Mobilizing Digital Sounds: Appropriation and Dispute of Music Recordings*

Robin Cowan Elad Harison
MERIT, Universiteit Maastricht♣

Paper for the SERCIAC Conference
Madrid, June 2002

Abstract

During the last decade, voice compression (particularly, the MP3) and signal transmission technologies have phenomenally evolved and enabled the generation and compression of digital music files with no quality distortions. In parallel, the emergence of the Internet has made music files available online, hence threatening to remove revenues and customers from recording firms. Major music-producers attempt to deter illegal duplication of their titles by applying copyright law. At the other extreme though, small recording firms may use unauthorized reproduction to expose their artists to wider audiences at lower costs. However, where major firms or famous performers are concerned, their traditional business models are put at risk and they appeal to the Courts for relief, as the cases of *Napster* and *Diamond* demonstrate.

The paper analyzes, from a policy-oriented standpoint, how prior copyright policies and the new EU Directive on the Harmonization of Copyrights and Related Rights in the Information Society intervene with the diffusion of new channels for dissemination of music via the digital cords.

JEL Classifications: K11, L52, O34, Z11.
Keywords: Intellectual Property Rights; Copyrights; Music; MP3; Internet.

---

* Financial support by the Dutch Advisory Board on Technological Policy (AWT) for the IRIS project – "Intellectual Property Rights in the Information Society" and the International Institute on Infonomics is acknowledged

♣ MERIT, Universiteit Maastricht, P.O.Box 616, 6200MD Maastricht, The Netherlands
Email: r.cowan@merit.unimaas.nl; e.harison@merit.unimaas.nl
Tel.: 00-31-43-3883883, Fax: 00-31-43-3884905

Introduction

Artistic and literary works[1] are protected by international agreements that aim to harmonize legal definitions and terms of protection in order to provide a uniform scheme of intellectual property protection, when works "migrate" across national borders and legislative regimes. The international framework for copyright protection from which WIPO's members enact their national statutes was determined mainly by the Berne Convention that was signed in 1979 by more than 120 Member States. Under that convention, copyright protection creates author's rights, reproduction and moral rights for artistic and literal works and their derivatives for the creator's lifetime with an additive period of fifty years to seventy years *post mortem autoris* in most countries.[2] However, states have a degree of

---

[1] The Berne Convention defines "literary and artistic works" as: "every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression, such as books, pamphlets and other writings; lectures, addresses, sermons and other works of the same nature; dramatic or dramatico-musical works; choreographic works and entertainments in dumb show; musical compositions with or without words; cinematographic works to which are assimilated works expressed by a process analogous to cinematography; works of drawing, painting, architecture, sculpture, engraving and lithography; photographic works to which are assimilated works expressed by a process analogous to photography; works of applied art; illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science" (Berne Convention, Article 2 § 1).

[2] A uniform term of protection of lifetime plus seventy years was enforced in the EU's Member States with the approval of the *Directive of Harmonizing the Term of Protection of Copyright and Certain Related Rights* (93/98/EEC) in October 1993. The duration in the US is shorter – author's lifetime plus fifty years, and was enacted in the US Copyright Act (1976).

freedom to deviate from the framework, as described by the terms of the Convention (WIPO, 1998).[3]

Peculiar issues of related fields were addressed by a complementary agreement to the Berne Convention. The International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations ("Rome Convention") was designed to accommodate, by the formation of "neighbouring rights", the peculiarities of vocal works and recordings (phonograms) and their broadcast (WIPO, 1994).

The shift of focus from the physical medium on which knowledge is organized (e.g. books, magazines and records) towards *digitized goods* does not change the scope of protection granted by copyright law.[4] Nevertheless, as literary and artistic works have become available online, their unauthorized dissemination among a wide scale of users has facilitated new types of infringements of intellectual properties. Those infringements are reviewed in the following section.

---

[3] Countries may extend their scope of protection to include for example manuscripts of national rules as copyrightable.

[4] The term *digital goods* emphasizes the structure in which data, information and multimedia artefacts are being transformed, stored and retrieved in an intangible mode (e.g. in databases, CD-ROMs and in computer-mediated communication).

"*When Old Dogs Learn New Tricks*":[5] Recording Firms and the Distribution of Music via the Internet

Background

It has been a long time since music firms (and in particular the "*Majors*"[6] of the industry) were threatened by the appearance of a technological change.[7] The rapid development of technologies for voice compression and signal stream transmission during the last decade and the emergence of the Internet as a medium for communication and digital transmission have generated a virtual source, from which millions of users are able to obtain leisure goods, such as music albums in a digital format, at a minor cost.

Recently, the "production" of music has received increasing attention from economists and social scientists. The music market is characterized by high levels of concentration: most of the market, including low-quality and inexpensive records, intermediate and high fidelity products, is dominated by a small number of multinational firms (*Majors*) which periodically offer retailers series of records ("catalogues"), varied by musical virtue and style, and differentiated in their perceived qualities and their prices (Harchaoui and Hamdad, 2000).

Analysis of British album sale charts shows that key determinants in commercial success of music titles are public exposure, promotional campaigns, initial popularity and artists' reputation (Strobl and Tucker,

---

[5] With an apology to Paul Auster's *Timbuktu*.

[6] According to the UK Monopolies and Mergers Commission, the five major firms that dominate the lion's share of the music industry are EMI, Polygram, Sony, Warner and BMG (Towse, 1997).

[7] An important episode was the introduction of audiotapes by Philips in 1964. However, their wide adoption occurred only towards the end of the 1970s after the developments of noise reduction system by Dolby (1969) and the Walkman by Sony (1979).

2000). All these factors, however, require massive investments in marketing, which small and medium recording firms can hardly provide. Therefore, small firms commonly represent a single musical title or a sole artist and hold only marginal shares of the market. Most of those *Indie* (independent) companies do not survive the initial stages of the business cycle and rarely offer second albums of their artists. Other *Indie* companies may represent artists in early stages of their careers. Later, when talented musicians are discovered by one of the *Majors*, typically they leave the *indie* label to benefit from superior terms of market development and higher compensation (IMF, 1993; Monopolies and Mergers Commission, 1994).[8]

The creator of a piece of music is granted a copyright to it, and in practice this copyright is typically transferred to a firm which produces and markets the music as a product. The major music-producing firms, assisted by a network of industrialists and public committees, attempt to deter illegal duplication of their titles by monitoring piracy in global markets (Silva and Ramello, 2000). Application of copyright law, in addition to monitoring activities, has traditionally seemed to provide enough protection for intellectual property. However, the locus of the Internet as a global distribution channel for information goods, in which music fans are able to search for and to exchange data files online, and the development of audio-encoding technologies, which transfer sound to digital media, have moved private, individual copying from limited scales of unauthorized reproduction towards a widespread phenomenon, which threatens to remove large shares of revenues from music recording firms.

---

[8] "The economics of *superstars*" suggests that market the elasticity of talent and reward is extremely high. Therefore, most of the income, as well as reputation and sales, are held by a small group of *virtuosi* with minor and somewhat sporadic advantage in artistic endeavours, whereas most of the performers remain only in marginal shares in terms of incentives and publicity (Rosen, 1981).

The digital revolution

Among audio-vocal innovations exploited online was the MP3 voice compression standard. The *MP3* (***M****oving* ***P****ictures Audio Layer* ***3***) was developed in Germany in 1991 by the Fraunhofer Institute. MP3 enables the compression of sound by a factor of twelve (i.e. standard CDs contain 74 minutes of music when recorded in older format whereas they can contain approximately 850 minutes in MP3 files) providing quality of the digitally-stored sound similar to the original recording. Users are able to listen to MP3 files on their PCs or on portable players. Because of this high compression ratio, Internet-based distribution has become feasible at "normal" connection speeds. In response, special portals were established to search for a song, by mentioning its name or its performer, and to transfer the file from web servers or from other user's disks to the desktop in a reasonable time (www.techweb.com).[9]

The new compression method has furthered the distribution and purchase of music goods: complete collections, catalogues and musical titles can be rendered, shared and transmitted with relatively small quality distortions.[10] Hence, the traditional distinction between high fidelity records sold as new, at high prices and copies recorded illegally has blurred with the introduction of the new technology.

The new standard has offered substantial advantages in its abilities to compress and to transform vocal contents and has rapidly become the norm in Internet applications. MP3 has revolutionized the distribution of

---

[9] Download duration depends on the size of files, communication capacities of servers and connections and the free bandwidth of the network at any given time. When fast Internet connections are applied, a complete CD that converted to MP3 format can be transferred within five to fifteen minutes through the Net.

[10] The compression process is based on inclusion of frequencies that are audible to the human ear (20Hz to 20KHz) as stored information. The algorithm excludes other segments of the tonal spectrum from the digital files.

music by disseminating digitized songs online at no cost[11] and with little reduction in fidelity. Hence, major recording firms have become concerned by the possibility that the new standard will remove their traditional sources of consumers and profits. To emphasize the potential effects of the new technology, the EU's trade in *cultural goods* was estimated by 371.2 billion dollars in 1997 (4.4% of Europe's GDP), compared with 177.5 billion dollars in the US (2.2% of its GDP) (UNESCO, 2000). The annual trade losses of US producers resulted from an *unauthorized reproduction* of sound recordings worldwide is estimated by 1.68 billion dollars, and mainly as a result of copyright infringements in optical media and digital goods (IIPA, 2000).[12] Recently, retrieval of MP3 files in *peer-to-peer* applications has rapidly diffused among large shares of the population with access to the Internet. These networks of users, exchanging music files across borders and legal regimes, have made the enforcement of copyrights almost impossible by technical means, and have precipitated a debate over copyright legislation in *cyberspace*. The wide diffusion of MP3 and the introduction of software platforms for music trade (e.g. Napster and GNUtella) recall the debate over photocopying early in the 1980s. Although one may carefully draw parallels between analogue copying of papers and duplication of digital music files, more can be learnt from the differences between the techniques.

The introduction of the photocopy machine in 1959 and its expansive use in public libraries since the mid 1970s, had faced journal

---

[11] Uploading and downloading music files can be performed at zero marginal cost and do not require additional investments in hardware and software.

[12] UNESCO (2000) presents somewhat diverse estimations of piracy rates in the global recorded music markets: 12% piracy in the European markets (or 44.5 billion dollars) and 3% in the US (5.3 billion dollars). These estimations, however, assume zero price elasticity of demand, i.e. every unauthorized copy would be purchased legally by its users at any given price, had copyright protection been fully enforced.

publishers with similar concerns to those of today's record companies. Liebowitz (1985) examines the market behavior of journal publishers, libraries and individuals and the links among them. His analysis reveals that publishers were not harmed by the introduction of Xerox technologies. Quite curiously, the results were opposite to the pessimistic expectations of journal owners: as the use of copy-machines in public libraries has expanded, the population of subscribers to scientific journals has broadened over time. These benefits of "indirectly appropriating revenues" from individual copiers can be explained, to a large extent, by the formation of *demand network externalities* in information goods such as professional magazines and artistic works (Takeyama, 1997).

Demand network externalities appear when the consumption of additional units leads to an increasing demand. For example, when audience loyalty to an artist is driven by perceived reputation and quality, the more an artist's songs are played, the higher are the sales and exposure to wider parts of the population. As Silva and Ramello (op. cit.) point out, small recording firms may use this in their business strategies for introducing artists into the market, by offering their records at a special price. By employing unauthorized reproduction and distribution of albums for their needs, music firms are also able to target even wider audiences at lower costs, in order to introduce unknown artists that they represent. However, where major firms and especially famous performers are concerned, their traditional business models were put at risk, and they have appealed to the Courts for relief.

Mobilizing Digital Sounds: The Cases of *Recording Industry Association of America (RIAA) vs. Diamond Multimedia Systems*, and *A&M Records vs. Napster*

Music recording for private use in the US, the largest music market worldwide, has been regulated by the *Audio Home Recording Act (AHRA)*

since 1992. Two legal cases in which the *Sony Corporation* was involved have led the pattern to the legislation of the Act by the US Congress.

The first case, *Sony Corp. vs. Universal City Studios, Inc.* (Supreme Court, 1984) forced the Court to give an interpretation of Copyright Law for unauthorized recording of broadcasting programmes for home use by Sony's *Betamax* videotape recorder (VTR). Since video-recording was applied by home users mostly for recording TV programmes **in this period**, the US Supreme Court ruled that copyright violations did not occur, recognizing that videotapes were employed for watching television shows with a *"time shift"* in their broadcast schedule, hence constituting a "fair use". Moreover, as *Universal* had failed to prove Sony's involvement in exploitation of copyrighted works, the firm was not held liable for any wrongful acts of its users. Although this judgment has become a statutory keystone for copyright infringement via digital devices, Supreme Court intentions had ignored the possible essence of the new technology as a widespread apparatus for legal and unauthorized distribution of cinematographic films in an accessible format.

The second case on copyright infringement by digital recording devices was initiated in the US in 1991, when music producers feared that the *Universal* precedent would revive itself in the context of music goods as a result the introduction of Sony's *DAT (Digital Audio Tape*). The technology enables generation of perfect copies, without reduction in audio quality. Moreover, additional copies generated from previous copies preserve the fidelity of the original recordings along this chain, and thus "serial duplication" may emerge when digital tape devices are used in the distribution of music. From a legal standpoint, a wide range of duplication activities, unauthorized by producers but allowed by the Court, permits these processes under terms of "private use" and "fair use", as the verdict in *re Universal* had determined. Indeed, the *AHRA*, which was approved on those grounds, aims to prevent large scales of unauthorized copying for home use and to define the terms of permissible fair use by private music

fans. The Act requires producers of digital audio devices to include in their designs technical means to prevent serial duplication and to allocate part of their revenues for distribution among right holders. However, the *AHRA* is also perceived as a compromise between electronics firms, consumer organizations and the music industry (US Copyright Office, 2000).

As the Court has explicitly stated, in cases of copyright violation "the 'starting point' for interpreting a statute is the language of the statute itself".[13] The general terms of the Act prohibit unauthorized reproduction and dissemination of musical works protected by copyrights for mere economic benefits. The Act also defines **exemptions** for permissive digitization and duplication of audio files via software interfaces and digital devices for non-commercial and private use. Therefore, in several scenarios copyright infringement would not occur if the following terms were satisfied:

"No action may be brought under this title alleging infringement of copyright based on the manufacture, importation, or distribution of a digital audio recording device, a digital audio recording medium, an analog recording device, or an analog recording medium, or based on the **noncommercial use** by a consumer of such a device or medium for making digital musical recordings or analog musical recordings" (AHRA § 1008; emphasis added).

To emphasize, transformation of **authorized copies** of music recording to a digital form by an individual for his own purposes **with no further distribution** of the audio-vocal file is recognized by the Act as a permissible activity that does not violate copyrights. However, as the number of users and consequently the variety of music files made available

[13] *Exxon Mobil Corp. vs. United States Environmental Protection Agency* (9th Circuit, 2000), quoting *Consumer Product Safety Commission vs. GTE Sylvania, Inc.* (1980).

online have increased, record companies have predicted future scenarios in which a virtual realm for a massive, efficient and free exchange of MP3 files, though illegal, will eliminate album sales.

In the case of *Recording Industry Association of America vs. Diamond*, a public organization representing the major firms that account for 90% of the US music industry has submitted a lawsuit against Diamond, a producer of MP3 portable players (distributed under the brand name *Rio*) for infringing the Audio Home Recording Act and copyrights of its members. Users of the Rio player are able to upload music files from their personal computers or from Internet websites to a portable apparatus which can play up to sixty minutes of music or sixteen hours of speech, like regular Walkmans and Discmans.[14] However, Rios are incapable of exporting stored files to other computers or of distributing them to other players. The case of Diamond, and the new possibilities of accessing musical pieces online have attracted high levels of attention from legal and economic scholars, music publishers and wide shares of the public (the coverage of the trial in the international media has probably fostered the adoption of MP3 applications). As Court has mentioned in its ruling: "*the dispute over the Rio´s design and function is difficult to comprehend* ***without an understanding*** *of the revolutionary new method of music distribution made possible by digital recording and the Internet; thus, we will explain in some detail the* ***brave new world*** *of Internet music distribution*" (9th Circuit, 1999; emphases added).

The California District Court was the first juridical authority to accept Diamond's arguments that neither had its product infringed the Audio Home Recoding Act nor had it violated copyrights. The inability of

---

[14] This was the maximal capacity for digital storage of sound in the period of the trial (Oct. 1998). The latest models of portable players (such as Remote Solutions' *Jukebox*) can store up to 330 hours of MP3 files, before additional memory extensions are installed.

the Rio to disseminate music in an unauthorized way and its capability to store music do not cause damages to music firms and both are legitimate by the *Fair Use* doctrine. The opinion of California District Court was supported by the decision of the 9th Circuit, though *RIAA* has since appealed to over-rule the verdict (April 1999). The 9th Circuit of Appeals rejected RIAA's arguments that the Rio should be considered as both a recording and transmission device, on the grounds of its inability to download stored files to other media. Moreover, Court has recognized a loophole in the Act by which computers, though having become popular equipment for storage and distribution of music files, cannot be defined as digital recordings devices.[15]

The *Diamond* ruling has substantially narrowed the standard of protection for music works in a digital format, allowing to store music files in the computer's hardware, which was previously determined as copyright infringement according to the *MAI* doctrine. Until then, the ruling in the case of *MAI vs. Peak* (1991) defined storage of copyrighted material in the computer's workspace memory (*RAM*), even for very short periods, as a "fixation" in a tangible medium, sufficient to violate copyrights. This case, a statutory keystone in computer -law and Internet jurisdiction, has determined the US guidelines for jurisdiction in copyright infringements via the Internet, until the legislation of the Digital Copyright Millennium Act (*DCMA*) in 1998.

The case of *A&M Records vs. Napster* (Northern District Court of California, 2000) elaborates similar issues of unauthorized distribution of music via the Internet from different legal and technical aspects. *Napster* is the main provider of a *peer-to-peer* software platform, a computer program that enables users to search and to download MP3 files, by sharing music files stored on their computer's hard drive with other members of the network. The program was developed in 1999 by a college student, Shawn

[15] US 9th Circuit Court of Appeals (1999), CV-08247-ABC, June 1999.

Fanning, and has rapidly become the norm for downloading music files via the Net. According to Jupiter Research Group, 58% of the private "music traders" have chosen *Napster* as their favorite application for music exchange (Napster's market share was even higher before *A&M* submitted its lawsuit). [16]

The use of Napster's software was possible under the following terms: "*Napster will terminate the accounts of users who are repeat infringers of the copyrights, or other intellectual property rights, of others. In addition, Napster reserves the right to terminate the account of a user upon any single infringement of the rights of others in conjunction with use of the Napster service*". Although the company had applied this policy in October 1999, which is in compliance with Copyright Law, its efforts to enforce it during year 2000 were only minor.[17] However, Napster's arguments were based, apart from the AHRA allowances for music copying for non-commercial use, also on the Digital Copyright Millennium Act (DCMA, 1998) by which providers of data transmission services via the Internet are immunized against copyright infringement that their users perform.[18] The California District Court accepted the plaintiff opinion that *Napster* had not deterred its users from infringing copyrights and enjoined the firm from providing its online services of music exchange (May 2000). This ruling was supported later by the opinion of the Northern District Court which required in a civil procedure that *Napster* would post a five-million dollar bond, in case that wrongful acts and damages to other parties were proven (August 2000).

---

[16] Data are available in: http://www.jup.com.

[17] Though Napster adopted the policy in October 1999, it admitted that its users were notified about the new terms only in February 2000.

[18] Section 512(a) in the Digital Copyright Millennium Act protects by a "safe harbour" the activities of Internet service providers, including "transmitting, routing and providing connections for sharing of the files its users choose" (unless providers were notified by copyright holders about continuous violations of users and have not used their authority to stop them).

The last accord in the case of *Napster* was heard on February 2001. The Court of Appeals for the 9th Circuit accepted the arguments of music firms against *Napster* and concluded that the use, downloading and distributing MP3 files, is considered not only as contributing to copyright infringement, but also as a direct violation of copyrights. Moreover, the Court refused to accept Napster's defense for a fair use, under terms of "space shift" (i.e. its users are allowed to download songs that they already own on CDs) as the ruling of *Diamond* defined, since MP3 files are available not only to the owners of a CD but also to millions of music fans that have not purchased it.[19] Court has concluded that Napster's acts were violating copyrights and has mentioned that remedies should be ruled separately on appeal.[20]

The recent opinion of the US Court *in re Napster* has preserved the status of music files, though digitized and accessible by millions of users at no cost, as intellectual assets in their traditional definition (i.e. copy-protected artistic and literary works). Although *Napster* was seeking relief in the *fair use* law or by accusing its users in violating copyrights (and thus *Napster* claimed that it is not liable for their acts), Court has recognized that reproduction and distribution of MP3 files infringes copyrights and threatens the survival of music producers by removing large shares of their revenues.[21]

The Directive on Harmonisation of Certain Aspects of Copyright and

---

[19] Moreover, CD owners can transfer their albums to digital files by applying MP3 encoding software. Hence, Napster's program is only one of the alternatives to acquire digital music files.

[20] *A&M Records et. al. vs. Napster*, Court of Appeals for the 9th Circuit, February 2001, No. CV-99-05183-MHP.

[21] Court rejected arguments that Napster had contributed to development of new markets and tastes among music fans and hence promoted sales of musical titles.

Related Rights in the Information Society

The European Directive on Harmonization of Copyrights and Related Rights in the Information Society[22] was initiated in 1997, after the adoption of the "*Copyright Treaty*" and the "*Performances and Phonograms Treaty*" by the EU in WIPO's Diplomatic Conference of 1996. The EC was concerned by the emergence of unauthorized dissemination of information goods, via illegal duplication and over the Internet, and, parallel to other forms of legislation during the 1990s,[23] has established a proposal for a new Directive on IPR.

The Directive expands author's rights, reproduction and moral rights according to the Berne Convention, by granting an exclusive right "*to authorise or prohibit any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them*" to creators of works, phonograms, broadcasts and films (Directive, Article 3 § 1). Its scope of protection, however, excludes computer programs and databases, rental and lending of copyrighted works, IPR of broadcasted programmes by satellite and cable retransmission and the term of protection of copyright and certain related rights, all are regulated by other EC Directives.

The Directive is based, to a large extent, on the experience of US legislators: one may find similarities between the Directive and legal provisions defined in US acts (such as the Audio Home Recording Act and the Digital Copyright Millennium Act) and in international agreements (e.g. the Rome Convention). Nevertheless, the Directive defines a coherent

---

[22] Directive 2001/29/EC (May 2001).

[23] During the 1990s, the European Parliament enacted the EU Council Directive on the Legal Protection of Computer Programs (91/250/EEC), the EU Directives for the Legal Protection of Databases (96/6/EC and 96/9/EC), amongst other regimes.

IPR regime to regulate wire-based and wireless transmissions and use of copyrighted works, with Fair Use exemptions for private reproduction and scientific use (Directive, Article 4 § 2 & Article 5 § 2).[24]

The Directive recognizes that information technologies are dynamically and rapidly evolving. Hence, prediction of market trends over elongated periods and the establishment of long-term policies *ex ante* is extremely difficult and may lead to an institutional "lock-in" to inefficient regulatory guidelines, hazardous to the pace of innovation in the long-run. Therefore, the Directive defines evaluation terms: no later than 2004 and every three years afterwards the European Commission will monitor its application in the member states in order "*to facilitate the exchange of information on relevant developments in legislation and case-law, as well as* ***relevant economic, social, cultural and technological developments*** *[and] to act as a forum for the assessment of the* ***digital market*** *in works and other items, including private copying and the use of technological measures*", inter alia (Directive, Article 12 § 4; emphases added).

To conclude, the Directive represents an attempt by European policy makers to establish a rigid doctrine, yet open to periodical assessment, that aims to formulate a uniform framework for a regulation of copyrighted works and contents available online rather than accepting a myopic course of action in which juridical solutions, right-holders' lawsuits and ad-hoc rulings shape statutory guidelines addresses more adequately the needs of evolving technologies, as frequently happened in the US. For example, the Directive defines exemptions that allow reproduction of copyrighted works for short periods, hence resolves legal problems of temporary storage of

---

[24] The Directive preserves the important principle of "first buyer", by which copyright protection allows reproduction of works originally purchased by public libraries and institutes ("*first buyers*"), by the public ("*second buyers*") under the restrictions of Fair Use; compare with a critical review of the EC Database Directive in Cowan and Harison (2001), section 3.5.

copyrighted contents in the computer's hard-drive and memory during *web-surfing* (Directive, Article 5 § 1). [25] Moreover, regulators have formerly aimed to address specific needs of emerging sectors in the European economy, or to emphasize their competitive position in global markets in the short run, by formation of more strengthened IPRs. This policy, which created, to a large extent, an "inflation" in enactment of new Directives and *sui generis* regimes, difficult to comply with technological changes and market trends in the long run, was criticized as an obstacle for both innovation and scientific research (see for example: Reichman and Uhlir (1999); David (2000)). However, the Directive emphasizes a different approach, by which legislative guidelines do not regulate particular technologies and industries, but cautiously expands present IPR outlines to major and unregulated applications of the technologies, on a basis of past experience and in conformity with international treaties.

Conclusions

The rapid diffusion of the Internet as a medium for global communications and the dissemination of digital goods, in particular among home users, have confronted music producers with new threats, as albums converted to MP3 format are widely distributed via peer-to-peer networks at no cost. Record companies, attempting to maintain similar revenues and to appropriate from album sales as before, apply to Courts for enforcement of copyright law over the new technologies and products.

The cases of *Diamond* and *Napster* demonstrate a lack of coherent policy to regulate IPR in evolving technologies, as legal regimes are continuously challenged and modified by juridical decisions. As a result, when firms introduce new technologies that expand the ways in which music is distributed and played and, consequently, remove part of the

[25] See also Cowan and Harison (2001), section 3.4 and section 3.5.

profits from record firms, music producers that rely on traditional business models and IPR protection for their goods appeal to Courts for relief.

Music recording for private use in the US, the largest music market worldwide, is regulated by the *Audio Home Recording Act* (AHRA), which was legislated after the case of *Sony vs. Universal City Studios*. This ruling has shaped the guidelines for a fair use doctrine for recording copyrighted works for non-commercial use. Music producers feared that the *Universal* precedent would be applied to music goods and would enable wide proliferation of perfect copies by digital recording devices. Those concerns were strengthened by dissemination and use of MP3 files as the cases of *Diamond* and *Napster* demonstrate.

The legislative framework of IPR for information goods had been formed by a series of judgments that aimed to resolve limited, *ad-hoc* conflicts. Precedents were later extended to serve as a basis for resolution of new and related issues, finally becoming a statutory framework by and of itself. Hence, when Courts are confronted with new episodes, neither their legislative framework nor precedents that have prudentially resolved previous *technical scenes* can form guidelines for rulings that represent adequately a recent technological reality.

The European Directive on Harmonization of Copyrights and Related Rights in the Information Society represents an attempt to formulate a coherent set of policy guidelines and yet to preserve adaptability of the legal regime to frequent changes in the market, associated with the evolution of information and communication technologies. The Directive was enacted in 2001, *vis-a-vis* the adoption of WIPO's "Copyright Treaty" and the "Performances and Phonograms Treaty" and was approved in June 2001. The Directive aims to expand author's rights to the Internet and to other communication media by granting an exclusive right to authorize or prohibit any communication of their works via wire-based and wireless media. Different from other Directives that were enacted by the EC during the 1990s, the Directive

represents an attempt to provide a uniform doctrine for the Member States, open to adjustments and evaluation over time.

References

Cowan R., Harison R. (2001), "Intellectual Property Rights in a Knowledge-Based Economy", *MERIT Research Memorandum*, No. 2001-027, September 2001, Maastricht.

David P.A. (2000), "A Tragedy of the Public Knowledge 'Commons'? Global Science, Intellectual Property and the Digital Technology Boomerang", *SIEPR Discussion Paper*, No. 00-02, Stanford Institute for Economic Policy Research, September 2000.

Harchaoui T.M., Hamdad M. (2000), "The Prices of Classical Recorded Music: A Hedonic Approach", *International Journal of Industrial Organization*, Vol. 18, No. 3.

IIPA (2000), "The International Intellectual Property Alliance 'Special 301' Report", Washington, IIPA, available in: http://www.iipa.com/homepage_index.html (approached April 2002).

IMF (1993), "Monopolies and Mergers Commission Submission", *Report*, available in: http://www.u-net.com/imf/docs/mmcsub.html (approached April 2002).

Liebowitz S.J. (1985), "Copying and Indirect Appropriability: Photocopying of Journals", *Journal of Political Economy*, Vol. 93, No. 5.

Monopolies and Mergers Commission (1994), *The Supply of Recorded Music*, HMSO, London.

Reichman J.H., Uhlir P.F. (1999), "Database Protection at the Crossroads: Recent Developments and Their Impact on Science and Technology", *Berkeley Technology Law Journal*, Vol. 14, No. 2.

Rosen S. (1981), "The Economics of Superstars", *American Economic Review*, Vol. 71, No. 5.

Silva F., Ramello G.B. (2000), "Sound Recording Market: the Ambiguous Case of Copyright and Piracy", *Industrial and Corporate Change*, Vol. 9, No. 3.

Strobl E.A., Tucker C. (2000), "The Dynamics of Chart Success in the U.K. Pre-Recorded Popular Music Industry", *Journal of Cultural Economics*, Vol. 24, No. 2.

Takeyama L.N. (1997), "The Intertemporal Consequences of Unauthorized Reproduction of Intellectual Property", *Journal of Law and Economics*, Vol. 40, No. 2.

Towse R. (1997), "The Monopolies and Mergers Commission's Investigation of the U.K. Music Market", *Journal of Cultural Economics*, Vol. 21, No. 2.

UNESCO (2000), *World Culture Report 2000*, Geneva, UNESCO Publishing House.

US Copyright Office (2000), "A&M Records, Inc., et al. vs. Napster, Inc.: Brief for the United States as an Amicus Curiae", US Court of Appeals for the Ninth Circuit, NO. 00-16401 & 00-16403.

WIPO (1994), *Guide to the Rome Convention and to the Phonograms Convention*, WIPO Publication, Geneva.

WIPO (1998), *Introduction to Intellectual Property Theory and Practice*, London, Kluwer Law International.