

# MUSIC PIRACY AND ILLEGAL SHARING: ARE ARTISTS BEING AFFECTED\*

LA PIRATERÍA Y LAS DESCARGAS ILEGALES: ¿SE VEN AFECTADOS LOS ARTISTAS?

PIRATARIA MUSICAL E PARTICIPAÇÃO ILEGAL: ESTÃO OS ARTISTAS SENDO AFETADOS?

PIRATAGE DE MUSIQUE ET PARTAGE ILEGAL: LES ARTISTES SONT-ILS TOUCHÉS?

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## ABSTRACT

This essay analyzes the impact that musical piracy and illegal downloads have on singers and song writers. Arguments suggest that even though singers see a direct affectation on their income from royalties (CD sales), these losses are compensated with the sales of their own brand items, concert tickets and advertising contracts.

On the other hand, for song writers, piracy does not affect their finances directly, but it does more on motivational terms. The theoretical analysis is based on the income/outcome function as well as on the Cobb-Douglas production function type, which includes piracy as a negative external factor.

## PALABRAS CLAVE:

Internet piracy, illegal musical exchange, music industry, external factors

## CLASIFICACIÓN JEL:

D24, D62, L82

## RESUMEN

En este ensayo se analiza el impacto que generan la piratería musical y las descargas ilegales en los artistas: cantantes y autores de letras. Los argumentos sugieren que, si bien los cantantes ven una afectación directa en sus ingresos provenientes de regalías (venta de discos CD), estas pérdidas son compensadas con la mayor venta de entradas para conciertos, venta de productos con marca propia, y un mayor ingreso por contratos publicitarios; contrariamente, para el caso de los autores de letras la mayor piratería no los afecta directamente en sus finanzas sino en términos motivacionales. Los análisis teóricos se basan en función de ingresos y costos, así como en una función de producción de tipo Cobb-Douglas, en la cual se incluye la piratería como una externalidad negativa.

**Palabras clave:** piratería en Internet, intercambio de música ilegal, industria de la música, externalidades.

**Clasificación JEL:** D24, D62, L82.

## RESUMO

Neste ensaio analisa-se o impacto que geram a pirataria musical e as descargas ilegais nos artistas: cantores e autores de letras. Os argumentos sugerem que, se bem os cantores veem uma afetação direta em seus ganhos provenientes de benefícios (venda de discos CD), estas perdas

são compensadas com a maior venda de entradas para shows, venda de produtos com marca própria, e um maior ganho por contratos publicitários; contrariamente, para o caso dos autores de letras a maior pirataria não os afeta diretamente nas suas finanças senão em termos motivacionais. As análises teóricas baseam-se em função de ganhos e custos, assim como em uma função de produção do tipo Cobb-Douglas, na qual inclui-se a pirataria como uma externalidade negativa.

**Palavras chave:** pirataria na Internet, intercambio de música ilegal, indústria da música, externalidades.  
**Classificação JEL:** D24, D62, L82.

## RÉSUMÉ

Cet article analyse l'impact qui génère le piratage de la musique et les téléchargement illégaux chez les artistes: chanteurs et auteurs de lettres. Les arguments suggèrent que, bien que les chanteurs ont une affectation directe sur les revenus provenant des redevances (ventes de CD), ces pertes sont compensées par une hausse des ventes de billets de concert, vente de produits à marque propre, et l'augmentation des revenus grâce aux contrats de publicité, contrairement au cas des auteurs de lettres le piratage ne touche pas directement leurs finances, mais ils sont touchés en termes de motivation. Les analyses théoriques sont basés sur les revenus et la fonction de coût, fonction de production Cobb-Douglas, qui incluent le piratage comme une externalité négative.

**Mots-clés:** piratage sur Internet, le partage illégal de musique, industrie de la musique, des externalités.  
**Classification JEL:** D24, D62, L82.

## INTRODUCTION

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All over the world, "music piracy and illegal sharing" is one of the most controversial and discussed issues due to its consequences in the music value chain. According to SPA (1997b) when people copy digital files without permission (apart from the act of doing backup for themselves), they do an illegal action. In 2008 more than forty billion files were shared illegally in sixteen countries (IFPI, 2009), triggering the consequences of record music revenues reduction, as well as artists launch plunge.

This problem has been broadly studied to the understanding of how this fact harms record companies; however, it has not been analysed in profound how artists are affected. Basically, artists can be split into the category of singers (who perform songs) and music producers-songwriters (who write lyrics and melodies but do not have any performance). Both categories are involved

in the music business, but each one has different sources of income; therefore, the impacts of music piracy and illegal sharing vary between them.

Thus, the major aim of this essay is to discuss how much artists are affected as a result of these illegal activities. As part of our insight, we suggest that music piracy and illegal sharing do not harm singers neither songwriters in financial terms, but they do affect songwriters considerably in moral terms. This reflexion easy is written taking into account literature

published in the last seven years by both scholars and companies involved in the music industry.

The article is organized in three parts, being this introduction the first one. In the second one we answer some common questions people usually have of this topic such as: what the matter is, how people commit the mistake, how artists earn money, why people download music illegally, and what to do to deal with this issue; and in the third part, we give some conclusions and remarks of this issue.

## 1 . ¿WHAT IS THE MATTER?

Since the 90's some researchers have been analysing how harmful music piracy and illegal sharing is to all participants of the music industry: record companies, publishers, managers and artists (musicians and songwriters). It is pretty normal to seeing plenty of people thinking that piracy and illegal music sharing affect artists deeply, but there are others who consider this matter a good way to get more benefits for them.

For instance, Gayer & Shy (2006) say that artists are not harmed from these illegal actions, since they do have other revenue sources. In fact, they consider that the more intervention from the government exists, the less revenue to artists comes up. In their words:

*"... we merely want to point out that massive anti-piracy campaigns, and the large number of ongoing and pending law suits that we now observe in many countries, may eventually hurt artists and authors".*

This statement may be true for singers in three ways according to Ian (2005)<sup>1</sup>: i) They are able

to sell more CD's to listeners who download free music, because of the attraction they feel afterwards<sup>2</sup>, ii) they may gain further followers –who are more likely to buy music through direct sales– by using their own web sites rather than record companies' supply chain, iii) they may sell more concert tickets, souvenirs and original products due to their recognition.

Despite this approach, it seems to Ian that the situation is different to songwriters, as they do not have any advantage from illegal downloading due to their contracts. In his study, Galdston (2005) affirms that internet piracy affects songwriter livelihoods negatively due to illegal downloading. Songwriters, apparently, lose two sorts of things: i) they do not get enough money for unauthorised downloads, ii) They also lose the rights to grant or deny permission to get music. As a result, songwriters are more likely to lose motivation to write more lyrics, resources to reinvest in their own companies, and money to support their families. As the author suggests, it is unfair to seeing songwriters punished by people who download music illegally.

<sup>1</sup> In his study –carried out by using e-mailing as source of information– he also recognises that free online downloads affect record companies, for which this activity is similar to stealing.

<sup>2</sup> This statement may be rejected if it were taken into account Zentner's article of 2006. Using European individual-level cross section of 15,000 people (survey called Consumer Technographics), and some instrumental variables such as internet sophistication and internet speed, he found out an inverse relationship between file sharing (mostly done by peer-to-peer networks) and music purchasing: roughly 30% of purchasing reduction is caused by online music downloads.



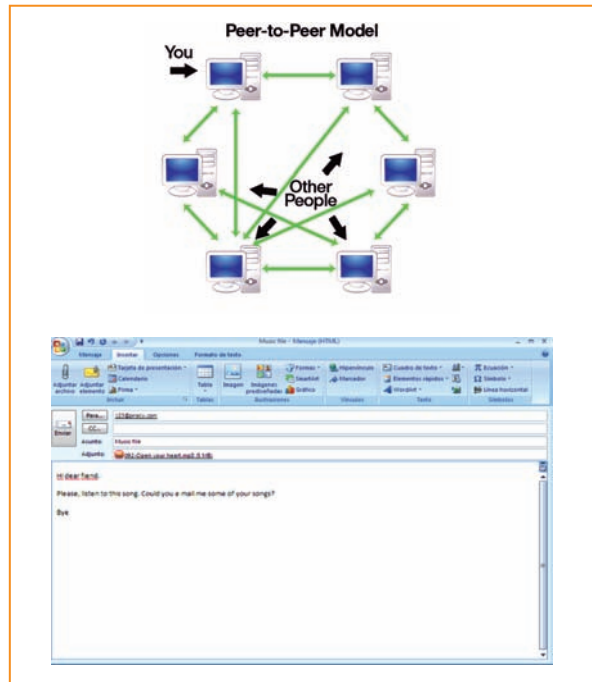
*“As we have stated, artists are split into the category of singers and music producer-songwriters. In the first case, singers get their revenues from royalties (coming from sales of record companies), advances, playing live (like concerts), and merchandising.”*



## 2. HOW DO PEOPLE COMMIT THE MISTAKE OF DOING MUSIC PIRACY ACTIVITIES?

According to the group RIAA (stands for the Recording Industry Association of America, 2009), there are different ways by which people can violate the rules: by e-mailing a copyrighted song to their friends, using a file-sharing network to download music or to attach an MP3 copy of a song<sup>3</sup>, downloading unauthorized music after paying a file-sharing channel, and burning music into CDs for friends. All of these ways are growing in parallel to the internet growth, broadband capacity, write-able CD technology, among others (Gopal, R., et al., 2004).

Figure 1. Emailing copyright song file-sharing network



Source: my.opera.com

<sup>3</sup> The most common system to do this is well known peer-to-peer, where people upload songs in shared folders to be downloaded by others.

Figure 2. CD burning



Each case of music sharing mentioned in the paragraph above is prohibited in plenty

of countries, where copyright laws exist. For instance, the US copyright law says people need authorization to duplicate, perform or distribute copyrighted music through any format; otherwise they are committing a crime and, therefore, they have to be punished through criminal and civil penalty laws; indeed, people must pay either two hundred and fifty thousand in fines and spend some years in prison, or a lot of money in compensation and legal fees, respectively.

### 3. HOW DO ARTISTS GET MONEY?

As we have stated, artists are split into the category of singers and music producer-songwriters. In the first case, singers get their revenues from royalties (coming from sales of record companies), advances, playing live (like concerts), and merchandising<sup>4</sup>. In the second case, they can receive salary (from specific projects) or royalties based on sales (agreed with musicians); the first way of remuneration is more usual than the second one. Let's have a look at of this structure in mathematic terms:

#### 3.1 SINGERS

$R^m = f(\text{royalties, concerts, merchandising})$

Singers revenues  $R^m$  are a direct function of royalties ( $x$ ), concerts ( $\varphi$ ) and merchandising and advertisement contracts ( $\delta$ ).

To understand the impact of music piracy and illegal music sharing on artists' revenues we have to know how record companies are harmed from it. Record companies profit equation ( $\pi$ ) is given as  $\pi = R - C$ , where:

$R = p \cdot x$  revenues 1.

$C = \beta_0 + \beta_1 x + p \cdot x \cdot \theta$  costs 2.

Here, ( $p$ ) is the CD's price per unit, ( $x$ ) is the quantity of sold CD, ( $\beta_0$ ) is the fixed cost, ( $\beta_1$ ) is per-unit variable cost, and ( $\theta$ ) is the percentage of royalties given to the artist (singer) from record companies sales.

Simplifying we have:

$$\pi = x(p - \beta_1 - p \cdot \theta) - \beta_0 \text{ or}$$

$$x = \frac{\pi + \beta_0}{p(1 - \theta) - \beta_1}$$

which is the demand function of these firms. Notice that the higher the record-company profits are the higher the quantity of CDs they sell, *ceteris paribus* other variables.

*Proposition 1a.* If price soars, the quantity of CDs falls; as a result, the level of piracy rises directly

<sup>4</sup> To get more knowledge about this topic, see Mc Donald's articles (2012) at [musicians.about.com](http://musicians.about.com)

as it has been presented by Crombie (2001) and Hoover (2001) in Gopal, Bhattacharjee and Sanders (2006).

*Proposition 1b.* If royalty percentage rises, the demand of CDs should rise.

This analysis seems to be true in the real world; however, the market structure of the music industry tends to be an oligopoly because of the few number of major labels in the world (there are three main groups: Universal Music Group, Sony Music Entertainment and Warner Music Group), and the high price of CD's which has been criticized by plenty of institutions and researchers. Perhaps for that reasons most of legal and illegal solutions has come up for music followers.

Legal solutions to lower market power lies on the way many artists have decided to sell their songs through independent labels. On the other hand, there are illegal solutions (already known at this point) such as buying burned pirate CD's, downloading music from peer-to-peer networks, among others. The last situation could be part of a market failure called externalities.<sup>5</sup>

Gopal, R., Bhattacharjee, S. & Sanders, G. (2006), based on Barua *et al.* (2001) and Cunningham, Alexander, and Adilov (2004) suggest that when fun clubs share music, they create externality networks. Hence, assuming that the production function of this industry includes externalities, we may have now a Cobb-Douglas production function like this:  $x = Af(K, L; y)$  where  $y$  represents pirate production-sales of music CD's. Thus, we have:

$$x = AK^\alpha L^\beta (y - y^o)^\eta$$

Where:

$y$ : quantity of illegally sold CD's

$y^o$ : quantity of illegally bought CD's donde by people who never buy music neighter legally

This is important to be included, as record company's revenues never are harmed from people who almost never buy music at music shops, but sometimes are encouraged to buy pirate music for a little money, or to download online music from peer - to peer networks (they are non-amateur people). If  $y^o y^o$  stands for any percentage ( $\sigma$ ) of the quantity of illegally sold CD's ( $y$ ), it is possible to say that  $x = AK^\alpha L^\beta (y - \sigma y)^\eta$ .

Simplifying we have  $x = AK^\alpha L^\beta [(1 - \sigma)y]^\eta$ . Renaming  $A \cdot (1 - \sigma)^\eta$  as  $N$  (because the outcome is constant), and having constant production factors, it is then feasible to write  $NAK^\alpha L^\beta = M$ . As a result of this simplification we find:

$x = M(y)^\eta$  production function of record companies including externalities.

Notice that CD's production depends on production factors ( $M$ ) including technological changes, but it also depends on illegal production  $y$ , where we know that  $\partial \ln x / \partial \ln y = \eta$ , and if  $\eta < 0$  there is negative externality.

Thus, coming back to artists (equation 2), it is possible to say that  $\beta_1 = p \cdot \theta$ . Moreover, as  $x = M(y)^\eta$ , then:

$$R^m = \beta_o + \beta_1 M(y)^\eta + \beta_2 \varphi + \beta_3 \delta$$

$$\frac{\partial R^m}{\partial y} = \eta \beta_1 M(y)^{\eta-1} \text{ if } \eta < 0,$$

then there is negative externality

<sup>5</sup> According to Mas Collé, Whinston & Green (1995), externalities are those actions carried out by any agent of the economy that affect indirectly others agents' functions; it is also known as external effects. In this study, record companies' production functions ( $x$ ) depend not just on their production factors ( $A, K, L$ ), but also on illegal actions such as music piracy and illegal sharing ( $y$ ). In mathematical terms:  $x_i = f(A, K, L, y)$ .

If  $y$  grows (more music piracy), the artist' revenues falls; however, artists can minimize the risk of losing income through their other income sources:

$$dIT^m = \frac{\partial f}{\partial y} dy + \frac{\partial f}{\partial \varphi} d\varphi + \frac{\partial f}{\partial \delta} d\delta$$

$$dIT^m = \eta\beta_1 M(y)^{\eta-1} dy + \beta_2 d\varphi + \beta_3 d\delta$$

*Proposition 2.* If music piracy ( $y$ ) soars, artists' revenues drop (because  $\eta < 0$ ), but if concerts and merchandising go up, artists' income also rises. Therefore, revenues coming from other sources than CD sales can compensate music piracy royalty's losses; indeed, some authors have suggested that higher level of piracy can boost concert's ticket sales.

### 3.2 PRODUCERS-SONGWRTITERS

As it has said, music producers and songwriters usually get money from contracts signed with musicians and/or record labels. Thus, their revenues usually do not depend on CD sales, nor merchandising, etc. As a result, revenue equation is:

$$R^p = f \text{ (salaries – contracts)}$$

$$R^p = \beta_0 \quad \forall \quad \beta_0 > 0$$

Where:

$$\beta_0: \text{salary – contract}$$

As it is seen, music producer-songwriters' revenues just depends on specific contracts they sign together with artists and/or record companies (the most common way to make agreements between them), getting the worst part of this story. However, they are not directly affected from music piracy, as their revenues do not depend on CD sales or illegal music downloads. However, as it has shown by other authors, songwriters' confidence and motivation drop as long as their lyrics jump from one person to another without monetary recognition.

“As it is seen, music producer-songwriters' revenues just depends on specific contracts they sign together with artists and/or record companies (the most common way to make agreements between them), getting the worst part of this story.”



*“One method used by artists to benefit from music downloading is «a do-it-yourself model». In this case, artists control everything by themselves from producing music to supplying records. This patten brings cost reduction to music production and more benefits as a result.”*

## 4. WHAT IS THE REASON FOR MUSIC DOWNLOADING?

One reason lies on the confusion people make between “real property” and “intellectual property” (Galdston, 2005). These concepts are totally different, since the first one is associated to emotional attitudes, whereas the second is linked to legal actions. Another reason is explained by the age of the music: listeners are not willing to pay for old music –old classics– (Ian, 2005). Other reasons linked to microeconomic factors obey to low income (plenty of people do not have enough money to buy original CD’s or to pay for selected songs at permitted websites), high prices, cultural customs, and lack of strict laws.

## 5. WHAT TO DO?

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To protect artists’ benefit (specially for songwriters), people should be conscious that illegal downloading is the same as stealing; no matter what people think about downloading and uploading, the truth is that the more free music they get through the Internet, the less songwriter in the future there will be. As RIAA (2009) suggests, people should download and upload music from authorized sites, and understand that they are not able to use music from peer-to-peer networks such as: Napster, Kazza, etc. Regarding CD’s copying, they might be informed they are able to do it as long as it was for themselves, not for commercial purposes.

On the other hand, it must be true for record companies that technology breakthroughs are in front of us. Nowadays consumers prefer to purchase music via Internet rather than CDs (that’s why online music downloading and music sharing are contributing to rapid artist’s sales) thanks to new technologies. For example, iTunes, smartphones, tablets, etc. are available for listeners to access music easily; due to this change, all members of the music supply chain are looking for new ways to gain further benefits from the Internet, especially artists (LaPlante, 2009).

One method used by artists to benefit from music downloading is “a do-it-yourself model”. In this case, artists control everything by themselves from producing music to supplying records. This pattern brings cost reduction to music production and more benefits as a result.

Another up-to-date solution lies on the usage of the Internet as a tool for concert promotion. Radio was previously dominance in finding new music, but now the internet is a good method of advertisement because users are widespread all over the world.

## CONCLUSION

To sum up, it is possible to say that illegal music sharing and piracy do not harm singers seriously nor songwriters; however, they do impact negatively to songwriters’ motivation. On the one hand, singers get revenues not only from CD sales, but also from concerts, advertisement and merchandising; therefore, their financial losses are minimum; they can recover lost royalties revenues through further concert ticket sales, because of the higher probability of ticket purchase by listeners of illegal music.

On the other hand, songwriters are losing the opportunity of getting money (because of their contracts) as well as motivation to write new lyrics and melodies. Even though both belong to the music industry, singers and songwriters’ labour contracts are different; as a result, these are inequitable in regards to incomes and recognition. This unbalance situation should be also discussed between songwriters, singers and record companies involved in the industry, due to no matter what happens in the music business, the growth of free illegal music is a fact, and it will seemingly never stop.

## REFERENCES

- Galdston, P. (2005). Internet Piracy Harms Artists. In J. D. Torr (Ed.), *At Issue. Internet Piracy*. San Diego: Greenhaven Press. Retrieved from <http://ic.galegroup.com.ezproxy.auckland.ac.nz/ic/ovic/ViewpointsDetailsPage/ViewpointsDetailsWindow?displayGroupName=Viewpoints&prodId=OVIC&action=2&catId=&documentId=GALE%7CEJ3010337205&userGroupName=learn&jsid=2f3da889dd0cc53177a90e7737f5608c>
- Gayer, A. & Shy, O. (2006). Publishers, artists, and copyright enforcement. *Information Economics and policy*, 18.
- Gopal, R.; Sanders, G., Bhattacharjee, S.; Agrawal, M. & Wagner, S. (2004). A behavioural model of digital music piracy. *Journal of organizational computing and electronic commerce*, 14 (2).
- Gopal, R.; Bhattacharjee, S. & Sanders, G. (2006). Do artists benefit from online music sharing? *The Journal of business*, 79 (3). Retrieved from <http://www.jstor.org/stable/10.1086/500683>
- Ian, J. (2005). Online Music Sharing May Benefit Artists. In J. D. Torr (Ed.), *At Issue. Internet Piracy*. San Diego: Greenhaven Press. Retrieved from <http://ic.galegroup.com.ezproxy.auckland.ac.nz/ic/ovic/ViewpointsDetailsPage/ViewpointsDetailsWindow?displayGroupName=Viewpoints&prodId=OVIC&action=2&catId=&documentId=GALE%7CEJ3010337206&userGroupName=learn&jsid=63c246f05-136272559087afc71eeb3a5>
- IFPI (2009, January). *New business models for a changing environment*. IFPI. Retrieved from <http://www.ifpi.org/content/library/dmr2009.pdf>

LaPlante, A. (2009). Digital Music Is the Future of the Music Industry. In R. Espejo (Ed.), *At Issue. What Is the Future of the Music Industry?* Detroit: Greenhaven Press (2009). (Reprinted from *Information Week*, 31 January 2008). Retrieved from: <http://ic.galegroup.com.ezproxy.auckland.ac.nz/ic/ovic/ViewpointsDetailsPage/ViewpointsDetailsWindow?displayGroupName=Viewpoints&prodId=OVIC&action=2&catId=&documentId=GALE%7CEJ3010558204&userGroupName=learn&jsid=158223b84-3fe5e560c24f60fc58f156f>

Mc Donald, H. (2012). Get paid in your music career. Retrieved from: <http://musicians.about.com/od/otherindustry careers/ht/makemoney music.htm>

Mas-Colell, A.; Whinston, M. & Green, J. (1995). *Microeconomic theory*. New York: Oxford University Press.

RIAA (2009). Illegal File Sharing Threatens the Future of the Music Industry. In R. Espejo (Ed.), *At Issue. What Is the Future of the Music Industry?* Detroit: Greenhaven Press. Retrieved from: <http://ic.galegroup.com.ezproxy.auckland.ac.nz/ic/ovic/ViewpointsDetailsPage/ViewpointsDetailsWindow?displayGroupName=Viewpoints&prodId=OVIC&action=2&catId=&documentId=GALE%7CEJ3010558210&userGroupName=learn&jsid=00660b392-baa5d9b7372e1cbf3203f61>

SPA (1997b). *Software piracy and global competitiveness*. Washington D.C.: Software publishers' Association,

Zentner, A. (2006). Measuring the effect of file sharing on music purchases, *Journal of Law and Economics*, Vol. XLIX.