation of original works.[15]

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[11] The members of the RIAA are record companies that create, manufacture and/or distribute approximately 90% of all legitimate sound recordings produced and sold in the United States. The membership list of the RIAA is posted at http://www.riaa.com/about/members/default.asp. The RIAA's site contains a substantial documentation on the legal actions it has promoted on behalf of its members, for instance about Napster at http://www.riaa.com/news/filings/napster.asp.

[12] BMI is a music performing rights licensing organization that represents approximately 350,000 affiliated songwriters, composers and publishers, in licensing the public performing rights in approximately 4.5 million musical works, including many thousands of foreign works through BMI's affiliations in more than 60 nations. BMI has been a prime proponent of the Digital Millennium Copyright convention and legislation.

[13] ASCAP has over 180,000 members who are U.S. composers, songwriters, lyricists, and music publishers of every kind of music. Through agreements with affiliated international societies, ASCAP also represents hundreds of thousands of music creators worldwide. ASCAP is the only United States performing rights organization created and controlled by composers, songwriters and music publishers, with a Board of Directors elected by and from the membership. ASCAP regularly joins forces with BMI to promote increases in the scope of protection for the copyrights of their members.

[14] A review of the various cases in which copyrights have been enforced against common sense, for example to prohibit campfire songs by the girls scouts, is provided in Howard BESSER, « Commodification of Culture Harms Creators, American Library Association, Wye River Retreat on Information Commons », October 2001. Among the crowning achievements of the intellectual property lobby have been the inclusion of intellectual property protection under the aegis of the Word Trade Organization sanction mechanisms and the so called digital copyright treaties negotiated under the auspices of the World Intellectual Property Organization, the provisions of which have been transposed into U.S. law by the *Digital Millenium Copyright Act of 1998* (17 U.S.C. sec. 1201-04) as well as into European Union law (*European Parliament and Council Directive 2001/29/EC of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society* at http://europa.eu.int/scadplus/leg/en/lvb/l26053.htm). The current focus of the industry's attention within the World Intellectual Property organization is broadcasting, see Wendy M. GROSSMAN, « Broadcast Treaty Battle Rages On », *Wired News*, Aug. 28, 2004, www.wired.com/news/culture/0,1284,64696,00.html.

[15] For instance, the United States Constitution provides in its Article 1 Section 8 that Congress shall have the power in providing for the general welfare of the United States « to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries. ». For many observers, music is not a product like any other, representing as it is observed an element of culture, and it therefore deserves a differentiated treatment such as under the rules of the World Trade Organization. But it would be a misinterpretation of copyright to infer that cultural products such as music deserve special standing, or that the existence of copyright protection manifests a greater value attached to music than to a pharmaceutical product protected by patent, or a commercial reputation protected by trademark, or an innovative industrial design. Actually copyright aims to encourage innovation by protecting producers of innovation in products of the mind from the risks of investing in such public goods as digitized music. In this sense, copyright is the form of protection for certain expressions of innovation while patents protect innovations in the form of new inventions with industrial applications and trademarks serve to capitalize improvements in quality and price/quality relationships with which they are associated. Copyrights in artwork may at times be practically indistinguishable from rights of creators in their original designs of industrial products.

What measure of protection of copyrights in music is optimal is an empirical question, however difficult it may be in practice to actually measure causal relationships between copyright protection and innovation in music.[16]

Still the present model of protection of music copyrights[17] is highly vulnerable in several aspects.

By comparison with the costs generally associated with inventions giving rise to patents, and indeed even just the costs of obtaining legal protection for patents, with those giving rise to copyrights in music, a difference in order of magnitude may be observed. While it is hard to imagine an album of music costing as much as $ 1,000,000 to produce,[18] it is equally hard to imagine a pharmaceutical patent involving less than 100 or even 1,000 times more investment and therefore risk to be rewarded. The incongruence of copyright protection lasting perhaps as long as a century while patents have terms of a fifth or less is unjustified in economic or social terms.[19] Promoters of the « exception culturelle » for music plead for the recognition of a transcendental value for cultural products such as music. But without getting into any debate about the value, in whatsoever terms, vis-à-vis most products, of music or other works of the mind, copyright law has no claim to exclusivity or primacy in worthwhile innovations. Innovation in music deserves in such social or moral terms no greater protection than inventions

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[16] Much of the legal scholarly literature corresponds to a largely epistemological, political, « societal » or even moral, but not economic, debate about the ideal limits of protection of the public domain, and in particular how information on the internet should be classified as within or outside the public domain or what roughly corresponds to the « information commons ». For instance, Pamela SAMUELSON, « Digital information, Digital Networks and the Public Domain » at http://www.law.duke.edu/pd/papers/samuelson.pdf. Indeed, some comment seems to assume that economic arguments necessarily promote private appropriation of intellectual property, Howard BESSER, supra, note 6. See also, Center for the Public Domain at http://www.centerforthepublicdomain.org, the Knowledge Conservancy at http://yen.ecom.cmu.edu/kc, and the Digital Future Coalition at http://www.dfc.org. See also James BOYLE, « Cruel, Mean or Lavish? Economic Analysis, Price Discrimination and Digital Intellectual property », (2000) 53 *Vand. L. Rev*. 2007.

[17] We deliberately limit our comments to music but a more extensive coverage of sub sectors would entail analogous treatment for all forms of information that manifest the characteristics of public goods. The problem has for instance arisen in the distribution of financial services. Online trading of securities has engendered a radical and generalized drop in the prices of transactions with some brokers even offering trades for free, www.freetrade.com. For reviews of the economic and legal aspects of online provision of financial services in the United States and in the European Union, the reader is referred to two articles by the present author, respectively, « Régulation américaine des marchés de capitaux face à l'internet - Opportunités et risques pour les non-américains », *La Revue du Financier*, Paris, Mars 2002, and « Droit communautaire afférant aux services financiers en ligne », *Lex Electronica*, vol. 8, n°1, automne 2002, http://www.lex-electronica.org/articles/v8-1/lapres.htm. At the professional trading level, the distinctions have been blurred between “financial services firms” and “financial markets”, a distinction which is not however anodine in so far as the former are generally subject to regulation by the latter. These points are developed by the present author in « Droit communautaire afférant aux Systèmes de Négociation Alternatifs », *La Revue du Financier*, Paris, October, 2003. In the telecommunications field, British telecoms regulator Ofcom has ordered British Telecom to reduce the price the company charges for phone lines to rivals by more than 70%. See Richard WRAY, « BT told to cut cost of lines to rivals », Friday August 27, 2004, *The Guardian*, http://www.guardian.co.uk/online/news/0,12597,1292184,00.html.

[18] Harold L. VOGEL, *Entertainment Industry Economics*, Cambridge, Cambridge University Press, 2001, p. 162.

[19] It need be noted that the United States Supreme Court debunked this argument as a constitutionally based criticism of the copyright term extension, *Eldred v. Reno*, 239 F.3d 372 (D.C. Cir. 2001).

protected over much shorter terms by patents covering major medical and scientific breakthroughs.

Our thesis is that the challenges, whether by legislative reform,[20] debates before courts, or more or less underground technical circumvention[21] will not stop until music copyright holders have adjusted their pricing behavior to the new scale of marginal costs in a digitized environment.

Will the established commercial music industry forever be able to prevail upon legislators to favor them over consumers whose individual rational behavior is to share rather than pay? In the end, among all voters, there are more listeners to music than there are shareholders in music companies.[22]

Leaving aside the threat of intervention by the legislator to reduce the perimeter of copyright protection,[23] the owners of copyrights will encounter ever more formidable challenges in enforcing their rights before the national courts.

The music industry's efforts before the courts in the United States have won them largely pyrrhic victories, in so far as the Napster litigation for instance has served principally as a guide

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[20] For instance, The Economist has called for legislative reform to reduce the term of copyrights to once renewable terms of 14 years, which was the original term of protection under both British and American law, www.economist.com, Jan. 23, 2003. In February 1998, the *New York Times* ran an editorial critical of the 20-year copyright extension, quoted in Besser, supra note 6.

[21] The use of technical means to protect information is also a flashpoint of contention over the appropriateness of illegalizing the circumvention of technical instruments incorporated into their products by sellers to limit access to information or to limit duplications including controls on access to information over which there are no proprietary claims. David NIMMER, « A Riff on Fair Use in the Digital Millennium Copyright Act », (2000)148 *U. Penn. L. Rev*. 693, 738-40; Hannibal TRAVIS, « Pirates of the Information Infrastructure: Blackstonian Copyright and the First Amendment », (2000) 15 *Berkeley Techn. L.J*. 777, 861.

[22] While the power of the industry to influence the evolution of legislation is indeed impressive, the swing of the pendulum in its favor may have reached its limit. The recent extension of the duration of copyrights from 50 to 70 years after the decease of the author is a shining victory for the industry's influence, but may also serve to highlight its abuse to obtain privileges that have no justification in economic or social terms beyond a hypothetical increase in the wealth of their shareholders. The extension has given rise to thus far unsuccessful challenges before the American courts (*Eldred v. Reno*, 239 F.3d 372 (D.C. Cir. 2001), though a dissenting opinion was expressed), but as if to prove our point the challengers have already suggested that they are looking for new angles to renew the attack, see SAMUELSON, supra, note 3, at 87. A debate over the constitutionality of the extension in « American law may be found at Symposia: The Constitutionality of Copyright Term Extension: How Long Is Too Long? », (2000) 18 *Cardozo Arts & Ent. L.J*. 651. The 70-year term was adopted in the European Union by Council Directive 93/98/EEC of 29 October 1993 harmonizing the term of protection of copyright and certain related rights the text of which is posted at http://homepages.law.asu.edu/~dkarjala/OpposingCopyrightExtension/legmats/eudirect.html. But a recent European Commission staff report on copyright concludes that any further extension is currently not advisable, see http://eustaffcopyrightreport.notlong.com/.

[23] For instance, in France an alliance of authors and consumers associations is promoting a mandatory license for online peer to peer distribution of music, see Estelle DUMOUT, « Musique en ligne: la "licence légale" toujours autant source de polémique », *ZDNet France*, June 18, 2004 at http://www.zdnet.fr/actualites/internet/0,39020774,39157528,00.htm.

for orienting subsequent file sharing methods toward the interstices in its ruling[24] and most importantly in so far as file sharing seems not to have gone down[25] while music sales have been falling since 2000.[26]

File sharing software which avoids passing messages through a central server will avoid the narrow interpretation of Napster. In the music industry's pursuit of Grokster for its use of Fast Track software by Kazaa and Streamcast for its gnutella based Morpheus software, the 9th Circuit Court of Appeals has affirmed a lower court ruling that the defendants' peer-to-peer file-sharing services do not infringe copyright.[27] Software which permits file sharing of music as only one of a variety of activities of a clearly lawful nature will henceforward be difficult for the music industry to attack in the courts. Sharman Networks, owner of the Kazaa peer-to-peer software immediately announced that it would seek to have its product declared lawful by the American courts[28], after escaping liability under the law of its native Holland.[29]

Promoters of music sharing software which establish themselves and genuinely carry on their activities from jurisdictions where their activities do not violate local laws are difficult defendants to draw before the courts in the national markets of principal concern to the industry.[30]

The industry's efforts to pursue individuals considered overly active in file sharing leads onto terrain contested not just in copyright law but also in terms of constitutional law, contract law, internet service provider responsibility,[31] and in terms of the rights of privacy of users. In

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[24] *A & M Records et al v Napster, Inc.*, C.A. 9th Circ., Feb. 12, 2001 at http://www.ce9.uscourts.gov/web/newopinions.nsf/4bc2cbe0ce5be94e88256927007a37b9/c4f204f69c2538f6882569f100616b06?OpenDocument.

[25] Some economist argue that file sharing cannot be causally linked to record sales, see Felix OBERHOLZER and Koleman STRUMPF, « The Effect of File Sharing on Record Sales, An Empirical Analysis », available in PDF format at http://www.unc.edu/~cigar/papers/FileSharing_March2004.pdf as well as Stan J. LIEBOWITZ, « Pitfalls in Measuring the Impact of File Sharing on Record Sales », available in PDF at www.utdallas.edu/~liebowit/intprop/pitfalls.pdf.

[26] According to RIAA statistics posted on its web site, total unit sales which had been stagnant since 1994 have fallen since 2000 (-7% in 2000, -10.3% in 2001, -11.2% in 2002 and – 7.2% in 2003 for a cumulative drop from 1999 to 2003 of more than 24% in units sold and of 15% fall in total value shipped from $ 13 billion in 1999 to $ 11 billion in 2003).

[27] The decision is posted at http://caselaw.findlaw.com/data2/circs/9th/0355894P.pdf.

[28] Online Staff, Sharman to seek lawful status for Kazaa in US, August 20, 2004, www.smh.com.au/articles/2004/08/20/1092972727359.html?oneclick=true.

[29] John P. MELLO Jr., « Dutch Supreme Court Declares Kazaa Is Legal », www.TechNewsWorld.com, Dec. 23, 2003.

[30] The American courts have exercised jurisdiction over Sharman Networks despite its incorporation in the islands of Vanuatu, but in another seminal case, the 9th District Court declared that it would not enforce a French judgment against Yahoo! Inc. for its display of Nazi memorabilia on its auction pages and for its links to revisionist and anti-Semitic sites on the grounds that enforcement in its jurisdiction of such a ruling would violate the constitutional protection of free speech, for a listing of sources and comments on this case, see www.lapres.net/yahweb.html. The decision was reversed as the Court of Appeals characterized the matter as "not ripe" since the French plaintiffs had not yet sought enforcement of their French judgment against Yahoo in the California. The Appeal ruling is also posted at the same site.

[31] The 4th Circuit Court of Appeals has ruled in *Costar v. Loopnet* that ISPs do not copy material in violation of

any case, it remains doubtful whether thousands or even tens of thousands of convictions would suffice to discourage the masses currently sharing music against the will of the industry because it is unimaginable that the music copyright holders could successfully sue enough sharers to dissuade the remainder from continuing their sharing activities.[32] Supposing that the number of crimes ending in jail sentences were to correspond to 1 in 100 and that such a rate were to be considered sufficient to create a real deterrent for file sharing, and further supposing that there were 60,000,000[33] sharers of music in the United States alone, then dissuasive effect might be expected to be obtained at a number of jail sentences approaching 600,000 per year[34], which would represent perhaps as much as a 50% increase of the current burden on the U.S. penal system.[35]

The values of the businesses of the current established distributors are directly dependent on the value of their copyrights that is their likely future effectiveness in preventing new forms of distribution from propagating and rendering obsolete the paradigm on which they depend for their survival. If music copyright holders cannot prevent online file sharing by technical means, then the values of their copyrights and therefore of their businesses directly depend on the interpretation and application of existing laws and jurisprudence as well as the likelihood of change in such laws or jurisprudential trends.

Furthermore, the threat to the industry in its present configuration comes not only from unauthorized sharing by their customers, but perhaps more importantly from new entrants to their business unshackled with distribution infrastructures, fixed and stranded costs which the established players must cover in their prices of sale.

The digitization of music implies a drastic lowering of the entrance barriers at all levels of the channel and contests among all participants in the channel at whatever level they are situated.

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the *Copyright Act* when they passively store material at the instigation of users in order to make that material available to other users upon their request, though an ISP can become liable if involved sufficiently to establish a contributory or vicarious violation of the Act. In that case, the ISP could still look to the DMCA for a safe harbor if it fulfilled the conditions therein. *CoStar Group v. Loopnet*, at http://caselaw.findlaw.com/data2/circs/4th/031911p.pdf.

[32] The RIAA has sued 744 new individuals accused of P2P file-sharing using a variety of Internet platforms, including Limewire, Grokster, Kazaa and eDonkey to swap songs, see Reuters, RIAA puts more 'John Does' in the dock, August 25, 2004, at http://news.com.com/2100-1027_3-5323850.html. More than 120 people in Denmark have been sent civil demand letters ordering them to stop distributing music over the web and pay compensation. In Germany, 68 have been reported to the authorities and in Italy criminal proceedings have been brought against 30 people. In Canada, service providers had reported court orders demanding details of 29 people using their portals. Dan MILMO, « Net piracy faces new wave of lawsuits », March 31, 2004, *The Guardian*, http://www.guardian.co.uk/arts/netmusic/story/0,13368,1182909,00.html.

[33] Sharman Networks' claims its Kazaa P2P application has been downloaded more than 315 million times. Beyond File Sharing: An Interview with Sharman Networks CTO Phil Morle, Technewsworld, June 20,2004, http://www.technewsworld.com/story/32641.html.

[34] Actually, it would appear that computer-related crime is favorably treated by the courts relative to most misbehavior including motor vehicle offenses, see Declan McCULLAGH, « Why cyber scofflaws get off easy », *CNET's*, August 16, 2004, at http://news.com.com/2010-7349-5309550.html

[35] For instance, such a ratio generally reflects United States statistics on law enforcement; the number of violent crimes is reported to have corresponded in 2001 to 1,436,873 while the number of prisoners in US jails in that year was 1,346,000. http://www.census.gov/statab/www/part2.html.

For producing music, computers can be used to replicate or at least approximate the effects of symphonies. In a digital mode of distribution, artists could market their music directly on the internet and thereby capture as much as 50% of the retail price (as compared with royalty rates topping off at 15% for highest rated artists working through the major labels).[36] Typical of prospective new forms of music intermediation is the www.garageband.com site where composers and musicians without labels can promote their works.[37]

Far more importantly for the music industry is that on the distribution side, the wholesaling function it has hitherto performed in the supply of material supports to carry the music to the listeners is rendered obsolete by digitization. That function necessitated very large investments in goods and distribution infrastructures to meet sudden, short lived (at best about 6 months in most circumstances) and yet highly unpredictable demand. In a digitized world, there are no significant physical inventories to be financed, no brick and mortar stores to rent or purchase, no (or at least much lighter) sales networks to maintain.

Some measure of the magnitude of the impending adjustments in the prices for music may be inferred from the following observations. Apple sells songs at $ 0.99 off its online iTunes service. A reasonable estimate of the marginal cost of sending an entire album is about 0. Given that CDs at the lower end of the price range sell for $ 12, marginal cost based pricing of digitized albums would entail a division by 12 of that category of sales arising from a shift from hard to digital formats. Already consumers have manifested their preference to purchase online individually the several songs at $ 1 each for which they would have had to pay $ 12 or more in a physical environment. A Chief Executive Officer of a leading digital music provider has been quoted as saying « We think the best way to stop piracy is to make music so cheap it isn't worth copying. »[38] Indeed, new business strategies (« content is free ») may well involve large scale give aways of music as means of generating accessory revenues, such as from advertising, and from performances and derivative products.

Can the established distributors adjust in time to survive? The answer is not at all clear. One difficulty arises from the fact that digital distribution and physical distribution are at least to some extent anti-thetical. The natural tendency of an established distributor is to propose digital formats at prices below those of physical goods, but not so low as to kill the physical market.[39] But new entrants seeking to optimize the advantage a digital distributor should push their prices much closer to the marginal cost of digital distribution. Consequently, even if digital distribution were driving the packaged goods off the market, the established distributors in packaged goods

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[36] VOGEL, supra note 7, at 162.

[37] Steve WINWOOD has joined forces with Access Hollywood to market file-sharing networks such as Kazaa, see « Promo uses P2P networks to sell songs », *CNet News*, June 29, 2004, 8 at http://news.com.com/2100-1027_3-5251479.html.

[38] Mr. Gene Hoffman of Emusic, Inc., quoted in National Research Council, Music: Intellectual Property's Canary in the Digital Coal Mine, http://books.nap.edu/html/digital_dilemma/ch2.html.

[39] Albums are currently offered online at about $9.99, which would represent about a 33% discount on the price of a CD. One survey of consumers conducted by research firm Ipsos-Insight found that consumers considered $7.99 to be the ideal price for albums sold online whereas they would pay $ 10 – 12 for a CD, John BORLAND, « How much is digital music worth? », *CNET News.com*, December 8, 2003.

would be the least likely candidates to lead the way in pushing digital distribution to its logical extension.

In conclusion, we predict a backlash against the abuse by the music industry of copyrights to maximize the wealth of their shareholders. The excess of their current prices over marginal costs of production and distribution in a digital environment is disproportionately large and will attract all forms of resistance until it is finally in one way or another eroded. The ultimate challenge to the existing legal régime governing digital music might well come from competition authorities led to intervene when the copyright holders resort, as they would be obliged to do in our model, to price collusion to maintain revenues at profitable levels. In any case, the future of music, thankfully, does not depend upon the fortunes of the beneficiaries of the prevailing copyright régime. And the public good that it is social justice is not served by the use of copyright law to engage in large-scale suppression of individually rational behavior for the sake of satisfying claims of copyright holders disproportionate to the achievement of the social purpose for which their rights were recognized in the first place.