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THE COPYING PRACTICES OF FRENCH INTERNET USERS: AN ECONOMIC ANALYSIS

(Overview)

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This analysis forms part of the results of a research contract undertaken in partnership with UFC Que Choisir that aims to evaluate the economic effects of the unauthorised sharing of digital content. This research contract was financed by the Ministry for Research and New Technologies as part of the "Uses of New Technologies for Society" Programme.

This work has already given rise to several academic publications, including:

- Rochelandet, F, "Unauthorised Sharing through P2P Networks: A Digital Pollution" in Journal of Network Industries, vol. 5:1 (2005), pp.25-45;
- Le Guel, F and Rochelandet, F, "P2P Music-sharing Networks: Why Legal Fight against Copiers May Be Inefficient?" in Review of Economic Research on Copyright Issues, vol. 2:2 (2005), pp.69-82.

The academic authors are solely responsible for the ideas and opinions in this study, which have nothing whatsoever to do with the Université Paris-Sud 11 or any part thereof.

1. OBJECTIVE OF THE STUDY: ANALYSING THE COPYING BEHAVIOUR OF FRENCH INTERNET USERS

Is file sharing on peer-to-peer networks the cause of the difficulties encountered by the cultural industries and, in particular, is it responsible for the fall in record sales and the low volume of paid music downloads?

Economic theory has been unable to offer any definitive conclusion. A priori, content sharing may correspond to principles which are completely contradictory in their effects:

- a **substitution** principle: downloads may be a substitute for purchases, in which case this practice would cause a drop in record sales. It should be noted, however, that this factor may be added to others such as the price of a CD being too high, the end of the life cycle of this product, the reduction in household purchasing power, the lack of musical diversity in the mass media, etc.

- an **insolvability** principle: downloads allow content to be obtained which otherwise would not have been purchased for lack of sufficient incomes. For example, to access a range of different titles, some categories of individuals may download content in the same way that they would borrow books or CDs from a library, in which case copying may not have any negative effects on record sales, but could instead translate into future sales (when the individual has sufficient income).

- a **cumulativeness** principle: downloads may also be added to purchases because they allow individuals to discover the products offered before purchase, in which case downloading would not have a negative effect in itself.

At the present time, **no reliable empirical work** has been done on this phenomenon, even though it is accused of causing major losses for the content industries. This study aims precisely to fill that gap by evaluating content copying and sharing between individuals. In particular, the intention is to quantify practices which are the subject of often extremely lively debate, but about which, paradoxically, there are few convincing facts and figures.

To conduct this study, we *voluntarily* concentrated on analysing usage by producing new data on the behaviour of copiers. More specifically, our key objectives consisted in:

(1) **characterising these copying practices outside and on the Internet**
(the profile of copiers)

(2) **explaining the reasons why an individual copies music and films**
(the probability of being a copier)

(3) **explaining the reasons why an individual copies more or less intensely**
(copying intensity)

(4) **evaluating the economic consequences of copying practices**

(5) **evaluating the social "opportunity cost" of these practices** (the cost associated with eliminating them)

- How much is an Internet user prepared to pay for the right to freely download music and films? Why are some prepared to pay more than others?
(consent to pay for copying)

(6) **evaluating the efficiency of current policies to deal with these practices**

- What is the perception of individuals with respect to current policies? Faced with these policies, how do copiers on the Internet react – those who are the most "exposed"?
(perception of the "risk" associated with copying)

2. POSITIONING AND ORIGINALITY OF THE STUDY

- **The first study designed to be exhaustive on an international scale**

This is the first evaluation of offline and Internet copying behaviour from a sample of 4000 individuals with varying demographic profiles. Therefore, the originality of the study lies both in not focusing on students (like a sizeable number of academic studies) and in not being purely descriptive (not limiting ourselves to observations). We are concerned with establishing and analysing the relationships between the characteristics of individuals and their behaviours.

- **A study that is not merely descriptive but above all analytical** with the aim of:

- Linking the characteristics of individuals (gender, age, income, etc.) to their copying behaviour: for example, 88.7% of individuals own copied music (observation): for what reasons, and what are the economic consequences of this? (analysis)
- Integrating specific explanatory factors like the perception of the legal risk or the ethical concern of individuals: does perceiving a legal risk or believing that copying harms the cultural industries induce individuals to copy less?
- Analysing the consequences of copying on the spending and cultural practices of individuals: what is the level of cultural spending of copiers? Is copying a substitute for the purchase of CDs and DVDs?
- Analysing the way in which copy sharing networks between individuals are structured. Etc.

- **An analysis based on data gathered from the French population**

Unlike most of the studies on this subject, our evaluation is not based on figures provided by the professionals affected by these practices. Most of the studies on this subject are based on the sales figures announced by the majors, which in itself represents a number of disadvantages and biases in terms of the reliability of the results.

We thought it important to take into consideration the other facet of the market, namely the "demand" for music and films (modes of acquisition and usage) via statements made by the consumers.

- **A method minimising declarative biases**

Our study does, of course, contain biases, but no study in this field can claim to be perfect when the behaviours studied are illegal or, at any rate, perceived as such by the respondents. From this point of view, telephone studies, or studies based on representative but "monitored" panels, or even on data flow measures over the Internet all present disadvantages: anonymity is not respected, behaviours when monitored are different to how they may have been in reality, etc.

Compared to these methods, **the advantage of our study** is that the declarative bias is minimised by the anonymity of the responses and the neutral position of the interviewers – namely, academics. We were thus able to establish pertinent links between the characteristics of individuals and the data on their usage.

To achieve this, we set up three types of survey:

- by paper questionnaire;
- via the Internet;
- and directly, with 1000 individuals in the street. This last survey, conducted in a purely random way (disregarding age and gender) enabled us to ensure that the variables for correcting the sampling bias were viable (*Details of the method: see appendix 1*).

Three results emerge to explain the copying behaviour of French Internet users.

- **Imitation of peers and cultural diversity as principal reasons for copying**

Different factors explain sharing practices:

(1) **an imitation and social contagion effect:**

Copiers are not pure "calculators" (benefiting from a windfall effect by saving themselves the cost of acquiring the original they are copying), but also react by imitating the behaviour of their "peers" (friends, family, work colleagues). It is therefore particularly difficult to effectively monitor these behaviours when technical opportunities exist for sharing content outside the Internet network. P2P therefore emerges as one method of copying among others: it is grafted onto much wider sharing practices based on exchanges between "peers" (family, friends, work colleagues). On the other hand, the reasons explaining "traditional" copying (by direct person-to-person exchange) and P2P copying are not exactly the same: the quest for cultural diversity further explains P2P copying.

(2) **access to greater cultural diversity:**

The supply of new artists, and opportunities for discovering them, are perceived as insufficient via the traditional distribution channels. This observation incites individuals to obtain content by downloading them on P2P networks. This could be an additional indicator of a certain incapacity or impossibility on the part of the commercial networks to offer diversity.

(3) **the perceived price of originals:**

Individuals copy all the more because they believe the price of originals to be too high. A reduction in the price of originals or an improvement in the perceived quality of originals or the distribution services could therefore be a spur to make individuals migrate from copying to purchasing.

(4) **IT skills and, to a lesser degree, level of education:**

These explanatory factors are more "intuitive": the oldest people share the least copies but are the least comfortable operating the technological tools in this arena (they also have the lowest level of cultural spending). In the same order of ideas, a higher level of education positively explains copying.

(5) **income, place of residence and professions and socio-professional categories (PSC):**

These variables do not explain either the probability of being a copier, nor the copying intensity of Internet users. In particular, the descriptive study and the econometric analysis both show that neither the "something-for-nothing" principle (having the means to buy originals but preferring to copy), nor the principle of maintaining purchasing power (not having the means to buy an original and therefore copying it in order to be able to access it) are significant.

- **The limited effectiveness of policies of suppression**

The preceding results explain the limited effectiveness of current policies:

- copying behaviour is not the result of a rational cost-benefit financial assessment – the individual does not copy as a function of a benefit (amounting to saving the price of a CD) which he would compare with a cost (being taken to court and punished), but as a function of a "viral" effect: the individual copies because his peers copy, and the more his peers copy, the more he himself copies. This phenomenon of the circulation of a behaviour from peer to peer certainly explains the disappointing results of the current policy of suppression in place in most countries.

- It is therefore very likely that a control of P2P exchanges is not sufficient in itself to prevent the illegal sharing of content on a grand scale: any innovation (peer-to-mail, etc.) enabling access to a

diversity of titles has every chance of rapidly and massively spreading when it allows peer-to-peer sharing networks to be fed by new content.

- This limited effectiveness can be seen again in the perception of the legal risk by the individuals questioned: if they perceive this risk, it has no significant effects on the propensity to copy (probability of being a copier and intensity of copying practice).

- **The existence of a potential market?**

From the point of view of cultural spending, a special relationship may exist between P2P copying of music and films and the purchase of cultural goods (CDs, DVDs):

- First of all, it has emerged from our study that, in a general way, CD and DVD purchases are not affected by the intensity of copying on P2P networks. This can be interpreted as an independence between the two practices or, more likely, by the neutralisation of two contradictory principles: substitution of the purchase of originals for copying, complementarity/"cumulativeness" of the two practices, transfer of individuals to copying practices when confronted with the insufficiency of the commercial supply of content or differentiation from the services of the distributors of originals.

- On the other hand, the intensity of music copying (all techniques included) proves to be a favourable factor for CD and DVD purchases.

This result is reinforced by the analysis of the consent to pay to access free download services for music and films. The fact that we found a DTP, positive on average for the copiers, seems to prove that a commercial activity could well be grafted onto the P2P sharing networks, but with a lower sales price than the rates currently offered. This consent to pay is actually lower than the price of an original: this suggests that consumers think that the current price of originals is too high.

► **Recommendations: How to deal with P2P?**

Three strategies are possible for dealing with P2P:

(1) **Suppression** (court cases against individuals, reinforcement of legal protection, etc.), which is widely used at present.

Our results call into question not only the effectiveness of this strategy, but also its economic foundations: it is largely based on a hypothesis consisting of a purely substitutive principle which holds that the principal effect of copying is to eat into sales.

(2) **Non-intervention**, which has historical precedents such as early cinema, and radio competing with records.

The hypothesis is that, at worst, copying has no effect (on the drop in sales) and that, at best, it has a positive impact on the cultural industries. In this case, the least costly solution socially consists in leaving the stakeholders to innovate and negotiate between themselves, while ensuring respect for competition law and privacy.

(3) **Tolerance accompanied by compensation** (for example based on the model of perceived royalties for photocopying books and magazines).

The underlying hypothesis is that all work deserves payment (idea of the philosopher John Locke, 1690). Our study shows that copiers are prepared to pay the artists, and all the more so because their copying practices cause them concerns of an ethical nature. Therefore, the entire difficulty lies in defining a socially viable compensation mechanism (that is to say fair, feasible and acceptable).

In view of the results of the survey, solutions (2) and (3) are preferable.

In this section we present the detailed results of our survey. The data presented have been adjusted to be representative of the opinions of the French Internet-user population. First of all, the sample is described according to the key socio-demographic characteristics (age, gender, PSC, income). We then detail the key contributions of our study by offering a descriptive analysis (presentation of statistics on certain variables or through intersecting variables) completed by an econometric analysis enabling the simultaneous testing of a set of explanatory factors and thereby reinforcing the robustness of our results.

Outline:

4.1. Description of the sample

- Age
- Gender
- Professions and socio-professional categories
- Income

4.2. Characteristics of music and film copying in France

4.2.1. Descriptive analysis

- The proportion of copiers in the French Internet-user population
- The profiles of music copiers
- File-sharing practices on the Internet: what specificities?
- Reasons for copying and non-copying
- The ethical conscience of copiers
- The perception of the legal risk by individuals

4.2.2. Econometric analysis

- The probability of being a copier
- The intensity of the level of copying

4.3. The economic consequences of copying practices

4.3.1. Descriptive analysis

- Copy exchange practices and markets for cultural goods
- Copying music on the Internet and purchase of CDs and DVDs:
- Cultural spending, level of copying and age
- The effects of copying on cultural practices (concerts and trips to the cinema)

4.3.2. Econometric analysis

- Determinants of the level of cultural spending

4.4. The existence of a potential market for downloading

4.4.1. Descriptive analysis

- The disposition to pay (DTP) for downloading music and films for free
- Which socio-professional categories are prepared to pay the most?

4.4.2. Econometric analysis

- How to explain the DTP for freely downloading music and films?

4.1. Description of the sample

Here we present the key socio-demographic characteristics of the sample in the paper and Internet surveys, namely: age, gender, professions and socio-professional categories (PSC), and income.

Certain differences emerge in comparison to the data provided by Médiamétrie and Insee. These have been corrected (adjusted) in our analysis based on the Médiamétrie sample, which offered the most recent profile of French Internet users. The adjustment was conducted according to three variables: age, PSC and gender. Furthermore, we verified the Médiamétrie estimates by carrying out our own survey in the street of 1000 individuals (*for more details, see appendix 1*).

- Age

From the point of view of age ranges, our sample is relatively representative compared with data enabling the Internet-user population to be described, with the notable exception of under 15s. This age range is certainly underrepresented in relation to the French Internet-user population (Médiamétrie data) and the French population (Insee data). It has indeed proved very difficult to persuade minors to respond to this type of survey, which deals with illegal behaviours and is based on relatively precise questionnaires. We propose, if need be, to correct this flaw by carrying out a survey of this section of the population specifically.

%	Mean (after adjustment)	Proportion of Internet users (source: Médiamétrie)		French population (source: Insee, > 11 yrs old)	
< 15 yrs old	0.5	12.7	11-15 yrs old	7.2	
15-18 yrs old	5	23.3	16-24 yrs old	13.3	
19-24 yrs old	19				
25-30 yrs old	17	19.3	25-34 yrs old	15.1	
31-40 yrs old	23	25.7	35-49 yrs old	24.7	
41-50 yrs old	15.5				
51-60 yrs old	13.5	15.3	50-64 yrs old	20.6	
> 60 yrs old	6.5	3.8	>65 yrs old	19.1	

- Gender

The respondents to the online survey were, for the vast majority, men. The paper questionnaire and the survey conducted in the street, along with the Médiamétrie data, nevertheless enabled this overrepresentation to be corrected in relation to the Internet-user population.

%	Mean after adjustment	Proportion of Internet users (Source: Médiamétrie)	French population (Insee, > 11 yrs old)
Female	33.88	47	51.8
Male	66.12	53	48.2

- Professions and socio-professional categories (PSC)

Our sample after adjustment is relatively close to the characteristics of the French Internet-user population.

%	Mean after adjustment	Distribution of Internet users (source: Médiamétrie)	French population (Insee, > 11 yrs old)
SPC +	33.73	34.4	20.8
SPC -	25.16	24.7	30.5
Retired	6.87	5.7	21
Students	16.77	19.8	10.5
Other non-working	17.46	15.4	17.2

- Income

Several questions were asked about the standard of living and income of the individuals. Since the responses provided a strong correlation between declared incomes and perceptions of living standards, we used the results for this second variable. Consequently the distribution of the sample is relatively homogeneous. These data cannot be compared to the national statistics (INSEE), given that they include an extremely high declarative bias (cultural disposition not to reveal one's income level).

%	Mean after adjustment
"You find life difficult on your current income"	29.96
"You manage on your current income"	44.01
"You have a comfortable life on your current income"	23.09

4.2. Characteristics of music and film copying in France

The notion of copying describes an extremely broad set of practices which not only include exchanges between individuals over P2P networks but also more widespread exchange practices focused around copied media (digital audio cassettes and self-recorded CDs and DVDs) or, more recently, as direct "device-to-device" transfers (between laptops, mobile phones and FTP servers, via storage media such as USB keys).

4.2.1. Descriptive analysis¹

We initially evaluated copying practices whatever the technology used to support the exchange, to then specify music and video file-sharing practices over P2P networks. Finally, we present the reasons of the copiers, their level of ethical concern and their perception of the judicial and legal risks associated with their practices. More detailed data on copying practices are presented in the appendix.

- **The proportion of copiers in the French Internet-user population**

- Music:

With respect to music, **88.7% of French Internet users** declare that they copy digitised music files. This is therefore an extremely widespread social practice.

Half of these Internet-using copiers regularly obtain music over the Internet. This shows that the use of P2P networks has to some degree become commonplace. However, it should be noted that the Internet is far from being the only supply source for copied music:

- around 44% of copiers regularly obtain music from their family;
- 56% from their friends;
- and 27% from their work colleagues.

Among French Internet users again: 23% declare that they regularly upload copied music to the Internet, but 41% offer it to their friends (36% to their family and 20% to their work colleagues).

These results are in accordance with the idea that **people exchange above all with their friends**. This is obviously linked to the fact that cultural and leisure practices above all occur within the network of friends. The Internet plays an essential role in these exchanges. The econometric analysis (*see next section*) thus shows that, when music is obtained over the Internet, motivated by the search for a diversity of content, this principally "feeds" exchanges between friends.

- Films:

Around **66% of French Internet users** own copies of films obtained through offline sharing (from peers) and online sharing (over P2P networks). Therefore, the same results as for music can be appreciably observed, notably with a predominance of exchanges between friends and over the Internet.

Finally, the survey conducted in the street (for which the results are the least biased from a statistical point of view) shows that among the individuals declaring themselves to be Internet users, **70% state that they own copies of music or films**. This result lies at an intermediary level with respect to the results obtained via the Internet and via the paper questionnaire (see appendix). It therefore corroborates them.

¹ For each type of results we present a descriptive analysis followed by an econometric analysis.

- **The profile of music copiers²**

It is customary in the media to put forward stereotyped profiles of copiers based on intuitive reasoning according to different variables – in particular age, income level, level of purchase of cultural goods and certain psychological factors due to collector behaviour. The following table compares these representations with our data.

Variable	Hypotheses on the profile of copiers	Comparison with our statistical results																																														
Age	<p>The younger an individual is, the more likely he is to copy. This discloses a certain irresponsibility among the youngest individuals according to some sources. For others, the youngest individuals (<25 years old) have better IT skills or a smaller budget than the older ones. Therefore, they are strongly represented among copiers and their propensity to copy is higher.</p> <p>Note: The young copier (under 25) who does not buy CDs or DVDs does not necessarily adhere to a strict purchasing/copying substitution principle, but may be subject to a budgetary restraint that associates a low income level with a financial assessment in favour of copying to maintain a certain purchasing power.</p>	<p>The age categories of music copiers (all techniques included) are distributed as follows:</p> <table border="1"> <thead> <tr> <th>< 25 yrs</th> <th>25-30</th> <th>31-40</th> <th>41-50</th> <th>> 50 yrs</th> </tr> </thead> <tbody> <tr> <td>39.0%</td> <td>25.7%</td> <td>21.2%</td> <td>8.2%</td> <td>6.0%</td> </tr> </tbody> </table> <p>Considered in isolation, age is therefore an explanatory factor in copying behaviour. But we must note that young people under 25 do not make up the majority of copiers.</p> <p>On the other hand, music copiers regularly using P2P are also represented in the 25 to 40 age range with a small overrepresentation of under 25s.</p> <table border="1"> <thead> <tr> <th>P2P downloading</th> <th>< 25 yrs</th> <th>25 - 30 yrs</th> <th>31 - 40 yrs</th> <th>41-50 yrs</th> <th>> 50 yrs</th> <th>line total</th> </tr> </thead> <tbody> <tr> <td>none/little</td> <td>18.9%</td> <td>17.9%</td> <td>24.8%</td> <td>16.5%</td> <td>22.0%</td> <td>100%</td> </tr> <tr> <td>regular</td> <td>29.8%</td> <td>23.1%</td> <td>23.2%</td> <td>13.2%</td> <td>10.7%</td> <td>100%</td> </tr> </tbody> </table> <p>It is interesting to note that the proportion of big copiers who declare that they disagree with the idea that copying is reprehensible in itself is appreciably the same, whatever the age range.</p>	< 25 yrs	25-30	31-40	41-50	> 50 yrs	39.0%	25.7%	21.2%	8.2%	6.0%	P2P downloading	< 25 yrs	25 - 30 yrs	31 - 40 yrs	41-50 yrs	> 50 yrs	line total	none/little	18.9%	17.9%	24.8%	16.5%	22.0%	100%	regular	29.8%	23.1%	23.2%	13.2%	10.7%	100%															
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Income	<p>Several hypotheses can be envisaged:</p> <p>(1) Some categories of copiers with the most modest income levels access cultural goods through copying. This type of behaviour only has a small impact on the originals market.</p> <p>(2) The corollary is true: the most comfortably-off individuals tend rather to purchase cultural goods.</p>	<p>The copiers with the lowest incomes represent a minority share of the big copiers. But the same is true for the small copiers. Income is therefore not a distinguishing variable in explaining the copying level of individuals with low incomes. Other factors must be tested at the same time, such as the level of CD and DVD purchases. Thus, by intersecting with age, 40% of young individuals (< 25 years old) and regular copiers (more than 100 music files copied) have an income lower than €1000.</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="4">Monthly income</th> <th rowspan="2">line total</th> <th rowspan="2">Distribution</th> </tr> <tr> <th>< €1000</th> <th>[€1000, 1500]</th> <th>[€1501, 2500]</th> <th>> €2500</th> </tr> </thead> <tbody> <tr> <td>1 to 10 music files</td> <td>7.9%</td> <td>16.9%</td> <td>32.5%</td> <td>42.7%</td> <td>100%</td> <td>30.9%</td> </tr> <tr> <td>11 to 100 music files</td> <td>12.6%</td> <td>17.2%</td> <td>28.9%</td> <td>41.3%</td> <td>100%</td> <td>29.0%</td> </tr> <tr> <td>101 to 500 music files</td> <td>14.7%</td> <td>14.7%</td> <td>29%</td> <td>41.6%</td> <td>100%</td> <td>14.5%</td> </tr> <tr> <td>> 500 music files</td> <td>14.9%</td> <td>19.8%</td> <td>30.9%</td> <td>34.4%</td> <td>100%</td> <td>25.5%</td> </tr> <tr> <td colspan="5"></td> <td>column total</td> <td>100%</td> </tr> </tbody> </table>		Monthly income				line total	Distribution	< €1000	[€1000, 1500]	[€1501, 2500]	> €2500	1 to 10 music files	7.9%	16.9%	32.5%	42.7%	100%	30.9%	11 to 100 music files	12.6%	17.2%	28.9%	41.3%	100%	29.0%	101 to 500 music files	14.7%	14.7%	29%	41.6%	100%	14.5%	> 500 music files	14.9%	19.8%	30.9%	34.4%	100%	25.5%						column total	100%
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² Film copying was also the subject of a specific descriptive analysis from the point of view of the profiles of individuals: the conclusions are appreciably the same as for music copying.

	<p>(3) Finally, a different principle prevails for individuals with higher incomes who, in spite of everything, copy to economise on the purchase of originals.</p> <p>► <i>It is precisely this last category which causes a problem: behaviour responding to a substitutive principle could legitimately explain some of the current difficulties of the record market and, in a more general way, a loss of profit in the produced cultural goods markets.</i></p>	<p>Regular copiers with a high income (>€2500) do not represent a significant profile: less than 9% of music copiers, but 34% of regular copiers (>500 files).</p> <p>► However, no conclusion can be drawn at this stage about the economic consequences of copying. To do this, it would first be necessary to determine whether the behaviour of this category of copiers is accompanied by a low level of CD and DVD purchases (substitutive principle) or a high level of purchases (cumulative and habitual principle in terms of cultural practices).</p> <p>In the first analysis, only some of them respond to a pure substitution principle: a third state that they spend less than €20 per month on CDs and DVDs.</p> <p>As regards more specifically copiers with incomes deemed "comfortable" and who regularly download music on P2P networks, they represent 23% of regular P2P copiers as opposed to 32% for income levels deemed "insufficient".</p> <table border="1" data-bbox="821 660 1508 761"> <thead> <tr> <th>P2P downloading</th> <th>Insufficient income</th> <th>Normal income</th> <th>Comfortable income</th> <th>total</th> </tr> </thead> <tbody> <tr> <td>none/little</td> <td>28.6%</td> <td>47.5%</td> <td>23.9%</td> <td>100%</td> </tr> <tr> <td>regular</td> <td>32.0%</td> <td>44.8%</td> <td>23.3%</td> <td>100%</td> </tr> </tbody> </table> <p>But, to reiterate, it is difficult to draw any other conclusions on the basis of these figures. Therefore, if we intersect them with the level of CD and DVD purchasing, it appears that P2P copiers with high incomes but low levels of CD and DVD purchases represent less than 20% of regular copiers on P2P networks as opposed to 34% for those with low income and low CD and DVD purchases.</p>	P2P downloading	Insufficient income	Normal income	Comfortable income	total	none/little	28.6%	47.5%	23.9%	100%	regular	32.0%	44.8%	23.3%	100%
P2P downloading	Insufficient income	Normal income	Comfortable income	total													
none/little	28.6%	47.5%	23.9%	100%													
regular	32.0%	44.8%	23.3%	100%													
<p>Cultural spending</p>	<p>Two hypotheses can be envisaged:</p> <p>(1) In the case of high spending, copying has no negative effects on the copied content market but further corresponds to a strategy of discovery in the face of "experience goods" (goods whose value is only discovered upon use).</p> <p>(2) On the other hand, a low level of cultural spending may correspond to two situations: either an above-average income level – copying would then have a negative effect in the short term on the produced cultural goods market since the youngest age ranges (under 35 years old) represent a very large proportion of consumers of original CDs and DVDs; or a lower-than-average income level – the short-term effect of copying on record sales would then be minimal, since these individuals do not buy originals: there is no substitutive principle for lack of solvability.</p>	<p>Of the big purchasers of CDs and DVDs (>€100), almost half (46%) are regular copiers (>500 files copied).</p> <p>► <i>The behaviour of the copier-discoverer therefore corresponds to a certain reality.</i></p> <p>"Regular" copiers (>500 files) with a low level of cultural spending (<€40) and an income higher than €2500 only represent 4% of copiers and 15% of the total of regular copiers.</p> <p>If we consider the individuals whose incomes are higher than €1500 and whose monthly cultural spending is less than €40, we obtain 7.3% of the total copiers and 29% of the total of regular copiers.</p> <p>► <i>The behaviour of the copier-"substituter" is therefore less significant than the behaviour of the copier-discoverer. Even so, no conclusion can be drawn about their motivations: search for a diversity deemed insufficient in the commercial networks or pure "something-for-nothing" principle?</i></p>															
<p>Psychological factors</p>	<p>For some individuals copying gives them the opportunity to "express themselves". Large-scale copying is an opportunity to test the performance of their hardware, compare their collections with those of their peers, etc.</p> <p>However, the economic effect of this type of behaviour is minimal since, in the absence of technical copying opportunities, this behaviour would be focused on other subjects and, in any case, the collector would not purchase as much content.</p>	<p>"Compulsive copiers" represent 7.2% of music copiers (over 5000 music files in their collection) and less than 4% of film copiers (more than 500 films in their video library).</p> <p>Note: 44% of "compulsive" music copiers (50% of film copiers) state that they buy CDs and DVDs worth more than 40 euros per month.</p>															

Overall, this **descriptive** analysis reveals that the substitution principle is not a dominant feature of copying behaviour – all the more so since it would be advisable to examine all the motivations of regular copiers. Descriptive statistics are not a sufficient tool for taking into account all the explanatory phenomena. Econometrics therefore proves to be an indispensable tool.

- **Content sharing over the Internet: what specificities?**

For music and films, approximately half of Internet users declaring themselves to be copiers regularly use P2P to obtain content.

(% after adjustment)	never	rarely	sometimes	often	Line total
on peer-to-peer networks	31.18	19.62	25.51	23.70	100
from family	25.53	30.08	30.61	13.78	100
from friends	17.78	26.04	34.89	21.28	100
from work colleagues	50.51	22.80	19.57	7.12	100

By intersecting offline and online sharing behaviour we also observed that, in this population as a whole, less than 6% of copiers are pure "free riders", that is individuals who often download but never upload content. A majority of individuals have adopted a gift/counter-gift behaviour (egalitarian exchange). There is therefore a peer-to-peer circulation mechanism which goes far beyond the Internet network alone and expands into social networks (outside the Internet). It is an interesting proof that P2P practices are grafted onto pre-existing social practices. This has major effects in terms of the policy to implement to deal with these practices (cf. next section).

Between 2% and 4% of music copiers only obtain content on P2P networks and therefore do not obtain content from their social acquaintances. For films, this margin extends to between 3% and 5% of copiers. Only 3% of copiers who claim to regularly obtain content on P2P networks do not obtain content from their friends. The proportion is greater with respect to family (6%) and work colleagues (10%).

When we intersect these data with age, it appears that the younger an individual is, the more he copies on P2P networks.

Do you obtain music over the Internet? (% in relation to the sample total)		
	never/rarely	regularly
Under 18	1.5%	3.5%
19-24	7.7%	11.7%
25-30	8.7%	11.8%
30-40	12.1%	11.9%
40-50	8.1%	6.8%
over 50	10.7%	5.4%

This observation has not been verified with respect to copying practices for all techniques which are therefore far more widespread across the population:

Do you own copied music files?		
	non-copiers	copiers
Under 18	0.3%	4.5%
19-24	0.8%	17.1%
25-30	1.0%	18.1%
30-40	2.0%	21.2%
40-50	2.4%	13.1%
over 50	5.2%	14.6%

- **What reasons for non-copying and copying?**

The data have been adjusted to be representative of the French Internet-user population.

- **The reasons why an individual is not a copier:**

Among the most frequently stated reasons for the non-copying of music, over 50% of individuals state that **copies are of worse quality than originals** and that **it takes too much time**. On the other hand, the legal risk is one of the reasons given least often.

%	Disagree	Agree somewhat	Agree	Completely agree
I am not interested in music	76.12	11.25	7.19	5.44
I prefer to own only originals because there is a legal risk	64.01	16.63	8.93	10.43
Copies are of worse quality than originals	44.68	23.31	15.81	16.20
It takes too much time	44.25	22.69	19.30	13.76
It is too complicated	55.08	15.94	12.08	16.91

For the non-copying of films, the most frequently given reasons are the difficulty in obtaining them and the quality of the download. Here again, the legal risk does not appear to be significant (56% of non-copyers reject this reason).

%	Disagree	Agree somewhat	Agree	Completely agree
I am not interested in cinema	82.02	7.94	4.27	5.77
I prefer to own only originals because there is a legal risk	56.23	19.48	14.59	9.69
It takes too much time	37.39	22.40	18.21	21.99
It is too complicated	51.06	19.46	14.53	14.95
Copies are of worse quality than originals	34.10	31.10	14.73	20.06

- **The reasons why an individual copies:**

Among the reasons mentioned for copying are the **price of originals**, deemed too high, the **discovery of new artists** and the **usage possibilities**.

%	Disagree	Agree somewhat	Agree	Completely agree
there is not enough diversity in the shops or on the paid downloads websites	46.22	19.32	13.77	20.70
it enables me to purchase other cultural goods (DVDs, video games.)	35.72	25.66	21.12	17.50
it is possible to make compilations	13.90	18.07	26.36	41.68
the price of originals is too high	3.78	9.43	14.28	72.51
it is possible to obtain an immediate copy (without going anywhere)	17.38	21.30	22.55	38.79
copying enables me to discover new artists	10.19	11.55	21.55	56.71
it is possible to play the files immediately on an MP3 player	19.03	20.64	20.36	39.98
I can obtain an individual tune rather than an album	11.09	12.87	18.68	57.37
it's free	10.01	19.48	22.35	48.17

As regards the reasons for copying films, they are appreciably the same as for music (price of originals, other possible uses, discovery of new artists).

%	Disagree	Agree somewhat	Agree	Completely agree
there is not enough diversity in the shops or on the paid downloads websites	55.02	18.34	10.54	16.11
it enables me to purchase other cultural goods (DVDs, video games.)	34.06	26.97	18.66	20.32
It is possible to build a collection	65.19	13.95	9.35	11.51
the price of originals is too high	7.15	10.03	17.20	65.62
it is possible to obtain an immediate copy (without going anywhere)	24.18	21.90	20.80	33.11
copying enables me to discover new artists	22.14	20.07	21.03	36.76
it is possible to watch the films immediately on a computer or portable reader	14.09	15.83	22.39	47.70
it's free	8.41	18.47	19.17	53.95

The ethical conscience of copiers

It appears that copiers believe that their practices have more prejudicial effects on the monetary interests of the authors and artists than on those of the cultural industries. The same is true in respect of the moral interests of the authors and artists. The copiers are therefore well aware that they are not harming the works themselves, but that they are contributing to their circulation.

	Disagree	Agree somewhat	Agree	Completely agree
Threat to the audiovisual or record market	67.2%	21.2%	6.9%	4.6%
Threat to artists' income	46.2%	34.6%	13.0%	6.2%
Lack of respect for the work of the authors and artists	56.1%	24.6%	12.0%	7.3%
Reprehensible in a general way	70.7%	19.7%	6.5%	3.1%

Compensation paid to authors and artists could therefore be legitimate in this context. A royalty or any other form of compensation may be a solution that would reconcile their expectations: remunerating the artists while still allowing the circulation of their works. Even so, if it is legitimate, nothing can be said at this stage about its economic consequences.

Furthermore, no conclusion can be drawn about the effect of this level of ethical conscience on copying itself. To measure it we used a specific test (see 4.2.2) which shows the importance of this factor: the more individuals are "concerned", the less they copy. These results could also legitimise prevention policies as opposed to suppressive policies, notably by calling upon the authors and artists themselves (role of prescribers). However, it turns out that the authors and artists are not entirely unanimous about the policy that should be implemented to deal with copying, particularly over P2P networks.

- **The perception of the legal risk by individuals:**

The perception of the legal risk is appreciably the same with P2P copiers and non-copiers.

	Perception of a legal risk				
	Zero	Low	Average	Strong	TOTAL
P2P non-copiers	9.7%	36.2%	35.8%	18.3%	100%
P2P regular copiers	9.7%	31.4%	37.7%	21.1%	100%
TOTAL	9.7%	33.8%	36.8%	19.8%	100%

If we intersect the perception of legal risk variable with age, it appears that the younger the individuals are (whether they are copiers or not), the more they perceive a high level of risk.

	< 18 yrs old	19-24 yrs old	25-30 yrs old	31-40 yrs old	41-50	> 50 yrs old
zero	8.1%	8.7%	6.5%	9.3%	12.8%	16.3%
low	34.6%	28.0%	34.2%	35.9%	33.6%	38.0%
average	29.4%	39.0%	36.7%	38.4%	35.6%	30.0%
strong	27.9%	24.3%	22.5%	16.4%	18.0%	15.7%
TOTAL	100%	100%	100%	100%	100%	100%

Despite this awareness of the legal risk (almost 60% of copiers perceive a legal risk), we demonstrate in the following section (4.2.2) that copying activity is in no way affected by this variable. The policy of suppression therefore does not seem to be an effective solution, even in the event that copying practices truly were the main or sole cause of the difficulties of the cultural industries.

4.2.2. Econometric analysis:

How to explain copying behaviour (probability and intensity)?

The different results set out earlier are merely descriptive (serial sort and crossed variables). To be able to further characterise copying behaviour, it is advisable to relate them to socio-demographic characteristics and copying behaviour. This is the purpose of the following section.

The following tables present the results of the different econometric tests carried out to explain music copying, then film copying, namely:

- the **probability of being a copier** (COP model)
- the **copying intensity**, all techniques included (INTCOP model)
- and the **copying intensity on P2P networks** (INTCOP P2P model).

- **The variables tested**

The following table presents the variables used in our tests. They are not all subject to tests: for example, we do not use the "access to cultural diversity" variable to test the probability of being a copier or non-copier, since the questions relating to diversity of supply were only put to individuals declaring themselves to be copiers.

Name	Description
Socio-demographic variables: - gender - age - size of household - level of education - PSC - income	- number of individuals in the household - professions and socio-professional categories
Consent to pay for originals	The disposition to pay (DTP) for an original copy when the individual can obtain a digital copy of it
Social circle	The proportion of copiers in the individual's social network
Location	The urban density of the individual's place of residence
Variables of perception of copying practice and its effects: - Ethical concern - Perception of the legal risks - Perception of the IT risks - Access to cultural diversity	
- Level of CD and DVD purchases	
- Internet skills	- Duration of use and amount of daily use
Copying behaviour - Copying experience - Software copying - Video game copying	- For how many years has the individual been copying?

- **Music copying**

The following table can be read in a relatively simple way. It evaluates the effects of the different factors studied on copying behaviour (favourable/non-favourable/neutral) across the three types of test (COP, INTCOP and INTCOP P2P). The significance level for each of these explanatory factors is placed in order of priority by the number of asterisks (*: fairly insignificant, **: significant, ***: highly significant).

Thus, appearing in the first results box are the factors having a significant and positive effect on the probability of being a copier: social circle, software copying, and CD and DVD purchasing. For example, the individual's social circle (the number of copiers in his social network) increases the probability of being a copier in a highly significant way.

Effect on MUSIC copying behaviour	Determinants		
	probability of being a copier COP model variable: q12	copying intensity INTCOP model variable: q15	P2P copying intensity INTCOP P2P model variable: q18r1
Favourable	- Social circle*** - Software copying*** - CD and DVD purchasing**	- Social circle*** - Access to cultural diversity*** - Copying experience*** - Gender: male*** - Size of household** - Software copying**	- Social circle*** - Access to cultural diversity*** - Internet skills*** - Software copying*** - Gender: male**
Non-favourable	- Disposition to pay for originals (if copies available)*** - Ethical concern*** - Age (> 50)** - Location (urban density)*	- Disposition to pay for originals (if copies available)*** - Age*** - Ethical concern*	- Disposition to pay for originals (if copies available)*** - Ethical concern*** - Level of education (high)*** - Age**
Neutral	- Internet skills - Level of education - Perception of the legal and IT risks - Gender - Age (<50) - PSC - Income - Size of household	- CD and DVD purchasing - Perception of the legal and IT risks - Internet skills - Location (urban density) - PSC - Income - Level of education	- CD and DVD purchasing - Perception of the legal and IT risks - Location (urban density) - Copying experience - PSC - Income - Level of education (low) - Size of household

Remarks:

- Copying behaviour is first and foremost a behaviour of imitation of other people: the larger the number of copiers surrounding an individual, the more the probability of him being a copier increases and the more intense his copying activity. In this sense there is a phenomenon of self-reinforcement of behaviours.

- The fact of buying CDs and DVDs increases the probability of being a copier. In other words, the individual copies because he is already interested in music and in the CD as a vector of access. On the other hand, copying intensity for all techniques or on P2P networks is independent of the level of CD and DVD purchases. Discovering music and films, testing them out and exchanging them with peers is not dependent on the level of CD and DVD purchasing.

- An important and constant result: copying intensity (off- and online) increases with the desire to access a greater diversity of titles and to discover new artists.

- The more the individual is prepared to pay for originals when he can obtain copies of them, the less he will be tempted by copying and the less intense his copying activity will be. This result enables us not only to check the reliability of the responses obtained, but also to show that the individuals are rational. On this subject, a complementary test was carried out to evaluate the determinants of this disposition to pay (see 4.4.2).

- Ethical concern (in particular, the idea that copying does not respect the work of the artists and may threaten their income) reduces the propensity to copy. On the other hand, this is in no way affected by the perception of the legal or technical risk associated with this practice, both offline and online over P2P networks.

- Apart from age and gender (male), the socio-demographic variables (profession, income, level of education and place of residence) do not, or scarcely, explain copying behaviour. We can, however, accept age which, beyond 60 years old, strongly influences the fact of not copying. Nevertheless, the other age ranges have no significant influence. Here there is a numerical split in usage due to difficulty in becoming accustomed to IT tools. Therefore, with the exception of the highest age ranges, copying involves all strata of the French population. However, this result will need to be the subject of a deeper analysis, since the distribution of ages in our sample poses a problem for the youngest age ranges: 2.4% of under 18s for the online survey and 12% for the paper questionnaire.

- **Film copying**

The following table can be read in the same way as the previous one about music copying. In particular, the significance level for each of the explanatory factors is placed in order of priority by the number of asterisks (*: fairly insignificant, **: significant, ***: highly significant).

Effect on FILM copying behaviour	Determinants		
	probability of being a copier COP model variable: q25	copying intensity INTCOP model variable: q28	P2P copying intensity INTCOP P2P model variable: q30r1
Favourable	- Social circle*** - Software and video game copying* - Gender: male** - having a fast connection and spending time on the Internet* - level of equipment*	- Social circle*** - Access to cultural diversity*** - Copying experience*** - Gender: male** - Software copying*	- Social circle*** - Access to cultural diversity*** - Copying experience*** - Internet skills*** - Gender: male**
Non-favourable	- Consent to pay for originals*** - Ethical concern*** - Age (> 40)*** - Perception of the technical risks*	- Consent to pay for originals*** - Ethical concern** - CD and DVD purchasing (low level)** - Perception of the technical risks** - Level of education (Masters)** - Age (> 50 ans)**	- Consent to pay for originals*** - Ethical concern*** - CD and DVD purchasing (low level)** - Age (> 40)** - Perception of the technical risks* - Level of education (Masters)*
Neutral	- Perception of the legal risks - CD and DVD purchasing (high level) - Internet skills - PSC / Income / Level of education / Size of household / Location (urban density)	- Perception of the legal risks - CD and DVD purchasing (high level) - Internet skills - PSC / Income / Level of education (Masters) / Size of household / Location (urban density)	- Perception of the legal risks - CD and DVD purchasing (high level) - Software and video game copying - Location (urban density) / PSC / Income / Level of education (Masters) / Size of household

Remarks:

- The explanatory variables are appreciably the same as for music copying.

In particular, the copying intensity positively correlates to the need to discover new artists. As regards more specifically downloading on P2P networks, the intensity of obtaining music or films is directly linked to a demand for diversity and for discovering new artists. Therefore, the copier who uses the Internet as a means of obtaining content is seeking to compensate for a lack of diversity in the supply. The Internet and P2P therefore, above all, offer a service of diversity. Moreover, a complementary econometric test (not shown here) demonstrates that, if individuals use the web to search for a diversity of filmic works, it is to provide the circle of family and friends with new content.

- The remarks on the consent to pay for originals are the same as those formulated with regard to music copying

- However, two differences emerge in comparison to music copying:

(1) A low level of CD and DVD purchasing has a negative effect on film copying intensity, whether this is done over the Internet or not. Lack of interest in cinema carries over, whatever the method of obtaining films – by purchasing or by copying. On the other hand, the level of CD and DVD purchasing does not influence the probability of being a copier.

(2) The perception of the technical risk negatively affects the propensity to copy films, but this relationship is fairly insignificant (a single asterisk). Nevertheless, this confirms the idea that downloading films often holds nasty surprises for the copier (pornographic films, etc.). It is also proof of the reliability of the responses obtained.

- **Cultural spending, level of copying and age**

The distribution of cultural spending according to age: it appears to be coherent with the profile of purchasers of cultural goods (those aged 20-30 are the biggest consumers of cultural goods to emerge from the data provided by Insee or the Ministry of Culture).

	under 18 yrs old	20 - 30 yrs old	30-40 yrs old	40-50 yrs old	over 50 yrs old	Total
less than 20 euros	6.9%	35.8%	20.1%	14.2%	23.1%	100%
20 to 60 euros	3.2%	37.6%	25.2%	16.0%	17.9%	100%
60 to 100 euros	4.1%	38.3%	25.7%	15.8%	16.2%	100%
more than 100 euros	3.0%	37.7%	25.7%	17.4%	16.2%	100%
Total	4.7%	36.9%	23.2%	15.3%	19.7%	100%

If we compare this table to the distribution of the level of music copying ("how many music files do you own?"), we observe that the biggest purchasers and the biggest copiers are situated in the same age ranges.

	under 18 yrs old	20 - 30 yrs old	30-40 yrs old	40-50 yrs old	over 50 yrs old	Total
None	2.1%	13.4%	24.8%	24.1%	35.5%	100%
1 to 10	2.6%	25.4%	26.4%	21.0%	24.6%	100%
Between 10 and 100	5.6%	39.1%	25.3%	14.4%	15.6%	100%
Between 100 and 500	6.8%	54.4%	22.8%	8.6%	7.4%	100%
More than 500	7.7%	65.8%	16.9%	7.4%	2.2%	100%
Total	5.0%	39.7%	24.0%	14.8%	16.5%	100%

- **Music copying on the Internet and CD and DVD purchasing:**

What impact does downloading music via P2P networks have on CD and DVD purchases?

First of all, let us intersect the level of original CD and DVD purchases with the fact of being a copier or not being a copier on P2P networks. We now observe an inversion, admittedly less uneven than in the case of copying in general, with the exception, however, of the big CD and DVD purchasers (more than 150 euros per month) who clearly have a greater tendency to download music over the Internet. According to this result, the majors seem to be targeting their legal attacks at their biggest customers.

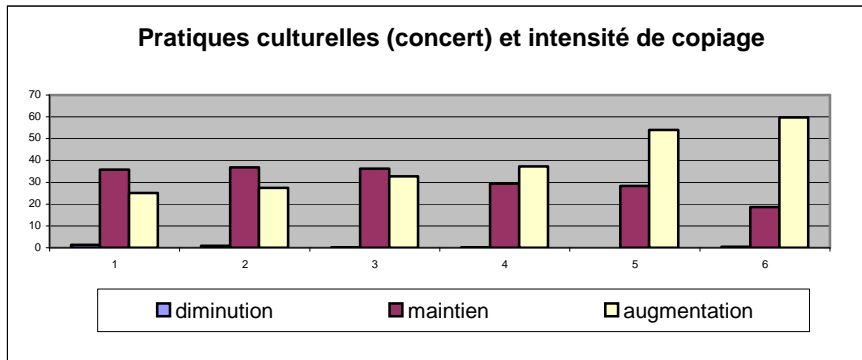
Level of CD and DVD purchases	Never/rarely	Regularly
Less than 20 Euros	51.2%	48.8%
Between 20 and 40 Euros	48.6%	51.4%
Between 41 and 150 Euros	46.8%	53.2%
Between 151 and 200 Euros	40.0%	60.0%
More than 200 Euros	32.0%	68.0%

With respect to downloading films, the conclusions are much less clear, as the following table shows. It seems that the big CD and DVD purchasers download less on P2P networks.

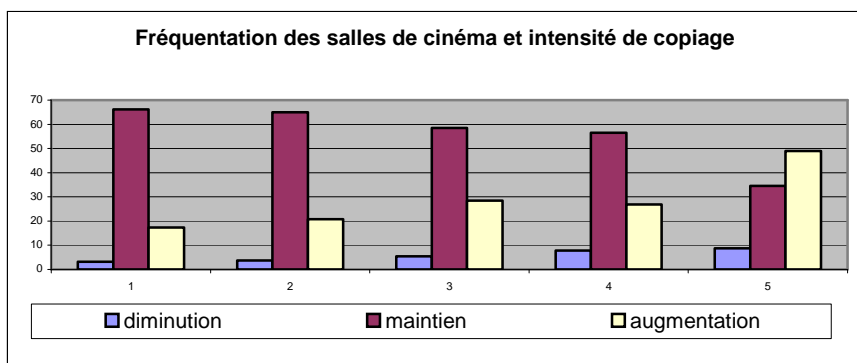
Level of CD and DVD purchases	Never/rarely	Regularly
Less than 20 Euros	47.2%	52.8%
Between 20 and 40 Euros	53.9%	46.1%
Between 41 and 150 Euros	48.6%	51.4%
Between 151 and 200 Euros	50.0%	50.0%
More than 200 Euros	61.9%	38.1%

- **The effects of copying on cultural practices (concerts and trips to the cinema)**

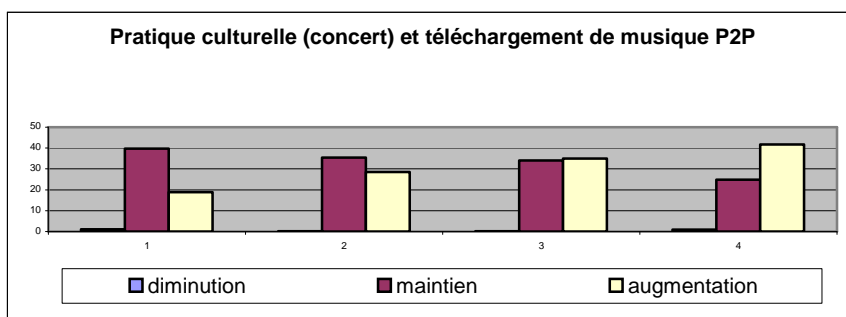
Whatever the copying intensity and whatever the technique (direct exchanges or P2P), the tendency to go to concerts/the cinema more prevails over the opposite behaviour. It also appears that a sizeable number of individuals maintain their practices at the same level, whatever their propensity to copy. The copying intensity varies from 1 (lowest level) to 6 (highest level) for copying via all techniques and from 1 to 4 for P2P downloading.



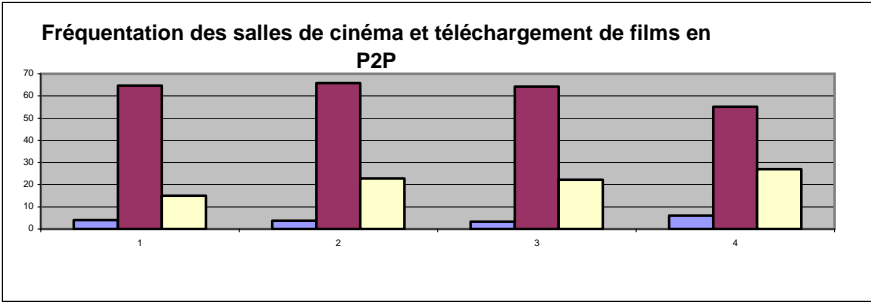
Cultural practices (concerts) and copying intensity
reduction maintenance increase



Cinema attendance and copying intensity
reduction maintenance increase



Cultural practice (concerts) and P2P music downloading
reduction maintenance increase



Cinema attendance and downloading films via P2P
 reduction maintenance increase

4.3.2. Econometric analysis:
Determinants of the level of cultural spending

The following table presents the results of an econometric test on the determinants of CD and DVD purchases by copiers. To do this we reused some of the variables which had already been tested, to explain the probability and intensity of copying (see 4.2.2).

Effects on CD and DVD purchases (variable: q52)	Determinants
Favourable	- Income *** - Location (urban density)*** - Copying intensity (music)*** - Copying intensity (films)* - Social circle*
Non-favourable	- Age (> 60 years old)* - Size of household*
Neutral	- Copying intensity on P2P networks - Lack of diversity in the shops - Ethical concern - Level of education - Social circle - Perception of the legal risks - PSC

Remarks:

The econometric analysis allows us to meticulously and simultaneously test the determinants of the level of CD and DVD purchases by copiers. It seems to show that cultural spending is positively linked:

- to **income level**: this concurs with a well-known result in the economy of culture, according to which the higher an individual's income, the more purchasing power he has to buy cultural goods.
- to **urban density**: the greater presence of specialised shops and "culture" spaces in non-specialised shopping centres seems to increase the level of CD and DVD purchases by copiers.
- and to the **copying intensity** whatever the method used: the more an individual shares copies, the higher his CD and DVD purchases.

This last result would seem to prove that copying, and the sharing of copies between individuals, can be complementary to the act of purchasing. The reasons may be to discover new artists or new music and films and to build a more complete and more diverse music collection than the copier's income and the supply from the commercial networks would allow. Hence, exchanges between peers appear preponderant following a principle of advice and exchange of experiences.

However, there are three important comments to add to these initial results:

- the copying intensity over P2P networks does not affect the level of CD and DVD purchases: the econometric test shows that there is no significant relationship. The two practices are independent, or once again may reflect a neutralisation of the substitution and complementarity principles between purchasing and copying.

- the copying intensity is a highly significant factor for music and fairly insignificant for films. This goes back to the idea that downloaded films are not as good quality as originals and engender bigger technical risks. Here we seem to have a behaviour of discovery that is rather limited in its effects on purchases.

- Only two factors negatively affect the level of CD and DVD purchases: being 60 years old and over (classic result in economy of culture) and believing that films are priced too high. This limited number of factors can be explained by the fact that the analysis concentrates on the copiers only. Thus a certain number of variables habitually used specifically to explain cultural spending (like preferences for one form of artistic expression or another) do not appear here.

For all that, as our investigations stand at present, it turns out that a complementary study will be necessary to test this model in more detail. In particular, a more detailed breakdown of cultural spending and more precise questions about musical or film genres will need to be incorporated. The length of the initial questionnaire did not really allow us to add further questionnaires.

4.4. The existence of a consent to pay for downloading

Is it possible to make individuals pay for their copying activities? In other words, has non-payment become standard practice or, on the contrary, do copiers attribute a value to their practice? If so, how much are they prepared to pay?

4.4.1. Descriptive analysis

- **The consent to pay**

To evaluate the value that individuals attribute to their copying practices, we used a questionnaire to evaluate respondents' disposition to pay (DTP), to find out how much they would be prepared to pay on top of their Internet subscription:

- (1) to freely download music online
- (2) to freely download films
- (3) to freely download music online and films.

The question was open, with no limit on the amount. The sample comprises the respondents to the online survey and the paper survey. These are the results of the *mean* dispositions to pay (DTP) in euros. We have compared them to the results of a survey carried out by the IPSOS Institute.

Table 1: Mean disposition to pay for cultural goods

MEAN	IPSOS (Adjusted: 1000 representative Internet users)
6.66	5.20 Euros
8.44	Unavailable
12.62	9.10 Euros

Table 2: Disposition to pay, non-adjusted and adjusted by type of survey

euros	Online survey (Non-adjusted)	Online survey (Adjusted spc+age)	Online survey (Adjusted spc+age + gender)	Paper survey (Non-adjusted)	Paper survey (Adjusted)	Surveys amalgamated (Non-adjusted)	Surveys amalgamated (Adjusted spc+age + gender)	MEAN
DTP music	6.37 (6.84)*	6.25 (.146)	5.92 (.166)	7.73 (7.08)	7.57 (0.39)	6.52 (6.87)	6.28 (.144)	6.66
DTP films	8.21 (9.30)	8.08 (.199)	7.65 (.227)	9.56 (10.26)	9.24 (0.51)	8.37 (9.44)	8.01 (.197)	8.44
DTP for music and films	12.32 (13.01)	12.22 (.282)	11.49 (.301)	13.91 (13.51)	13.72 (0.57)	12.61 (13.17)	12.121 (.259)	12.62

* standard deviations appear between brackets: the closer the standard deviation to the mean DTP, the more heterogeneous the sample from the point of view of this DTP.

It appears that the more our data are adjusted to be more representative of the Internet-user population, the more the dispositions to pay from our study tend towards the IPSOS data. The differences between our study and the results of the survey carried out by IPSOS are also explained by the fact that the IPSOS questions are not identical to ours: IPSOS does not give an indicative price for Internet subscriptions. Our questionnaire suggests an indicative price of 20 euros.

Assessment: in our online sample, out of 2596 respondents, 88.6% of individuals state that they own copies of music files (77.5% for films) and at the same time accept paying to load music online.

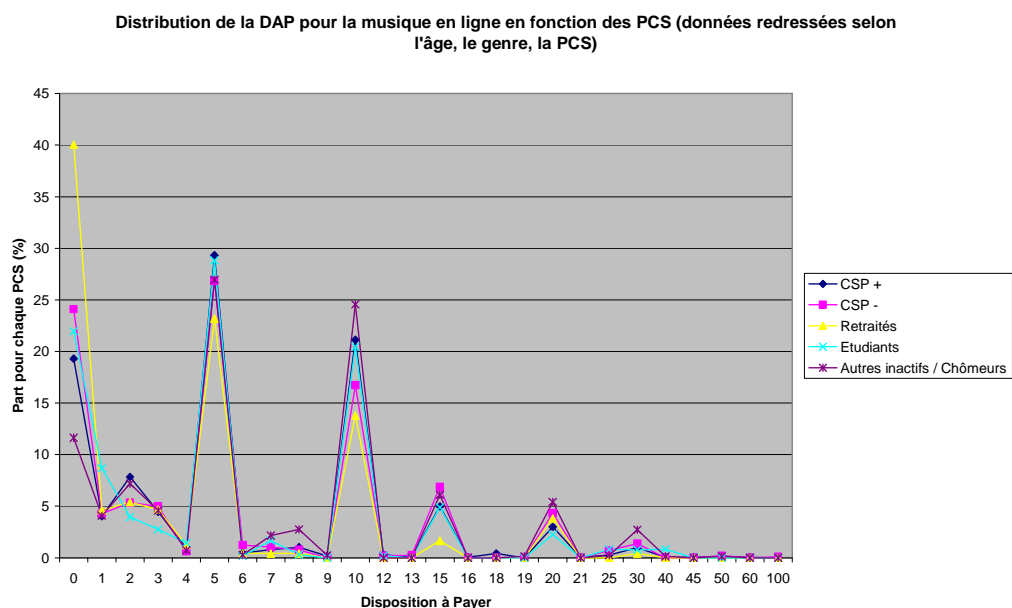
► **There is therefore a non-zero DTP for copiers.**

Another interesting result is that, on average, copiers have a higher DTP for music (6.57 euros) than non-copiers (4.71 euros). The same phenomenon is established for downloading films online: DTP of €8.58 for copiers as opposed to €7.31 for non-copiers.

- **Which socio-professional categories are prepared to pay the most?**

Each point on the graph below represents a percentage relative to each PSC. We see for example that 40% of retired people have a zero DTP for music. The graph shows that the most frequently declared non-zero DTPs are 5 and 10 euros, irrespective of the respondents' PSC. Therefore, there does not seem to be a significant income effect.

► **The entire population** seems to be capable of paying a non-zero amount for freely downloading music online.



DTP distribution for online music as a function of PSC (data adjusted according to age, gender and PSC)

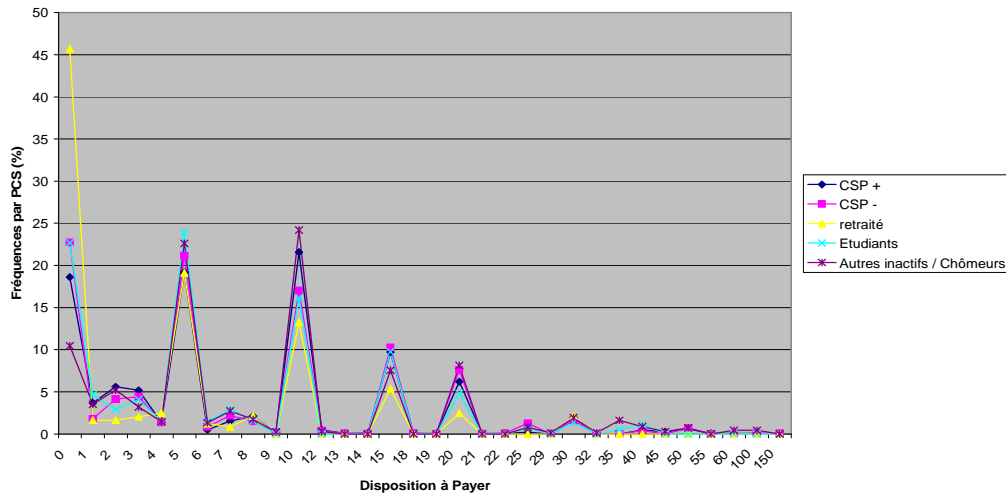
Share for each PSC (%)

Disposition to Pay

SPC/SPC/Retired/Students/Other non-working /Unemployed

We may draw identical conclusions relative to the disposition to pay for films (graph below). The DTPs for films and music are extremely close.

Distribution de la DAP pour la musique en ligne en fonction des PCS (données redressées selon l'âge, le genre, la PCS)



DTP distribution for online music as a function of PSC (data adjusted according to age, gender and SPC)
 Frequencies per PSC (%)
 Disposition to Pay
 SPC/SPC/Retired/Students/Other non-working /Unemployed

4.4.2. Econometric analysis: How to explain the DTP for downloading freely?

The DTP of respondents is not the same for all individuals and may vary according to their characteristics. To study these variations in DTP, we are using several econometric models. The following table shows our initial results.

Consent to pay for freely downloading music or films		
Effects on the consent to pay	Determinants	
	music	films
Favourable	<ul style="list-style-type: none"> - CD and DVD purchases*** - Ethical concern*** - Copying intensity*** - Social circle* 	<ul style="list-style-type: none"> - CD and DVD purchases** - Ethical concern*** - gender (male)* - Social circle* - Copying intensity*
Non-favourable	<ul style="list-style-type: none"> - Social categories (students, retired people)** - Age* - Perception of the legal risks* - Copying video games* - Copying experience* 	<ul style="list-style-type: none"> - PSC (students, retired people, SPC-)** - Age* - Perception of the legal risks* - Copying video games*
Neutral	<ul style="list-style-type: none"> - Perception of the technical risks - Copying software - Gender / Income / Level of education / Size of household / PSC (SPC-, SPC+) 	<ul style="list-style-type: none"> - Perception of the technical risks - Copying software - Income / Level of education / Size of household / PSC (SPC+)

Remarks:

These initial results show, on one hand, that socio-economic variables have little influence on DTP. This seems to prove that a viable market potentially exists and is not limited to a precise social category.

This result is reinforced by the fact that the level of CD and DVD purchases positively influences the consent to pay both for music and films.

These provisional results may merit complementary surveys, since they do not only seem to represent an additional proof that CD and DVD purchasers are interested in downloading over the Internet in P2P mode, but also an initial element of proof which seems to show that the CD is at the end of its life cycle.

Our results suggest that a study of access to cultural diversity is necessary. The success of copying behaviour cannot really be explained by a generalised "something-for-nothing" behaviour, and one which is limited to certain sections of the population deemed irresponsible. Copying has become normal practice, and involves a sizeable share of the population, but this use of reproduction and sharing technologies, now commonplace, cannot be held solely responsible for the difficulties of a cultural industry: the record industry.

In particular, our study shows that the reasons for the success of unauthorised sharing over P2P networks probably lie within the inability of commercial networks to offer a diversified supply of content and the almost complete absence of innovative distribution channels offering a complete supply in terms of musical and film heritage.

We therefore think that the factors blocking access to cultural diversity and innovation within the new modes of distribution need to be urgently explored and explained.

Data collection across three surveys

The methodology is based on surveys carried out among users of copying and sharing technologies and leads on to qualitative data processing.

In the first instance, a questionnaire was circulated among the "general public" across two complementary survey methods.

The first survey began in February 2005 with the launch of an online questionnaire on the website of UFC Que Choisir. In total, 3230 respondents participated in the survey. The responses were collected in the form of an automatically generated database via a website specialising in online survey data collection (<http://automate.toluna.com/>).

The second survey consisted in circulating a printed questionnaire among the UFC Que Choisir network of local associations. 784 questionnaires were completed. The responses were scanned using Sphinx software, then integrated into a database.

In addition to the traditional biases intrinsic in any survey (non-response bias, missing data, etc.), we have had to take into account errors related to inserting a questionnaire via the Internet. For, unlike telephone surveys which can ensure (to the best degree possible) that each member of the population studied has a non-zero probability of being contacted, Internet surveys make it difficult to solicit the entire population of French Internet users, even by sending a massive number of emails. We therefore face a bias known as non-coverage bias of the population. Hence, we need to be conscious of the fact that the respondents to the survey have a specific interest in the subject of the survey, an interest which impels them to visit the website of UFC Que Choisir.

Finally, we should note that the paper questionnaire and the online questionnaire are self-administered – that is, the respondents are in principle not assisted by a third party when they are responding to the survey. It may be, therefore, that certain questions were misunderstood.

We are interested in the French Internet-user population (those who have accessed the Internet in the last three months, whatever the location – at home, at work, in a cybercafé, at a Public Internet Access Point, etc.). According to the latest estimates from Médiamétrie, this population has risen to 25,230,000. The non-response and non-coverage biases may be strongly reduced when a strict survey outline is put in place. However, this is highly costly both in terms of time and money. Only an institution like INSEE can ensure this level of quality. Being unable in this case to be as strict as INSEE from a methodological point of view, we must warn readers of bias risks in our results, while reminding them that these errors are natural and regular in most surveys.

Nevertheless, we wanted to reduce our estimation errors as much as possible by using a robust technique to adjust the sample (known as post-stratification and often used by INSEE) via the "calibration" procedure (CALMAR method, INSEE; Tillé, 2001, pp.189-209). Adjustment allows the profile of the sample of Internet users responding to the survey to be brought in line with the population of French Internet users. To do this we used public data provided by Médiamétrie: the distribution of the age, PSC and sex of French Internet users (figures updated on 05/04/2005 relating to an estimate for the fourth quarter of 2004).

The table below indicates the percentages used to adjust the sample (population percentage) relative to the frequencies observed in our sample (sample percentage). The columns containing the margins give an estimate of the true population of Internet users both for our sample and for the total population of French Internet users.

Variable	Method or variable	Sample margin	Population margin	Sample percentage	Population percentage
Gender	Male	14189759	13371900	78.04	53.00
	Female	3992245	11858100	21.96	47.00
Age	Under 25	4105411	6055200	22.58	24.00
	25-50	10486716	14381100	57.68	57.00
	Over 50	3589877	4793700	19.74	19.00
PSC	SPC +	6437888	8578200	35.41	34.00
	SPC -	5010739	6307500	27.56	25.00
	Retired	1395714	1513800	7.68	6.00
	Students	2068423	5046000	11.38	20.00
	Other non-working	3269240	3784500	17.98	15.00

To improve our estimates, we also carried out a third survey in the street rather than by telephone. Since the sharing of copies is considered an illicit practice (or at least perceived as such by the potential respondent), the risk was to be confronted with an excessively high declarative bias, which would have rendered the results unusable. The street survey was conducted in April 2005 by the ADIS Research Centre, which questioned 1000 people at random in public places: stations, busy locations and department stores.

Composition of the sample:

	Size	%
Online survey	3230	80.5%
Paper survey	784	19.5%
Total observations	4014	100%
Street survey	1000	-

Interpretation of the results: three statistical methods

Three econometric methods were used to explain the copying behaviour of our sample. The aim was to explain: (1) the probability of being a copier (the factors explaining that an individual is a copier); (2) the intensity of copying behaviour. In addition, we also analysed (3) the determinants of the consent to pay for a peer-to-peer service: how to explain the fact that an individual is disposed to pay a more or less high price to have the right to freely copy on P2P sharing networks?

The probability of adopting copying behaviour was explained via an econometric model called PROBIT. The factors explaining copying intensity were tested via a model called LOGIT. Finally, the explanation for the consent to pay is based on the use of models known as TOBITs. These tools are widely used in economic analysis and allow the weight (explanatory power) of a series of variables about the choice of individuals (for example, choice to copy or not, choice to make few or many copies, choice between a level of spending or a disposition to pay, etc.) to be evaluated.

Description of the sample

%	online survey	paper survey	mean after adjustment
GENDER			
Female	17.12	36.55	33.88
Male	82.88	63.45	66.12
AGE			
< 15	0.41	0.69	0.52
15-18	1.97	11.17	4.96
19-24	16.47	21.52	19.23
25-30	21.27	12.83	17.25
31-40	25.07	17.1	22.65
41-50	16.74	11.31	15.49
51-60	12.21	16	13.58
> 60	5.86	9.38	6.33
PSC			
SPC +	37.59	28.81	33.73
SPC -	29.55	21.4	25.16
Retired	6.75	10.49	6.87
Students	12.39	8.25	16.77
Other non-working	13.72	31.05	17.46
INCOME			
You find life difficult on your current income	29.37	30.01	29.96
You manage on your current income	44.86	43.34	44.01
You have a comfortable life on your current income	23.7	22.58	23.09

APPENDIX 2 : EVALUATION OF THE LEVEL OF COPYING OF MUSIC AND FILMS

Presented here are the data on copying practices and copy-sharing practices, understood in a broad sense, including offline digital copying (sharing of self-recorded CDs) and online digital copying (file sharing over the Internet).

- Music copying

The proportion of music copiers:

%	online survey	paper survey	mean after adjustment
Non-copiers	11.4	9.5	11.27
Copiers	88.6	90.5	88.73

Distribution of the sample as a function of the number of self-recorded CDs:

%	online survey	paper survey	mean after adjustment
No CDs	10.04	7.81	9.09
1 to 10	39.73	37.83	39.77
11 to 50	32.42	32.47	31.96
51 to 100	8.92	11.49	10.02
101 to 200	4.39	6.58	5.22
More than 200	4.48	3.83	3.95

Distribution of the sample as a function of the number of music files copied:

%	online survey	paper survey	mean after adjustment
No music files	13.54	8.69	11.61
Between 1 and 10	29.03	16.31	23.02
Between 11 and 100	23.12	29.73	26.66
Between 101 and 500	10.16	19.51	14.21
Between 501 and 1000	14.91	12.2	13.18
More than 1000	9.23	13.57	11.34

Use of peer-to-peer networks for downloading music files (download frequency)

%	online survey	paper survey	mean after adjustment
Never	22.42	38.47	31.18
Rarely	25.66	13.2	19.62
Sometimes	28.9	22.73	25.51
Often	23.02	25.6	23.70

Use of peer-to-peer networks for uploading music files (frequency with which individuals upload copies)

%	online survey	paper survey	mean after adjustment
Never	53.58	61.56	57.98
Rarely	23.25	14.51	18.42
Sometimes	13.27	12.6	12.97
Often	9.89	11.32	10.64

- Film copying

The proportion of film copiers (self-recorded DVDs, DivX):

	%	online survey	paper survey	mean after adjustment
Non-copiers		28.46	36.78	34.34
Copiers		71.54	63.22	65.66

Distribution of the sample as a function of the number of FILMS copied:

	%	online survey	paper survey	mean after adjustment
no films		0.6	21.67	11.44
1 to 10		37.41	34.64	36.60
11 to 50		31.02	27.13	29.04
51 to 100		11.33	7.17	8.62
101 to 500		15.48	7.68	11.34
More than 500		4.16	1.71	2.97

Use of peer-to-peer networks for downloading films (download frequency)

	%	online survey	paper survey	mean after adjustment
Never		24.08	45.17	35.27
Rarely		22.53	15.64	18.42
Sometimes		23.96	19.5	21.39
Often		29.43	19.69	24.92

Use of peer-to-peer networks for uploading films (frequency with which individuals upload copies)

	%	online survey	paper survey	mean after adjustment
Never		55.07	70.97	62.96
Rarely		18.79	11.29	15.23
Sometimes		13.94	8.06	10.85
Often		12.2	9.68	10.97

- Duration of copying practices

Duration of music copying behaviour:

%	online survey	paper survey	mean after adjustment
Less than 1 year	12.11	13.47	13.61
Between 1 and 2 years	17.27	15.58	17.12
Between 2 and 3 years	25.01	40.1	31.32
Between 4 and 10 years	41.19	27.44	34.18
More than 10 years	4.42	3.41	3.77

Duration of film copying behaviour:

%	online survey	paper survey	mean after adjustment
Less than 1 year	21.04	30.41	26.60
Between 1 and 2 years	27.46	30.63	28.70
Between 2 and 3 years	22.06	20.72	20.51
Between 4 and 10 years	19.12	10.81	15.19
More than 10 years	9.29	5.18	7.24