EKONOMI
HÖGSKOLAN
Lunds universitet

Nationalekonomiska institutionen

C-uppsats
NEK
May 2005

The Economics of Copyright

– Protecting Creative Activity against Music Piracy

Author:
Ryan Eriksson 811001-2617

Supervisor:
Håkan J. Holm

Abstract

The chronic problem of music piracy is inevitable with the utilisation of the internet. Music, being classified as information good, makes the consumer to "free-ride" and sub-optimal production of these goods is likely to happen. Copyright is an instrument in helping the continuity of creative activity. The essence of copyright law is also to protect the interests and rights of the writers, producers and artists and to impede the criminal behaviour of consumers.

Since the new Swedish copyright law will take into effect the summer of 2005, the economic implication and importance of this change is investigated. The aim of this work is to evaluate from an economic point of view the effect of the new copyright law mainly on how individuals will behave in terms of their consumption of legal and illegal music. Based on the applicable theories, the stricter copyright law will deter the individuals to behave illegally. The empirical result might not have fully shown that the individuals in this investigation are more deterred with the more stringent copyright law. But this might be because of both controllable and uncontrollable factors that are of great concern for the empirical result.

KEYWORDS: Music Piracy, Deterrence Hypothesis, Swedish Copyright Law, Consumer Behaviour, Willingness to pay

Table of Contents

1 Introduction

This chapter will introduce the basis of this investigative work explaining the problematic and economic nature of music and why music needs copyright protection. Along with this, the problem and aim of this investigative work is systematically formulated.

1.1 Background

Today's music business seems to be in critical condition. This can be seen in terms of the decreased sales and revenues collected in sound recordings the past decade. Significant statistical data supporting the massive lost of the music industry's sales on CDs is annually reported by the International Federation of Phonographic Industry (IFPI). Although there has been a slight positive result on album sales during 2004, the US music industry is just beginning to heal.[1] In Sweden, album sales declined by 17% during 2004 according to a report by Billboard.[2] What has caused this plunge of sales in the music industry? There might be a couple of reason for this. But there is one significant threat – Pirate copying[3]. The slow sales in music CDs have not been the case a few years ago when the exploitation of the internet wasn't extensive yet (statistically shown by Nielsen SoundScan)[4]. Technological changes have even drastically affected the format on music. The creation of MP3 and WAV formats recordable on MD's and CDR are a just a few of these.

The expansion of the Internet in the 90's paved its way to free music consumption through the usage of software programs such as KaZaa, DC++, LimeWire and other Peer to Peer (P-2-P) programs. This in term gave legislative bodies the incentive to act immediately to protect not only the survival of the music industry in completely diving into the abyss of non-existence but most importantly protect the interest and rights of the works of producers, writers and artists in their pursuit of creative activity.

---

[1] Smith, E. (2004) "Sales of music albums spin slightly faster"
[2] de Hart, J. (2005) *Swedish Biz slides in 2004*
[3] IFPI Digital Music Report 2005
[4] http://www.nielsen.com/nielsen_entertainment.html

1.2 Copyright

Intellectual property (IP) is the area of law and policy that determines the solution to the trade-off between fostering incentives to create new information and diffusing its benefits throughout society[5]. The two-edged sword characteristic of intellectual property law is inevitable because IP law gives the right to the producer of new information but at the same time also limits him or her to articulate the trade-off discussed above. A kind of IP protection is copyright which gives the producer possessing it some degree of control over the use of information. Unlike a patent, the aim of copyright is to protect the individual expression of an idea, not the idea itself[6].

The digital world of today has created both costs and benefits to the society at large. Due to the quick and trouble-free access of copyright protected works through the use of a network like the Internet, today's digital evolution gave the public ability to copy such works. This can give rise to certain issues and problems. That is why the EU Commission created a directive (2001/29/EG)[7] adopted May 22, 2001 to answer and solve the issue and problem on copyright laws.

In Sweden, there has been a comprehensive work to change the copyright law for literary and artistic works grounded from 1960[8]. The proposition from the Swedish Riksdagen has been finalized and this will be effective immediately the summer of 2005. Some of the proposals don't directly follow the EU Commission's directive but they do answer some of the issues the directive deals with.

The aim of these changes in the copyright law is to even more clearly define and strengthen the power of copyright in today's digital society. Most of all, these changes will safeguard creative activities, i.e. more incentive for artists, producers, writers and painters to continue their artistic work. Through the new Swedish copyright law, it might help stimulate such activities. We should although remember that the law should balance the public interest's ability to access such creative works and it's adaptation to digitalization. Another issue is that this law might still not be strong enough for the citizens to adhere to it due to the impossibility of controlling pirates.

---

[5] http://www.nap.edu/html/digital_dilemma/appD.html
[6] Davis, L. (2001) "Profiting from Innovations in Digital Information Goods: The role of Intellectual Property Rights"
[7] The directive is based on two international treaties by the UN's agency for intellectual property rights, the WIPO (World Intellectual Property organization) in December 1996.
[8] Swedish copyright law (1960:729)

1.3 The Economics of music

For economists, there's something extraordinary about the commodity ***information***.[9]

Music is consumable and gives satisfaction to its consumers. The economics of music is interesting in the sense that it is classified as information good[10] (or even called as intellectual property in judicial terms) which generally has high production cost but low costs to transmit.

The production of music is relatively expensive. This is due the various amount of creative work applied by the compositor, the producer and the artists. In the creation of music, composers involve in different activities such as developing the melody; writing the lyrics; and preparing the song for recording. Costs before distribution even include the time and effort in refining and "solidifying" music into format chosen by the producer, either by usual CD-formats or through digitalization. Besides these costs incurred by the producers, other expenses like cost of marketing also exist.

Summing up all the costs produces an expensive product. But in analyzing the stages in such creative work, it gives us a picture that estimating the costs incurred in the production process is not easy. This is because of the double nature of music; having an intangible feature in the first stage of its creation and formatted lastly as a physical commodity.

In contrast to the high reproduction cost of music or information in general, it is relatively cheap to transmit such goods. We can for example hear music on various media such as the radio, TV, on the internet and other public performances. This low cost of transmitting music turns the consumer into a potential competitor of the original producer as soon as the product reaches the consumers[11]. If we take the case of the internet, downloading and adding a favourite song in your personal computer won't take hours thus the ease of reproduction[12].

[9] Cooter, R. & Ulen, T. (1988) *Law and Economics* p. 110
[10] Varian, H. R. (2000); Davis, L. (2001); Bakos Y., Brynjolfsson, E., Lichtman, D. (1999)
[11] Cooter, R. & Ulen, T. (1988) p. 112
[12] Davis, L. (2001)

1.4 Discussion of Problem

The economics of music tells us that music is valuable but, at the same time, difficult to place a value in it. Intellectual property's value comes from both the physical medium and the work needed to produce the content. It is the work needed to produce the content that complicates the estimated worth of an intellectual property like music. Today in Sweden, the retail prices of a freshly released album in CD formats are about 150-180 SEK[13]. The relative high price on CD's might although be speculated because of the industry's monopoly power[14] over the musical works. This may or may not reflect the true intrinsic value of a musical work because the music industry itself has its own interests in maximizing its profits and thus overvaluing the costs of such creative product.

But in any case, it tells us that it is difficult for the producer of music to appropriate its value. This problem faced by the producers of information goods is called non-appropriability[15]. A reason for such characteristic is because information has some attributes of a public good[16] being non-rival and non-excludable[17]. This problem is even called the tragedy of the commons[18]. In an unregulated market, sub-optimal production of these goods will be an issue according to theories. The use of copyright law is one of the few instruments to help the continuity of creative activity and give incentive to the producers of music to create more of such goods.

Economic theory states that copyright over these creative works gives the industry monopolistic position and characteristics. But like every industry, it can lose some of its market share to potential competitors. The question is to whom? Today, the potential threats to the music industry are not only substitutes for music such as films, books or other recreational activities. These threats[19] are also coming from the industry's consumers itself and the birth of Internet – through pirate copying of music.

[13] www.rocks.se, www.skivlagret.se, www.cdon.com
[14] Breyer, S. (1970) "The uneasy case for copyright: a study of copyright in books, photocopies and computer programs" p. 84
[15] Cooter, R. & Ulen, T. (1988)
[16] Davis, L. (2001)
[17] Schotter, A. (2003) p. 654
[18] Kjellström, A. (2001) "An Economic Analysis of the Napster Case: Internet Technology and Copyright Protection" p 182-234
[19] Porter, M. E. (1985), "Competitive advantage: creating and Sustaining Superior performance"

Consumers have realised the potential of the internet with the access of "free music". Consumers tend to become "free-riders", paying no more than the cost of transmission for such good[20]. P-2-P file sharing programs decreases such transmission cost for the consumer and gives ease in obtaining the free music file. Distribution on the internet, although not exactly free, is nearly costless. This actual costs of the transmissions are often well below one cent[21] or approximately 7 Swedish öre. These costs are so small that they are typically not worth monitoring and billing on a per-transmission basis.

Besides this problem of "free riding, there seems to be a vicious circle[22] surrounding the demand side of information goods such as music. Consumers have an uncertain attitude towards the utility of information. It is due to the difficulty in putting value to the information. At the same time, consumers can not place a value in it until they have it on their possession. Possession of information is however only attainable when one has bought it. But they cannot know how much to pay for it until they have determined its utility by having it.

Copyright solves some parts of the "free rider" and the vicious circle problem. The copyright monopoly gives the creator the right to value his own creation and to bring an action against non-paying beneficiaries of his creation and so reduces the public goods problem associated with the original artistic creation. Copyright law is a way of protectionism[23]; protecting the interests and rights of the writers, producers and artists. Copyright law even aims to impede consumers from committing the criminal act of music piracy.

The Swedish legislation has responded to this problem by employing an increase of precision and strictness on its copyright law and forming it in agreement with the current EC directive. But what will be its economic implications? How will the consumers react with regards to these changes? Will they be deterred in illegally copying music over the internet?

[20] Cooter, R. & Ulen, T. (1988)
[21] http://www.nap.edu/html/digital_dilemma/appD.html
[22] Cooter, R. & Ulen, T. (1988)
[23] Chen, Y. & Png, I.P.L. (1999) "Software Piracy and Copyright Enforcement: Private Profit vis-à-vis Social Welfare", 119-123

1.4.1 Problem Statement

What is the possible consequence prompted mainly to Sweden's consumers because of this stricter copyright law; that is how this new law affects the behaviour of consumer towards the criminal act of music piracy? Will the consumers be deterred in the consumption of illegally copied music over the internet through the use of P-2-P programs?

There has been a lot of research about how the music industry can once more gain profits and increase the sales of CD through price strategies. But thorough research concerning stricter copyright laws, its economic meaning combined with the problematic characteristics of music as information good hasn't really been the spotlight of excessive scrutiny and investigation.

With the new Swedish copyright law taking effect this summer of 2005, I realised that it is of very high concern what this new law could mean for the consumers of music. Mainly, this essay concentrates on consumer behaviour and the analysis on deterring the criminal behaviour of the important economic actor in this investigative work, the consumer. Here is the general hypothesis:

- CONSUMERS
    - The weak deterrence towards infringement behaviour and the public not persistently informed or not enough aware by the casualties of infringement allows them to think that it is "socially acceptable" to download pirated copies; thus making the consumers knowledgeable about the consequences decreases piracy behaviour.

      Informing the individuals about the new copyright law with regards to its more precise definition of rights, the increased scope of the law on music consumption in this digitalised society and the more stringent punishments should increase the cost to committing crime. In turn, this should then increase the new law's deterring power, minimising the criminal behaviour of consumers.

1.5 Aim

The aim of this work is then to evaluate from an economic point of view the new Swedish copyright law's effect on how the Swedish consumers will behave in terms of their consumption of "payable" (legal) and "free (illegal) music".

This work is both empirical and theoretical in nature. The empirical nature of this investigation tries to explore the consumer's reaction in relation to the tighter rules on pirate copying and how economic theories on consumer's criminal behaviour go hand in hand with the empirical data. The theoretical touches the subject on the utility function of criminal acts such as pirate copying and the net willingness to pay for illegal music by individuals. The empirical data will illustrate if there will be a probable decrease in the consumption of illegal music if individuals are more informed about the judicial or legal structure. One major issue to be answered onwards in this essay is if informed consumers, i.e. consumers having knowledge about the contents and infringement casualties on the copyright law, as a result will significantly decrease their piracy behaviour.

1.6 Demarcations

Infringement on copyright has two broad classifications[24]: counterfeit and pirate products. Piracy deals with the illegal replication of a copyrighted work, in this case the copying of music[25]. In this essay, the main concern is on music piracy, thus no analysis done on the black market for counterfeit music CDs.

The technological advancements that gave consumers range of different formats are even discussed but much focus is given to the digital distribution of illegal music over the Internet. Another focus here is on the national level; that is this work tries to show the effect of the new Swedish copyright law. At the national market, it is also characterised by uniformity[26]. This uniformity in the national level is the effect of the copyright giving monopoly power to the music industry. Although it is possible to analyse the economic effects of copyright international price discrimination that maximises industry profit due to the presence of demand dispersion.

[24] Papadopoulus, T. (2004), "Pricing and Pirate Product Market Formation" p. 56-63
[25] Papadopoulus, T. (2004)
[26] Papadopoulus, T. (2000) "Copyright, Parallel Imports and National Welfare: The Australian Market for Sound Recordings". *The Australian Economic Review*, Vol 33, no 4, pp. 337-348

It is reported as of 2004 that music industry's success on its digital sales of music has gone up. Although the exploitation and relevance of the internet to the music industry's advantage (or disadvantage) is a vital issue[27], this investigative work will not focus on it.

There are even substitutes for music in general. These can be the hiring of film, DVD's or going to the movies, traditional and newer forms[28] of recreational activities like dancing, sports, reading books and virtual gaming. These substitute goods for music is not of main importance because this essay will discuss more about the illegal downloading of free music and its legal counterpart by paying for it. I will not even analyse whether or not economic downturns causes individuals to demand instead more of the "free" or illegal copies of music.

The population group used in the investigation are university students in Lund which might give skewed results to depict the entire Swedish population. But using this population group would still identify relevant factors and results for this investigation. Another demarcation is that in analysing the results later on, it is not taken into account either if individuals are risk takers[29]. This might have an effect but further study wasn't done in this investigation.

[27] IFPI Digital Music Report 2005
[28] Melin, J., (2005). "Ny Teknik". *Metro Skåne*, 27 April 2005
[29] Dnes, A. W. (1996) *Law and Economics.* p.144

2 Swedish Copyright Law[30]

Chapter 2 will present a brief summary on the new Swedish Copyright Law, its implications on illegal behaviour and its importance to the digital world of today.

2.1 Swedish Copyright

The provisions on Swedish Copyright Law can be found in URL (Upphovsrättslagen) of 1960:729. Each originator of creative works or information goods as well as each creative artist has the sole right to their own work[31]. Books, journal articles, song lyrics, musical work, art, paintings etc. are creative works. Copyright law protects such works and usually lasts for 70 years after the originator's death.

Copyright consists of two parts. The first part is the economic right of the originator to *reproduce* copies of his work and to make his work *available or communicated to the public* (2 § URL). This work is made available to the public when it is performed, showed, exhibited and distributed to the public. The other part, the ideal rights, consists of the originator's right for his or her name to be mentioned whenever his or her work is made available to the public according to good customs and practice and the right to oppose in the usage of the work if it is being violated. All rights according to URL belong to the originator. The economic rights can nevertheless be transferred to someone else, while the ideal rights can not be transferred unless the originator abandons his right and such renunciation can under certain circumstances be binding[32] to the originator.

There are however some new restrictions. URL also contains some policies to protecting the adjacent rights of creative artists. Swedish copyright protects these creative artists' interests in performing, delivering and the transmission as well as the recording and filming of such works. With regards to such adjacent rights, the preceding exceptions or limitations on such rights usually correspond to the actual Copyright.

[30] 2004/05:110, Upphovsrätten i Informationssamhället
[31] Olsson, H. (2000) Copyright, Svensk och internationell upphovsrätt. p. 19
[32] Olsson, H. (2000), p. 21

2.1.1 The originator's sole right

In the new URL that takes into effect this summer, it deals with one of the most important issue in intellectual property, which is music. The new law clarifies the originator's sole right over his or her work. The legal situation according to the Swedish law is vague on the matter of where the exact limits are in the reproduction of a significant copyright protected work in relation to managing such work in its digital form, e.g. music files. In the new law (URL 2 § 2 st), it clarifies that the copyright holder's right to reproduce his or her work includes every direct or indirect and also temporary and permanent reproduction no matter the form or method used or no matter if such work is reproduced partially or fully.

The originator also has the sole right to spread his work to the public at his or her disposal. This even includes that such work is made available to the public in such a way that private individuals can access to the artistic work from a place and time where they themselves chooses, like the internet. The current law has a cavity when creative work to making it publicly available or even spread specifically on the Internet. However the new law (URL 2 § 3 st) provides a clearer detail that the copyright holder also has a sole right to allow or forbid each "communication to the public" of his or her work on a wired or wireless path. When music files are wirelessly transmitted on the internet, copyright doesn't only include the protection of the originally transmitted music file but also the further *continued* transmissions of such creative work (URL 2 § 3 st 3 pt). Thus the new law incorporates clarification of new technical terms not present in the current copyright law. Copying music files or other creative works for private use is illegal when the new law takes into effect this summer *if* music downloaded on the internet came from an illegal source or a work without the originator's permission.

2.2 Rights and Exceptions

2.2.1 Temporary Copies

It is an interesting occurrence when one transmits copies of music files on the internet. When someone forwards or transmits a music file, automatic intermediate storage of such files occurs on different servers or routers. This intermediate storage is necessary so that the transmission can be carried out. In such processes, temporary storage occurs and is stored in the hard drive or RAM-memory. Here temporary

copies of the music files are stored. Today's Swedish Copyright law doesn't say anything about the subject matter on temporary copies. According to the new provision, temporary copies of creative work may be reproduced other than the originator if and only such reproduction provides an integrated and essential part in a technical process and if the copy is transient or incidental thus only constituting a minor importance (URL 11 a §). The new provisions also say that the copy can not have an economic value and can not have any other purpose than to facilitate legal usage or transmission in a network between third parties via a service-provider. Legal usage means that the originator of such creative work gave his or her permission.

2.2.2 Private Use

Another aim of the new law is to make sure that private persons are not subjected to some kind of copyright responsibility. The presence of temporary copies that appears on what they call "web reading", i.e. on the spot listening of music files on the internet, is permissible.

The current law uses the phrase "each individual" but this is substituted by the phrase "private persons". The phrase "each individual" gives a certain liberty for the reader to comprehend that individuals are allowed to copy it for commercial purposes. The phrase "private persons" in the new law clarifies such matters. An important prerequisite is that the copy should be evidently of legal nature (URL 12 §). The "old" copyright law doesn't give any explicit demand with regards to the character of the original work as long as the copies are already "communicated to the public" (URL 2 §). Based on the "old" law, this means that anyone could legally share and copy music file on the internet even though the original was copied without the permission of the originator or the copyright holder. This is not possible when the new copyright law will come into force. The new law even substitute the phrase "certain amounts" from the current copyright law to the stricter "one or a few amounts" when it comes to the reproduction of music files or other creative work on the internet. The plausible linguistic meaning of the new phrase probably can mean considerable fewer copies that can be reproduced than what is currently written on the "old" Swedish copyright law. The originator or the holder of a copyright should of course be compensated when legal private copies or legal temporary copies are being reproduced.

2.3 Sanctions

From the latter chapter, it showed us that legal reproductions of copyright protected work for private use are being compensated to a certain extent. Another increased protection against illegal reproductions is the right for the originator or the copyright holder to be compensated despite the illegal nature of the copied work. Thus, with accordance to the new law, the compensation for artistic works especially music is somewhat increased and adapted to the digital advancements.

When it comes to the infringement of the Swedish copyright law and its consequences, there seems to be a good deal of guidelines in the current law. Anyone who perpetrates infringement such as selling, copying or reproducing a music file without the copyright holder's permission can be subjected to sanctions in the form of punishment through fines and imprisonment up to two years and claiming of damages (URL 57 §).

2.3.1 Compensation in the reproduction of illegal copies

Compensation to the originator or the copyright holder when infringement on copyright protected works in which *illegal copies* are being deliberately and irresponsibly reproduced for "private use" didn't exist in the current law. But this was change in the new law. A compensation amount is to be paid as if these music files were purchased or bought legally (URL 54 § 4 st).

2.3.2 Sanctions against by-passing a technological measure

Technological measures to evade digital block will be forbidden according to the new law (see 4.4). Anyone who deliberately and with serious negligence breaks against the different types of commercial handling of technological instruments to evade digital barriers will be sentenced to jail not more than six months or to impose fines to that person (URL 57 b §) .

2.4 Protection of technological measures

With the advancements in technology, music CDs of today use analogue and digital blocks to hamper the copying of the original work to one's computer hard drive. But music companies are not the only one that utilises the technology of today. Some digital programs are now even developed to shirk and get around the digital barriers on CD albums. The dawn of these new concerns has also led to new legal provisions. Protecting analogue or digital barriers is introduced in the new Swedish copyright law.

The current Swedish copyright law prevents illegal exploitation of copyright protected work only when it comes to computer programs. There are even no clear guidelines if a technological instrument is utilised to get around or eliminate a digital barrier protecting a copyright work. The Swedish constitution doesn't even have any judicial or legal measures when such exploitation of technological instruments is being used either to block copying or to evade the digital barrier.

The new provisions state that it is punishable by law to develop, manufacture or sell products, or provide services, which are predominantly designed to evade a digital block or other forms of technological measures that prevents or impedes the duplication or accessibility of copyright protected work. The definition of a "technical aid" is now included in the new copyright law. The definitions is formulated in such a way that it clearly infers that effective technical measures are suited or aimed to prevent or minimise relevant copyright distribution, i.e. in reproduction or "communication to the public". The actual by-passing of legal technical measures protecting original works will be now forbidden according to the new law (URL 52 b-e and h §).

The new legal provisions strive to give the originator and the creative artists augmented protection against fraudulent conversion and illicit actions on their copyright protected work, efforts and artistic performances in the digital world. Despite the more stringent copyright law that will take effect this summer, it still has the interest to stimulate commerce with copyright protected work in the digital environment.

3 Method

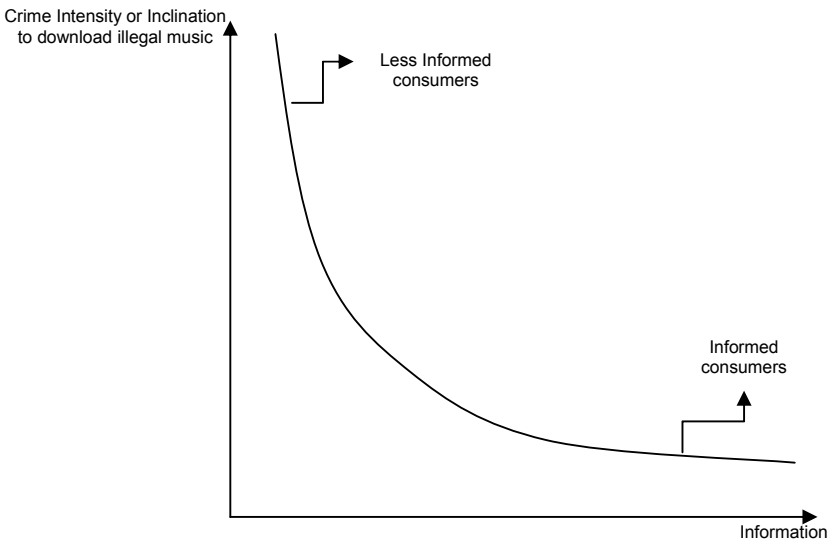
This method chapter will show the building blocks on how the investigative process commenced, the investigative unit and procedure, and how to approach the matter of valuing illegal music.

3.1 Classifying and determining the population group

Consumers who download music could be divided into groups. One classification model is described by Molteni and Ordanini where they classified consumers who download music in five different groups[33] according to the reason of activity, i.e. hobby, low interest in downloading, etc. One of the objectives stated in the first part of this paper was to see if information could help in minimizing the illegal behaviour of consumers; i.e. informing the consumers about the current situation on Swedish Copyright Law might have an effect on the demand of illegal music by consumers. In this investigative work, I classified instead two groups of consumers downloading music; the *Informed* and the *Less-Informed*. Assuming that consumers are rational, the *Informed consumers* are the ones that know more about the nature of the Copyright law and its implications thus having the minimal inclination towards illegal copying and probably demanding more legal form of music. The *Less-Informed* on the contrary are consumers who are not well informed and thus often copy illegal form of music or maximize the utility of illegal music through P-2-P programs on the Internet. This would be the basis for the investigative procedure and the building block of the survey questionnaires[34] to be explained in the following section.

[33] Molteni, L., & Ordanini, A. (2003). Consumption Patterns, Digital Technology and Music Downloading. *Long Range Planning,* nr 36, s 389-406.
[34] See Appendix

Figure 1.1 Classifying the different consumers with regards to information



Due to the limited time of this project, I had chosen the student population group in Lund as my survey respondents. To further saving more time and having the nearby resources at hand, students studying Business Law, Business Management and Economics were the focus group. There are a few negative and positive consequences of having such a population group.

In economic theory, demand for goods is affected by the income of consumers. A major population of students are depending on the government study support as a source of disposable income. Results could be distorted because most of the students are regarded as "relatively" poor thus they are hesitant in buying CD's on the legal market and might be more inclined to downloading illegal copies. This could give one-sided information. However, this attribute of the population group could also strengthen the validity and reliability of the work because I wanted more of individuals who regularly download music and the student's disposable income is actually more or less constant or the same over their period of university study. Drawing a parallel from scientific experiments, it is sometimes better to exclude some factors, like changes in income (constant income in the population group like the students), and only concentrate on one or few of the variables, i.e. the stricter Swedish copyright law, to get more or less accurate results, although not a condition.

The student population despite giving one-sided result could give the needed information missing, i.e. seizing the population who might be staying at home the whole day in front of the internet and downloading illegal music files. Since the interest in this investigative work is mainly about the illegal nature of copying, it strengthens the reliability of this investigative work to also find music consumers downloading a lot from P-2-P programs to having a wider scope of consumer variation.

3.2 The Investigative Procedure

3.2.1 Choice factors, levels and range

With the information given in the chosen population group, the investigative procedure and the questions formulated in the survey were then developed. The potential design factors were income, age, the piracy behaviour (measured according to the frequency of copying per month, the total collection of illegal copies and the future illegal copying behaviour of the consumer), the probability of exposure, the net willingness to pay for an illegal copy and the effects of the new copyright law. Variables such as ethics and computer skills were factors held constant in this investigation although their important implications which are to be later discussed in the analysis. Although the investigative units, i.e. university students, or the "materials" to which the design factors were applied were somewhat homogenous, the effect of this investigative factor was relatively small[35] as explained earlier and throughout this chapter.

Trying to minimise not only the effects of held-constant and allowed-to-vary factors but also nuisance factors[36] was also an important issue in this investigation. Nuisance factors might influence experimental response but in which were not interesting or significant for this investigative work. By explaining thoroughly the nature of the experiment to the investigative units (university students), by allowing them to ask questions on the spot, by giving them specific guidelines in reading the text on Swedish copyright law and by going to the classes in the beginning of the class when conducting the experiment, some of nuisance factors were controlled and minimised.

[35] Montgomery, D. C., (2001). *Design and Analysis of Experiments*. 5th Ed, John Wiley and Sons, N.Y. p.14

[36] Montgomery, D. C., (2001). p.15

Uncontrollable nuisance still exists though and examples of these were the inclination of the students to be a part of the investigation and the time in which they were to answers the questions. Some of the students would still answer the questions but due to their lack of interest, they might not give valid answers. Since the experiment was also conducted before classes start, the investigative units were given an artificial limited amount of time in order to not take the whole class period for answering the surveys. Limited time could result to stress and result to hasty answers which were not deeply contemplated upon. Such uncontrollable nuisance factors could be, if possible, analysed through the use of covariance analysis[37] to compensate for such effects (but not done in this investigative work).

3.2.2 Collection of Primary and Secondary Data

The main method in the collection of primary data had been through the use of survey, integrating the features of a kvasi-experimental investigation, in which both qualitative and quantitative questions were developed. Again due to the limited period of this investigative work, the use of questionnaires was better because it results in a faster compilation of the data needed. Although group and individual interviews could have been carried out, a questionnaire could collect a lot more data in a small period of time and in which both qualitative and quantitative answers could be an outcome of such method.

The quantitative method tried to show the scientific nature of this investigative work and to probably strengthen the validity of the result. The hypothesis formulated in this work might be better verified empirically due to the specific set of data the investigative unit was exposed to. The *expected utility* of consumers *for an illegal copy* of music could be measured if the right set of data was available and studied. The result from the quantitative data could even make it easier to give this work a generalized conclusion, i.e. if it was possible to observe a decrease in the consumers expected utility for illegal music due to the implied higher cost of obtaining an illegal copy and the increase of being detected and punished offered by the new copyright law. Using quantitative method, it was possible to give precise and testable expression to qualitative ideas[38].

[37] Montgomery, D. C., (2001). p.15
[38] http://encyclopedia.laborlawtalk.com/Quantitative_method

The qualitative method on the other hand would try to complement the generalize conclusion by showing a deeper understanding about the consequences of the new copyright law, i.e. attempting to accurately describe, decode, and interpret the meanings of this phenomena occurring in the consumers' normal social contexts[39]. It is often possible to understand the meaning of the numbers produced by quantitative methods by complementing it with a qualitative method.

Collecting secondary data about the illegal behaviour of consumers was somewhat difficult. For example, there were no specific and concrete data available for the net willingness to pay for an illegal music file. However, there were theories that tend to elaborate such behaviour. The model to be later explained in this work was mainly of Becker's expected utility for illegal goods, in this case illegal copy of music files. In conjunction to this model, Besen and Kirby's model was also being used with regards to the value placed by a consumer to legal goods (legal market for music) in relation to illegal goods (illegal market for music).

3.2.3 The Survey Questionnaires

In performing the experiment, first run-up trial was done in order to provide the information about the consistency of my experimental material, a check on the measurement system and a rough idea of experimental error and a chance to practice the overall experiment technique; that's why a group of students was first utilised and in which the survey questionnaire was being reformulated to acquire better results.

Stated in both the introductory chapter and the earlier part of this chapter, information on the old and the new copyright law would be a significant factor that could affect the behaviour of consumers towards illegal music. The survey consisted of three relative similar questionnaires in which all consist of concrete questions containing the chosen factors, levels and range elaborated earlier[40]. Although similar questions were contained in the three different survey questionnaires, there were some additions in the other two. While questionnaire 1, Q1, didn't have contents regarding the Swedish copyright law, Q2 contained the "old" and Q3 contained both the "old" and "new" Swedish copyright law. Q3 also contained an additional issue in which the sample population was given a

[39] http://encyclopedia.laborlawtalk.com/Qualitative_method
[40] See 3.3.1

qualitative question if they would decrease their illegal copying of music files on the internet with regards to the stricter Swedish copyright law. This process was done in the questionnaires in associating the hypothetical classification of individuals, i.e. separating the less-informed to those more-informed consumers. Furthermore, it was being assured that the three questionnaires were distributed to different random individuals in different classes.

3.2.4 Kvasi-experimental character

Since it was relatively impossible to conduct a strict statistical experiment through random choice of the sample group, instead the experiment done featured a kvasi-experiment[41] meaning that the experimental group and the compared group (instead of having a controlled group) got almost as equal values of the controllable potential design factors. The problem encountered in this experiment which was visible in such model was the impossibility to control all the "disturbing" variables. The disturbance variables being studied were already stated earlier in the method chapter, i.e. choices of factors, level and range. In this investigative work, the effect on information-feeding regarding the "old" and "new" copyright law with respect to the illegal behaviour of consumers was measured. University students, being grouped in the same income class, having a confined age composition and an almost comparable consumption to illegal and legal music, had been chosen so that the problem of finding a "twin"-sample will be easier because the compared group already have similar characteristics.

3.2.5 Dropped off Data

As pointed out earlier in this chapter, the chosen population group of students could create a bias or limitation in the results conveyed by the survey, i.e. might be too narrow a population group to use in a generalising way. Group of students tended to be more or less uniform in factors such as income and age, thus giving both positive and negative aspects with regards to the data collected. While surveys studies give a certain degree of numerous immediate and relative generalising results, they also had some disadvantages.

[41] Kahmström, D. (2000). *Från datainsamling till Rapport – att göra en statistisk undersökning*. Studentlitteratur, Lund, p. 19

The investigative unit might have difficulties when it comes to "interpreting" some of the questions or in "honestly expressing" their answers. Not everyone on the population group would even take the survey seriously: These matters were related to uncontrollable nuisance factors; these matters that one might encounter could be minimised by formulating simple and clear questions in which the population group would easily comprehend and in which the population group could easily associate with, thus the chosen population group of students studying Economics, Business Management and Business Law.

3.3 The Investigative Character

The deductive effort in this investigation would be based on the Deterrence theory to be mentioned later on in this work. The hypothesis formulated earlier in the first chapter was based from the theoretical background being used; that is expectations on what the outcomes are, would be based on the theory applied. One of the central points of this work was to give an answer whether the new Swedish Copyright Law, affects the criminal activity of consumers towards illegal music. To answer such problem, I had studied closely the economic value placed on illegal and legal music, and whether the stringent copyright law would decrease the demand for illegal music by taking into account factors such as the marginal increase in punishments and the higher probability of exposure. The empirical data collected is compared with the chosen theories and thus see the correlation or differences that the results indicate.

4 Theory

The theoretical background (such as consumer behaviour, Becker's deterrence hypothesis, and Besen and Kirby's model) to be used later on in forming the analytical framework will be concisely discussed in this chapter.

4.1 Consumer Behaviour

There is some difficulty in measuring the needs, wants and demands of consumers. But economics gives us a theoretical model to help us understand why consumers behave the way they do in an account to see their preferences; i.e. consumers are assumed to know the things they like and dislike to be able to rank the feasible alternative combinations of goods and services according to their ability to satisfy the consumer preferences[42]. In this essay for example, I focused on the consumption of legal and illegal music as two separate goods. It had been pointed out earlier that pirated music is typically marketed as an unauthorised replication of a copyright work. This would be the illegal good in this economic analysis. Meanwhile, the albums or CDs bought on retail shops are the legal goods.

In elaborating more closely which of these two goods a consumer prefers, a utility function could explain such a relationship. This function shows the decision of a consumer when it comes to the combination of illegal and legal goods to satisfy the needs of the consumer of music. However, there are some constraints that restrict the ability of consumers to choose from the goods that maximizes their satisfaction. One of the most common constraints is for example income. With a certain amount of income, a consumer can only choose the preferred possible combination of goods to be consumed. The income constraint[43] and the utility function is a vital knowledge that can be applied in this analytical work but these economic terms will only be used to back up some of the explanatory work in my analysis afterwards. For example, income can have an effect on how much a consumer demands for the legal good.

[42] Krepps, D. M. (1990) *A Course in Microeconomic Theory*. pp. 17-21
[43] Holm, H. J. (2003) "Can Economic theory Explain Piracy Behaviour?"

Another way in explaining consumer preference is through the use of the economic theory on price and substitution elasticity of demand[44]. The higher the change in price of legal music, the less is being demanded; assuming that albums or CDs are normal goods. Moreover, price sensitive consumers choose to purchase the pirate product (which is by the way almost free besides the cost of transmission) in preference to the relatively higher priced legitimate product. I will not do an in depth analysis with the help of the elasticity of demand. Equally important as the restraint on income, these theories will also superficially help me later in the analysis of my work.

With regards to the changes in copyright law, the most important issue is in the fact that this might deter consumers to demand more of the illegal form of music, ceteris paribus. The new copyright law can have such an effect that it minimises the consumers to engage in the criminal act of music piracy through the increase in risk of being detected committing music piracy and increased expected punishment. The effect of minimising the criminal behaviour of consumers might also be strengthened by informing the consumers about the consequences of violating the copyright law.

4.2 Economic account of crime

The theoretical foundation for this investigative work will be focused mostly on Gary Becker's (1968) study representing the first serious attempt to apply standard economic analysis to general criminal behaviour known as the Deterrence Hypothesis. Besides this theoretical standpoint, Besen and Kirby's (1989) model will supplement the Deterrence Hypothesis to showing the congruence of the demand for illegal music (i.e. music downloaded on P-2-P programs), the value placed by consumers and the expected utility for such good.

In Becker's model, the fundamental point of departure is that people are rational maximizing beings. Therefore, we should find that[45]:

1. Crime rates respond to the costs and benefits of committing crime
2. People respond to deterring incentives

[44] Mas-Colell, A., Whinston, M. D., Green, J. R. (1995) *Microeconomic Theory*.
[45] Dnes, A. W. (1996) p.142

The level of crime should be influenced by the increased resources devoted to detection, conviction and punishment. For this to be true, people need not be rational all the time[46]. By altering the expected penalty, logically it is enough to influence the marginal criminal behaviour for deterrence to work. Becker may be credited with articulating the deterrence hypothesis, which has influenced not only economists, but also some sociologists and policy makers. This could imply that the new copyright law might in fact deter consumer behaviour towards criminal actions like the illegal copying of music.

Besen and Kirby's model also touches the issue on illegal consumption of music although it doesn't fully give a deeper understanding on the subject of criminal behaviour. It specifically concentrates more on the demand for illegal copies by consumers and the value placed on illegal music. In this model, an original or legal music is demanded by a consumer if this equation[47] is satisfied:

$$\mathbf{(V_L - V_I) \geq (P_L - r)}$$

This equation tells us that as long as the difference between the value placed on legal music **(V_L)** and illegal music **(V_I)**, i.e. how much more a consumer values legal to illegal music, is greater than or equal to the difference between the price for obtaining legal music **(P_L)** and the cost or "price" of obtaining illegal music by a consumer **(r)**, assuming that $\mathbf{V_L > V_I}$ and $\mathbf{P_L > r}$, the consumer will buy an original[48]. Here, the model can similarly signify that the consumer will probably demand an illegal copy due to the relative lower valuation of legal music by consumers or vice versa[49].

[46] Buchanan, C. and Hartley, P. R. (1992) "Criminal Choice: The Economic Theory of Crime and its Implications for Crime Control". *Policy Monograph 24l*, Centre for Independent studies, St Leonards, New South Wales

[47] Besen, S. M. and Kirby, S. N. (1989) "Private Copying, Appropriability, and Optimal Copying Royalties". *Journal of Law and Economics*, 2(1), 5-22

[48] Holm, H. J. (2003)

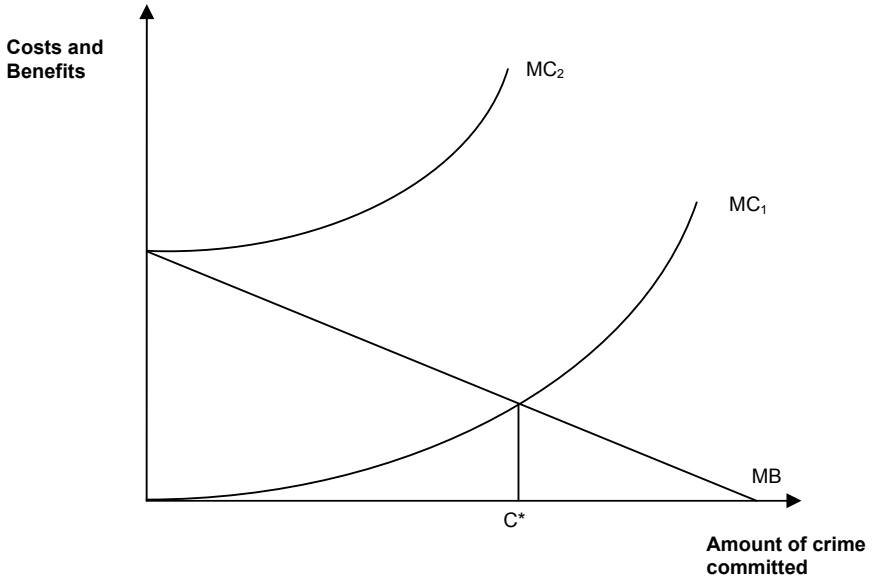
[49] Holm, H. J. (2003)

4.2.1 Deterrence Hypothesis

4.2.1.1 Marginal Costs and Benefits of Crime

The deterrence hypothesis can be illustrated by using marginal costs of criminal activity and the marginal benefits of crime[50]. The horizontal axis shows the amount of crime committed by an individual, which could be measured by the number of offences and the vertical axis measures costs and benefits. If the marginal costs of criminal activity rise and the marginal benefits fall, there is an optimal level of crime **(C*)** where marginal costs intersects marginal benefit.

Figure 1.2 Marginal Cost and Benefits of Crime



Rational Crime: **MB** = Marginal Benefits of Crime

MC_1 = Marginal Cost of Crime

MC_2 = Alternative Marginal Cost of Crime

Marginal costs shows the minimum return required before an individual would engage in successive units of crime: it is therefore a supply function for crime[51]. MC of illegal music is then an upward function because here it assumed that each extra song downloaded by a consumer increases the cost of obtaining one because of higher probability of being exposed and punished, and the higher punishment value. Marginal benefits shows the maximum the individual would pay for the opportunity

[50] Dnes, A. W. (1996) pp. 142-144
[51] Dnes, A. W. (1996) p. 143

to undertake successive units of crime, ignoring his costs, and can be regarded as the demand for crime.

There can be an instance where the intersection of supply and demand will give a corner solution, e.g. if marginal cost (supply) takes the position $\mathbf{MC_2}$, meaning that consumers do not engage in crime, e.g. do not download illegal music files at all. Although this investigative work will focus on the monetary value of MC of criminal activity, it is not always the case when preparing to commit crimes. One example is that the higher position of marginal cost could be consistent with worrying about the effect on one's reputation in society if criminal associations were apparent. Similarly, marginal benefits are not limited to monetary gains, e.g. some sadistic thugs obtain direct pleasure from engaging in acts of violence[52]. As pointed earlier, I shall focus more on the monetary measures and such monetary value of illegal music can be measured through the individual's *willingness to pay* for the benefits or for avoiding costs.

Economics suggests we can influence individuals to reduce their criminal activity by undertaking policies to shift the marginal cost function upwards (i.e. the stricter copyright law in Sweden) and the marginal benefits function downwards. In the argument made by Becker, comparing the costs and benefits of clearing up a particular crime allows us to find an optimum level of crime prevention[53]. It is important to measure the costs because no policies are costless. Certainly, it would be too costly to try and stop all illegal music downloading.. We pick up on the idea of optimal crime and punishment further below.

4.2.1.2 Expected Utility of Crime

The deterrence hypothesis can be formulated, following Becker (1968), using little calculus. Taking any crime as an example, the expected utility of crime can be written as:

$$EU = pU(Y\text{-}f) + (1\text{-}p)U(Y)$$

[52] Dnes, A. W. (1996) p. 142
[53] Dnes, A. W. (1996) p. 142

Where p = probability of capture and punishment

U = utility (assumed measurable)

EU = expected utility

f = value of punishment

Y = income if undetected

The value of punishment, *f*, and income if undetected, *Y*, is a function of the utility of crime, U. Consequently, the expected utility for crime, i.e. the expected utility for illegal music in this investigation, is influenced by factors such as the probability of capture and punishment, the value of punishment and the income or benefit of obtaining illegal music without being detected. Increasing p by a small amount (dp) implies EU changes by dp[U(*Y-f*) – U(*Y*)], which must be negative. The cost-benefit calculation of the rational criminal implies that increasing the probability of detection, perhaps by expanding the police force, deters criminal behaviour because this increases the cost of criminal activity and/or because the cost of criminal activity might outweighs the benefits.

Similarly, increasing the severity of punishment (*f*) by a small amount (df) implies EU changes by p[df(δU/δf)], which is again negative since δU/ δf (the rate of change of utility with respect to punishment should be negative. Increasing the probability of capture and punishment and increasing the severity of the punishment both reduce the criminal's expected utility and should deter crime.

5 Analysis

In this chapter, empirical data meets theory. The analytical framework is built and the implications of such framework on the results from the survey conducted are being analysed in this chapter.

5.1 Integrating the empirical survey with the theory

With the method and theory explained in the earlier chapters, it is further elaborated in this part how the theory is utilised building the analytical framework and how it is integrated with the empirical data being collected in the surveys. I begin by showing the significance of questionnaire 1, Q1, in the survey where fundamental data about piracy behaviour, the probability of capture and punishment (p) and the utility (U) for illegal music as a function of the income or the value placed on illegal music (*Y*), i.e. [U(*Y*)]. A vital element in Q1 is the construction of the maximum value placed (*Y*) on illegal music and its relation to the net willingness to pay for an illegal when a legal is available. The significance of Q1 in this investigation is described in 5.1.1 followed by the relevance of questionnaire 2 (Q2) and 3 (Q3) in 5.1.2 and 5.1.3 respectively.

5.1.1 Q1 – The pursuit for basic economic data

Earlier in the method chapter, it was stated that Q1 is slightly different from the two other questionnaires; that is the content of the Swedish copyright law was not available in Q1. One of the main goals stated in the introductory part was to illustrate if information-feeding on copyright law affects the behaviour of the consumer towards piracy, which is why a questionnaire having no contents of both the "old" and "new" copyright law was formed. One assumption when analysing Q1 was that individuals receiving Q1 were assumed to be thinking, operating or acting in a society that lacks laws protecting intellectual property such as music. Individuals receiving Q1 was then assumed to have minimal or perhaps even lack knowledge on Swedish copyright law, i.e. they were "least informed" of the population group. One more assumption, when analysing Q1, was that substituting legal to illegal music is inevitable because illegal music acquired in the internet nowadays has almost the same quality as the legal music

and transaction costs are almost zero. The least informed individuals in Q1 was assumed to neglect the cost or price of obtaining illegal music by individuals. This means that the willingness to pay by the consumer for legal music when an illegal is available in Q1[54] would be $(V_L - V_I) = P_L$ using Besen and Kirby's model because it follows that $r = 0$.

Since Q1 individuals don't have knowledge or have minimal information on the Swedish Copyright law regarding copyright law and applying this in this investigative work, rational individuals are indifferent of consuming the illegal and legal music, i.e. utility for legal and illegal music are interchangeable. Using the deterrence model for demand on illegal music, the utility for legal music would correspond to illegal in Q1.

$$U(Y) \text{ (legal)} = U(Y) \text{ (illegal)}$$

The net willingness to pay by the consumers for legal (illegal) music also corresponds to the income or benefit gained by the consumers (Y) in consuming legal (illegal) in Q1. It was also explained earlier that the utility of legal (illegal) music in money terms is a function of the income or benefit for legal (illegal) music, i.e. $U(Y)$.

When individuals are not informed and in a non-functioning society, the probability of capture and punishment is low or negligible ($p \approx 0$) and criminal acts are not being punished ($f = 0$), ceteris paribus (i.e. ethical and moral issues not to commit crime are not taken into account), thus yielding the maximum expected utility of crime without being punished in analysing the first questionnaire. The maximum expected utility for pirated copies of music in Q1 is then equal to the income being a function of the total utility of illegal music in money terms.

$$EU \text{ (illegal)} = U(Y) \text{ since } p \approx 0 \text{ and } f = 0$$

By logically developing the relationships further in Q1, the net willingness to pay equals to the determined utility in money terms. This also equals to the total utility for illegal music giving the maximum expected utility for illegal music. The mathematical result is then:

$$[(V_L - V_I) = P_L] = [U(Y) = EU]$$

Determining the net willingness to pay for a legal copy when an illegal is available is then important primarily in Q1 to establish the value of EU for illegal music.

[54] See question no. 10, Appendix 5

Any values lower than EU, specifically in Q1, are possible *only* if there is an existence of *both f* and p, and if these economic variables augments. The higher p and *f*, the lower the EU is for illegal music thus affecting the net willingness to pay for a legal when an illegal is available.

Again, it should be emphasised that by only increasing both the probability of capture and punishment, and the severity of the punishment can it only then reduce the criminal's expected utility and should deter crime. Why so? When the probability of being detected (p) is nil, although the presence of punishment (*f*), this only leaves us the total utility of crime as a function of income being undetected [U(*Y*)], thus giving us the same result as the maximum expected utility for pirate copies. On the other hand, when the value of punishment is also nil, although there is a huge probability of being detected, it leads to the same result.

5.1.2 Q2 – The initial comparative data

While Q1 didn't have any information or context on the Swedish copyright law, Q2 feeds the individuals in the survey with information on the "old" Swedish copyright law with a few minor additions in Q2's last two questions. A significant assumption when analysing Q2 was that individuals who received Q2 are assumed to be "more informed" than those receiving Q1 (but "less informed" than those in Q3). Individuals answering Q2 should have better knowledge on Swedish copyright law than individuals receiving Q1.

Earlier, it had been clarified that the EU value of "least informed" individuals would be higher than that of EU of "more informed" individuals. Attention was focused more on the value r and its consequence on net willingness to pay, $(V_L - V_I)$, in Q2. If the estimated net willingness to pay by an individual decreases, ceteris paribus, in Q2[55] in comparison to Q1's results, this means that EU for illegal music also decreases, i.e. the "old" copyright law has an initial effect. The presence of both punishment (*f*) and the risk of being detected (p) (through information-feeding on the contents of the "old" Swedish copyright law) deter the consumer to illegally copy music. Because of the presence of punishment and the risk of being detected in pirate copying, it also gave an incremental value to r (higher cost in obtaining illegal copies). Assuming that the value

[55] See question no. 10 Appendix 5

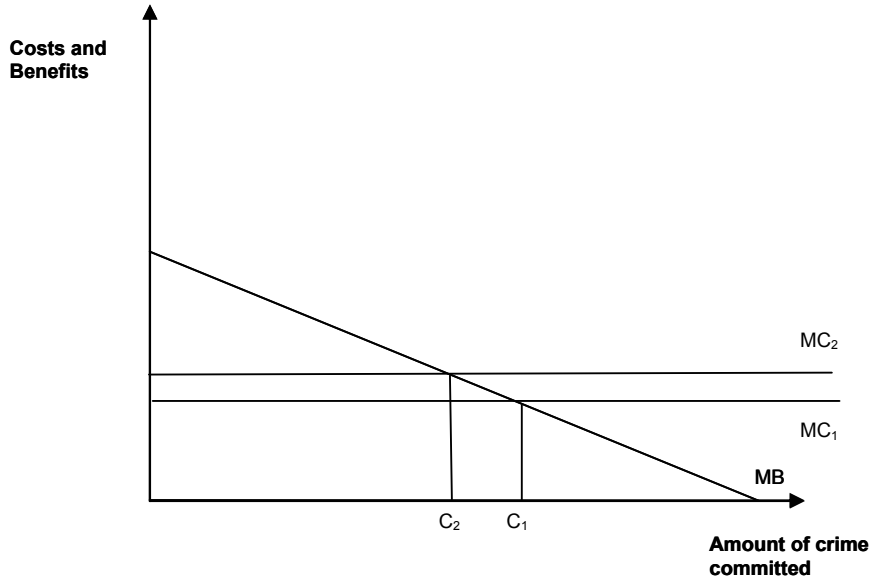
placed by consumers to legal and illegal copies[56] (V_L and V_I) remains constant, a marginal increase in r should decrease the net willingness to by individuals for legal music since r is not negligible anymore.

$$(V_L - V_I) - r = P_L$$

5.1.3 Q3 – The key economic data

Related to Q2, one prerequisite of Q3 is also to information-feed the individuals in the survey not only about relevant contents of the "old" but also on the "new" Swedish copyright law. A minor adjustment in the last two questions and an additional ending question in Q3 were also formed. The deterrence theory says that undertaking stricter policies would influence individuals to reduce their criminal activity ($C_1 \rightarrow C_2$ in figure 1.3) shifting the marginal cost of crime (MC_2) upwards (slope unimportant), i.e. the cost of having illegal copies increase. The requirement of having some important matters from the "new" copyright law written in Q3 was to see whether contributing incremental actions, i.e. increased scope of punishment and higher probability of being detected in which the new law exhibits, would further affect the behaviour of consumers towards minimising music piracy. Individuals answering the final supplementary question in Q3 should then decrease their piracy behaviour because they were more informed.

Figure 1.3 Undertaking stricter policies



[56] Coded value produced in Q1 is shown in 5.2.2.2, assuming that individuals behave like they were in a non-functioning society

The economic inference from Q3's results should then be similar to what has been explained in 5.1.2 about Q2's. It is similar in the sense that individuals should be deterred. Q3, however, should provide crucial results that should be lower than what is expected in Q2 as described by the deterrence theory and incorporating Besen and Kirby's model. The net willingness to pay for legal music in Q3, should then be smaller than what would be expected in Q2 (which in return is smaller than the expected result Q1).

$$[(V_L - V_I) - r]^{Q3} < [(V_L - V_I) - r]^{Q2} < [(V_L - V_I)]^{Q1}$$

This is the case since r (cost in obtaining illegal copies) in Q3 is considered to be higher than in Q2 and in Q1 as a result of the increase in *f* and p in having more illegal copies when the new law takes into effect. Assumptions on the constant value on legal and illegal music are again important to bear in mind.

Each extra song downloaded by a consumer with the new law taking into effect should theoretically increase the higher probability of being exposed and punished. Individuals in each of the different questionnaire should be expected to think that there would be a higher probability of exposure which is asked in one of the questions. More individuals should be more certain that they would get caught when illegally copying music over the internet thus decreasing music piracy.

Explained earlier in 5.1.2., the utility placed on an illegal copy is difficult to measure in a functioning society. But with all the factors mentioned above and taking into account the new law, rational consumers' expected utility on illegal copies (EU) should then decrease.

5.2 Results

5.2.1 Background Information

In the three different questionnaires of the survey, the basic information regarding income, sex, age and if the population had been downloading music the past six months were asked in the first four questions[57]. In all three of the surveys, students had about 4000 SEK in disposable income per month[58]. A major percentage of the population group downloaded music using P-2-P programs and thus gave a great deal of significance for this investigative project. Since sex might also be an influential

[57] See Appendices 4,5,6
[58] See Appendix 1, Table 1.5

factor in piracy behaviour, this was also asked in the questionnaire in which there were almost the same number of male for each female that downloads music the last 6 months using P-2-P programs (e.g. of the 24 male individuals in Q3, 23 answered that they were downloading music; while of the 37 female individuals who answered the same questionnaire, 23 also answered that they were downloading music[59]).

5.2.2 Piracy behaviour and the effects of the law

After the presentation on the results of background information, questions 5 to 10 on each questionnaire focused on data regarding the piracy behaviour and the effects of the Swedish copyright law. While all the questionnaires have somewhat similar questions from 1 – 10, Q3 on the other hand differed by one question concerning the qualitative question whether or not the new copyright law decreases the individual's incentive to copy illegal music over the internet by using P-2-P programs[60].

5.2.2.1 Piracy Behaviour

Questions 5 and 6 in all the three questionnaires indicated piracy behaviour. The piracy behaviour of the population group had been measured in the survey because it might have an effect in how the individuals actually respond to the presence of the deterring factor. The answers in questions 5 and 6 were coded 1-6 and 1-5 respectively, e.g. answer 0 – 20 music files per month was coded 1, 21 – 40 music files per month was coded 2, and so on in question no. 5 in the three questionnaires[61]. Since the answers in each question were in intervals and the values in the table were not definite or discrete numbers[62], the values presented in the tables were rounded off to the nearest whole number in order to get a definite answer for each question, i.e. a coded answer having a value of 1.6789 was rounded off to 2. In Appendices 1 – 3, N indicates the number of individuals who participated and received the respective questionnaires.

By observing the individual's frequency in downloading pirated music over the internet per month, each individual in the three different questionnaires had an average of 20 – 40 music files downloaded per month. This is shown in the different mean values in Appendix 2 which gives a coded value of 2 (21 – 40 music files) if rounded of in

[59] See Appendix 1, Table 1.2 – 1.3
[60] See Appendix 6
[61] See Appendices 4,5,6
[62] See Appendices 4,5,6

nearest whole numbers. The total compilation of illegally downloaded music on the other hand has a slight discrepancy. While individuals answering Q1 and Q2 has approximately between 500 – 1000 music files totally downloaded, individuals who answered Q3 has approximately between 1000 – 2000 downloaded music files.

5.2.2.2 The Effects of Copyright law

Questions 7 to 10 in all the three questionnaires showed the effects of the Swedish copyright law on the consumer to deter their criminal behaviour. Similarly, the method used in the results acquired in the individual's piracy behaviour was also utilised in presenting the results of the law's effect. Answers were also coded in each of the questions in all the following questionnaires to simplify when evaluating the results.

Individuals answering Q2 had the least tendency to download music in the future producing a coded value of 2 rounded off to the nearest whole number and giving an answer of 100 – 200 music files approximately downloaded the nearest half year. When asked about the individuals answering Q1 about their future downloads of illegal music, approximately 200 music files would be downloaded by each person the next half year. In table 3.1, the coded value was approximated to be 2.5 and interpreting this as the maximum value given for the interval 100 – 200 which is 200 music files. Lastly, Q3 questionnaire gave a result in which each individual will be downloading music files amounting to 200 – 300 the coming half year.

One of the two common denominators for the average individual in all the questionnaires was that the population group in the survey believes that they would not be discovered when downloading illegal music files. Another was that the average individual in the total survey was deterred from copying pirated music if and when the probability of being discovered by the law should be 1 out of 1000 people specified by the coded value rounded off to the nearest whole number which is 3 in the three questionnaires (See table 2.1 – 2.3).

The net willingness to pay was the most important variable in this investigation. This shows how the population value legal music in respect to the presence of illegal music that can be downloaded by using P-2-P programs. The mean net willingness to pay by individuals answering Q2 which has a coded value of 4 is approximately 61 – 80 SEK.

Alternatively, individuals who received Q3 and Q1 valued a legal copy approximately 81 – 100 SEK.

The last question posted in Q3, namely whether the new copyright law will decrease the individuals illegal behaviour in copying music files, gave a somewhat interesting average result. The coded value is 1.5319 which gives a value of 2 when rounded off to the nearest whole number meaning that most of the population will not be deterred just because of the presence of the new copyright law taking into effect this summer of 2005. Although the mean result shows this, 47 % of the total individuals answering this question in Q3 stated that the new law will decrease their illegal behaviour concerning music files.

5.3 Analysing the empirical data

The analytical framework was more utilised regarding the empirical results on questions 7 to 10 in each questionnaire giving more data on deterring the criminal behaviour of individuals. Complementing the analysis on the effects of the law on each individual's demand for illegal copies, the individual's piracy behaviour was superficially studied by using measures such as the frequency of each individual in copying illegal music and the individual's total collection of illegal copies.[63]

5.3.1 Future behaviour and discovery

Comparing the results in Q1, Q2 and Q3, the first aspect to be studied was whether the presence of the copyright law on the surveys had decreased the future illegal copying of the individuals. There was a bit of discrepancy when reading the results of surveys in Q2 and Q3. It would be rational that in Q3, the behaviour on future copying of individuals should be less than in Q2 and consequently less than Q1, using deterrence theory. Despite the more stringent Swedish copyright law in Q3, individuals were still inclined to download illegal music in the future. The discrepancy of the results compared to the theoretical model was due to some controllable and uncontrollable factors. The average individual in Q2, for example, had a lower predisposition in downloading illegal music in the future than the average individual in Q3 because the concise and compact context on copyright law in Q2 might have a more powerful incremental effect, although hard to measure.

[63] See Appendix 2

One important factor was the piracy behaviour of different individuals. Piracy behaviour had also a significant effect[64] in how the individuals would respond to the more stringent copyright law. The piracy behaviour shown in the result for Q1, Q2 and Q3 individuals tend to be more or less the same although a slight difference especially when it comes to individuals answering Q3[65]. An obvious result is that Q3 individuals have a higher collection of illegal copies than Q2 and Q1 individuals. This might postulate something about their behaviour towards illegal copying even in the future. It was thus difficult to conclude in absolute terms if the future copying behaviour of Q2 individuals was less than Q3 individuals due to the slight difference in piracy behaviour.

One observation was that the population group's frequency in downloading illegal music averaging to 20 – 40 music files per month could be considered low. The population group had an average of 1000 music files totally downloaded and thus making the individuals seem to believe that their piracy behaviour of the individuals is weak. This belief might even be the rationale behind why a major percentage of the population group in the three questionnaires thought that they would not be exposed by the law (question no. 8). This observation can also be exploited to even analyse the similar result in the three questionnaire regarding the probability of capture and punishment (p) (question no 9) in which 1 of 1000 pirate copying persons should be detected and punished for illegal copying music.

5.3.2 Net Willingness to pay

The economic inference $(V_L - V_I) - r^{Q3} < (V_L - V_I) - r^{Q2} < (V_L - V_I)^{Q1}$ will now be used in this section to prove the hypothetical statement in the introduction chapter. This means that the expected result in Q3 concerning question no. 10 should produce a net willingness to pay for legal music when an illegal is available should be smallest. The net willingness to pay for legal music in Q1 would then generate the highest value.

[64] Holm, H. J. (2003)

[65] Comparing of the coded values without rounding off the whole numbers, Q3 individuals have a coded value 2.2609 and 2.7826 for how frequent they download music per month and their total compilation of illegal music respectively. While Q1gave a result of 1.7708 and 2.3061 in these variables, Q2 have even lower coded values of 1.6176 and 2.1471. See Appendix 2.

Considering first the result based on question no. 10 in Q1, the average individual wanted to pay 81 – 100 SEK for legal music although illegal copies are supplied in P-2-P programs on the internet. This value was then equivalent to the maximum income placed on an illegal copy using the analytical framework on the basic information in Q1. This also gives a maximum expected utility on illegal music in which it is assumed that Q1 individuals are least informed. Q2 and Q3 on the other hand would be the comparative state in which individuals are more informed. While the net willingness to pay in Q2 produced a lower value than what is given in Q1 (61 – 80 SEK), net willingness to pay in Q3 acquired a value approximately equal to that of Q1 which might be perplexing in a certain way if the economic inference $(V_L - V_I) - r^{Q3} < (V_L - V_I) - r^{Q2} < (V_L - V_I)^{Q1}$ was to be used.

It is nonetheless possible to explain such outcome. One reason to this inconsistency of theory and empirical result was due to the assumption formulated concerning individuals having different degrees of information. This was certainly not the case. Since the population group consisted of educated students, they could be already aware of the contents on copyright law. Although the contents of both the "old" and "new" copyright law were not written in Q1, there might be some individuals who were perceptive about the law. The same could be said about Q2 although significant contents of the "new" copyright law were not in black and white. Needless to say, this had a significant effect with regards to the result. Such controllable factor could have been taken up in the survey by asking to what degree individuals are aware of the legal system supporting the protection of intellectual properties such as music. These individuals knowledgeable about the legal precautions would then act rationally and behave in accord to what they know. Another way to solve such controllable factor could be the choice of a more varied population in which there is a mix of high-educated, low-educated and non-educated people.

One of the assumptions made about the value of illegal copies being constant could also be criticised. The value for legal music might not be constant and so as the value for illegal and the income or benefit (Y) of utilising illegal music. With the economic inference being used, there could be a paradox by saying that the value gained by consuming illegal copies might inconsistently increase due to the perception of consumers that when a good is more difficult to obtain it makes them even more "demanded" due to non-economic factors which is a matter of ethical importance and

social thinking[66]. According also to Besen and Kirby's model, it could give us a prediction that the lower relative valuation of the original, the higher the individual demands a copy[67] as stated earlier in the theoretical part.

The changes in the Swedish copyright law would rationally and logically reduce the individual's expected utility on illegal music and thus should deter crime. With the result given by the last question in questionnaire 3, it is still difficult to generalise whether the new copyright law does have an effect.

There are even several possible economic reasons why deterrence might not be found in this investigation

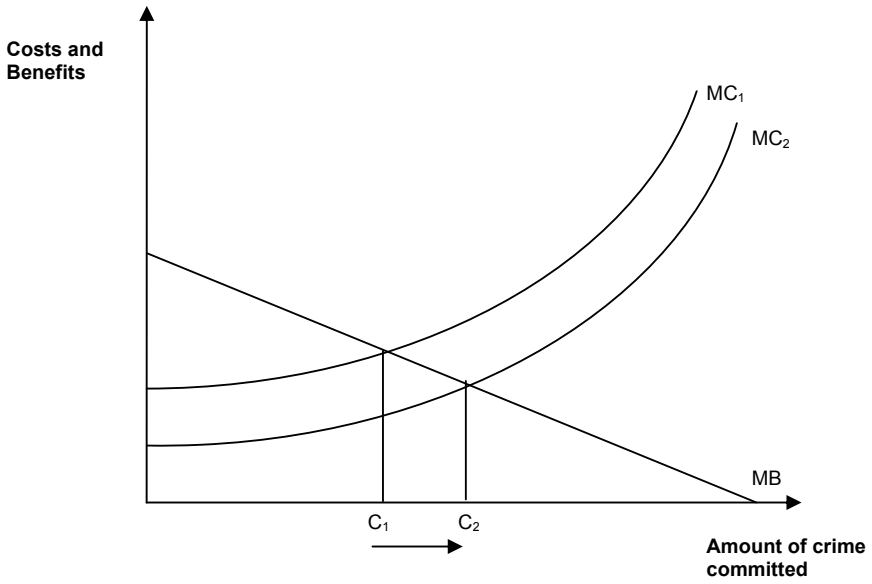
1. Private deterrence effort might fall as public deterrence increases. Individuals might be less vigilant about crime if they felt that authorities had it under control.[68]
2. Some crime could be displaced to another offence type, time or location. [69]
3. It is difficult for the legal system to have a total surveillance on the percentage of the population who illegally copies because of huge transaction costs. There might be 100 000 pirate copying persons to every "anti-pirate cop".

5.4 Criticising the Analytical Framework

The deterrence approach is not necessarily incompatible with alternative approaches emphasizing wider social factors or apparently non-economic individual characteristics. For example in the figure below, a psychological predisposition towards crime might shift the marginal cost function to the right, reflecting lower psychic (conscience-based) costs from engaging in crime, i.e. socially accepted to download music, and thus more amount of committed crime e.g. more illegal music downloaded. We could fit various shift factors like this into a model of rational crime. The real question is empirical in which factors influence criminal behaviour in a major way. Is it the need for stricter law and increase in monetary value for costs of having illegal music? Or is it more important to change the social acceptability of downloading music?

[66] Holm, H. J. (2003)
[67] Holm, H. J. (2003)
[68] Cameron, S. (1988) "Economics of Crime Deterrence". *Kyklos*, 41, 301-323
[69] Cameron, S. (1988)

Figure 1.4 Other shift factors in deterrence theory



The main alternatives to the deterrence hypothesis were claims that crime results from biological influences or from social factors[70], although strictly biological or social accounts of crime are also often subject to criticisms[71]. The policy implications of one of the most crucial alternative explanations on piracy problem, i.e. the social acceptability of copying pirated copy, should be tackled. To many economists, such alternatives to the deterrence hypothesis are not convincing[72]. But these alternatives are in fact relevant depending on the nature of the criminal act. With regards to intellectual property, protection is needed but at the same time these legal protections might not be enough as an optimal solution in changing the individual's behaviour. Social attitudes should be also changed.

Furthermore, the common observation is that individuals committing more crime are a member of the group not possessing enough information in this investigation[73]. This is not itself an argument against the deterrence hypothesis. This was only used as a classification model. Less information at hand could rationally lead individuals to turn to crime unless deterred. With few exceptions, statistical studies fail to give a major role to non-deterrence factors[74].

[70] Dnes, A. W. (1996)
[71] Fishbein, D. (1990) "Biological Perspectives in Criminology". *Criminology*, 28 27-72
[72] Dnes, A. W. (1996)
[73] Wilson, J. and Herrnstein, R., (1985) *Crime and Human Nature*. Simon and Schuster, New York
[74] Pyle, D. J. and Deadman, D. F. "Crime and unemployment in Scotland: some further results". *Scottish Journal of Political Economy*, 41, 314-324

Finally, measuring the net willingness to pay for both legal and illegal music might have some drawbacks. Individuals' valuation of legal and illegal music might have been valuated subjectively. The price that consumers are willing to pay reflects both the perceived value of the product and the sacrifice involved in acquiring it. Although simply done in the empirical investigation, the valuation of legal in respect to illegal music might be more complicated than the model, thus more refined methods of collecting such data is needed. One of the researches on consumer's willingness to pay[75] implied that "the assessment of value consists of the products acquisition value which is based on the ratio of the product's perceived benefits to the perceived sacrifice and the transaction value[76], which depends on the perceived gains or losses relative to reference prices[77]". The empirical method of collecting the valuation for legal music was simplified to devise a relative comprehensible question and thus suiting the population group.

[75] Simonson, I. and Drolet A., (2004) *"Anchoring Effects on Consumer's Willingness to Pay and Willingness to Accept"*. Journal of Consumer Research pp. 681 - 690

[76] Thaler, R. E. (1985). "Mental Accounting and Consumer Choice". *Marketing Science,* 4 (summer) pp-199 - 214

[77] Della, B., Albert, J. and Monroe, K. B., (1974) *"The Influence of Adaptation Levels on Subjective Price Perceptions"*. Advances in Consumer Research col. 1 ed. Scott Ward and Peter Wright, Boson: Association for Consumer Research pp. 359 - 69

6 Conclusion

This chapter will sum up theories used and the results being collected.

The stricter Swedish copyright law taking into effect this summer of 2005 might have possible consequences. The behaviour of consumer towards the criminal act of music piracy should decrease with such policy. Theories on deterring the criminal behaviour of consumers and the valuation of legal and illegal music can help explain such phenomena although the empirical results does not seem to disclose such theoretical explanations. The stricter copyright law contributes to a stronger deterrence towards the infringement behaviour of individuals because of the more precise definition of rights and the increased scope of the law on music consumption. The new copyright law also increases the risk of being detected and punished. But it is vaguely seen in the data collected. The average individual seemed not deterred by the information-feeding done in the kvasi-experiment to make the individuals think piracy behaviour is not "socially acceptable".

The common empirical result showed a somewhat tolerant behaviour of individuals in the consumption of illegally copied music over the internet through the use of P-2-P programs. It doesn't mean however that the theories used to explain the empirical data are fallible. Not only controllable factors, but also uncontrollable factors still exist when collecting the needed data and not everyone in the population actually depicts similar piracy behaviour. Possibly the economic factors could be one of the major sources why individuals are deterred to consume illegal music but at the same time it is not the only prime reason.

Surely, the new copyright law increases the marginal compensatory money damages and punishments, and thus minimises the criminal behaviour of individuals but to what degree is difficult to answer. Whether this new law can show a comparison on the costs and benefits of clearing up piracy behaviour which allows us to find an optimum level of piracy prevention is still uncertain.

List of Sources

Reference

Ahnegård, C., Asp, K., Chois, S. K., Kjellström, A., Strömqvist, M. (2001) *Piratkopiering och Privatkopiering*. Institutet för Immaterialrätt och Marknadsrätt, Stockholm University

Bakos Y., Brynjolfsson, E., Lichtman, D. (1999) "Shared information goods". *Journal of Law and Economics* 42 p117-155

Bengtsson, L. & Nygaard, C. (2001) *Strategizing – en kontextuell organistationsteori* . Studentlitteratur, Lund

Besen, S. M. and Kirby, S. N. (1989) "Private Copying, Appropriability, and Optimal Copying Royalties". *Journal of Law and Economics*, 2(1), 5-22

Bjerre, M., Hougaard, S. (2003) *Strategic Relationship Marketing*. Samfundslitteratur Press, Denmark

Breyer, S. (1970) "The uneasy case for copyright: A study of Copyright in Books, Photocopies and Computer programs". *Harvard L. Review*, p.84 vol 281

Buchanan, C. and Hartley, P. R. (1992) "Criminal Choice: The Economic Theory of Crime and its Implications for Crime Control". *Policy Monograph 24l*, Centre for Independent studies, St Leonards, New South Wales

Cameron, S. (1988) "Economics of Crime Deterrence". *Kyklos*, 41, 301-323

Chen, Yehning & Png, I.P.L. (1999) "Software Piracy and Copyright Enforcement: Private Profit vis-à-vis Social Welfare", *Proceedings, 20th International Conference on Information Systems, Dec. 1999*, 119-123

Conner, Kathleen R. & Rumelt, Richard P. (1991) "Software Piracy: An Analysis of Protection Strategies", *Management Science*, Vol 37 No. 2, Feb. 1991, 125-139

Cooter, R. & Ulen, T. (1988) *Law and Economics*. Harper Collins Publishers, USA

Davis, L. (2001) *Profiting from Innovation in Digital Information Goods: The Role of Intellectual Property Rights*. Department of Industrial Economics and Strategy Copenhagen Business School

Deadman, D. F. and Pyle, D. J. "Crime and unemployment in Scotland: some further results". *Scottish Journal of Political Economy*, 41, 314-324

Della, B., Albert, J. and Monroe, K. B., (1974) *"The Influence of Adaptation Levels on Subjective Price Perceptions".* Advances in Consumer Research col. 1 ed. Scott Ward and Peter Wright, Boson: Association for Consumer Research pp. 359 – 69

Dnes, A. W., (1996) *The Economics of Law*. International Thomson Business press, London

Fetscherin, M. and Zaugg, S., (2004) *Music Piracy on P-2-P Networks*. Institute of Information System, University of Bern

Fishbein, D. (1990) "Biological Perspectives in Criminology". *Criminology*, 28 27-72
Green, J. R., Mas-Colell, A., Whinston, M. D. (1995) *Microeconomics Theory.* Oxford University Press, New York

Herrnstein, R. and Wilson, J. (1985) *Crime and Human Nature*. Simon and Schuster, New York

Holm, H. J. (2003) "Can Economic Theory Explain Piracy Behaviour?". *Topics in Economic Analysis and Policy*, 3 article 5

Jacobsen, D. I. (2002) *Vad, hur och varför ?- Om metodval i företagsekonomi och andra samhällsvetenskapliga ämnen*. Studentlitteratur, Lund

Kahmström, D. (2000). *Från datainsamling till Rapport – att göra en statistisk undersökning*. Studentlitteratur, Lund, p. 19

Kreps, D. M. (1990) *A course in Microeconomic Theory*. Pearson Education Limited, Essex

Mas-Colell, A., Whinston, M. D., Green, J. R. (1995) *Microeconomic Theory*. Oxford University Press, New York

Melin, J., (2005). "Ny Teknik". *Metro Skåne*, 27 April 2005

Molteni, L., & Ordanini, A. (2003). Consumption Patterns, Digital Technology and Music Downloading. *Long Range Planning,* nr 36, s 389-406.

Montgomery, D. C., (2001). *Design and Analysis of Experiments*. 5th Ed, John Wiley and Sons, N.Y.

Norman., G., Pepall, L., Richards, D. J. (2005) *Industrial Organization: Contemporary Theory and Practice*. Thomson South-Western, Canada

Olsson, H. (2000) *Copyright, Svensk och internatinoell upphovsrätt.* Norstedts Juridik, Stockholm

Papadopoulus, T. (2000) "Copyright, Parallel Imports and National Welfare: The Australian Market for Sound Recordings". *The Australian Economic Review*, Vol 33, no 4, pp. 337-348

Papadopoulus, T. (2004) "Pricing and Pirate Product Market Formation". *Journal of Product and Brand Management*, 13, p. 56-63

Porter, M. E. (1985) "Competitive Adantage: Creating and Sustaining Superior Performance". *Free Press*, New York

Rienecker, L. & Jörgensen, P. S. (2002) *Att skriva en bra uppsats*. Upplaga 1:1. Liber, Lund

Schotter, A. (2003) *Microeconomisc, a Modern Approach*. Prentice Hall, 3rd ed, New Jersey
Paulsson, U. (1999) *Uppsatser och rapporter - med eller utan uppdragsgivare*. Studentlitteratur, Lund

Simonson, I. and Drolet A., (2004) *"Anchoring Effects on Consumer's Willingness to Pay and Willingness to Accept"*. Journal of Consumer Research pp. 681 - 690

Strömquist, S. (2003) *Uppsatshandboken*. Upplaga 3. Hallgren och Fallgren Studieförlag, Göteborg

Thaler, R. E. (1985). "Mental Accounting and Consumer Choice". *Marketing Science,* 4 (summer) pp- 199 - 214

Varian, H. R. (2000) "Buying, sharing, and renting information goods", *Journal of Industrial Economics*, 48 p473-488.

Wiederscheim-Paul, F. & Eriksson, L. T. (2001) *Att utreda och rapportera*. Upplaga 7:1. Liber, Malmö

2004/05:110, Upphovsrätten i Informationssamhället

E-Sources

http://www.criticalthinking.org/aboutCT/definingCT.shtml

de Hart, J. (2005) *Swedish Biz slides in 2004*, Stockholm, BILLBOARD
http://www.billboard.com

Inledning till rapporten,
http://www.scicom.lth.se/it/it3_inl.html

Digital Music Report 2005,
http://www.ifpi.org/site-content/library/digital-music-report-2005.pdf

Smith, E. (2004) "Sales of music albums spin slightly faster", The wall street journal,
http://online.wsj.com/article/0,,SB110445255559113530,00.html

Swedish Institute, *Swedish sector in Sweden*, FS 133 B Qadg/1101-6124, 25 Aug 2004
http://www.sweden.se/templates/cs/BasicFactsheet____3710.aspx#1.

Information economics, a primer (2000), *National Academy Press*
http://www.nap.edu/html/digital_dilemma/appD.html

SIIA, Global Software Piracy Report
http://www.siia.net/piracy/pubs/piracy2004.pdf

www.rocks.se

www.cdon.se

www.skivlagret.se

Nedladdning av musik och film förbjuds (2003), TT
http://w1.sydsvenskan.se/Article.jsp?article=10048037

Matveev, A. V., (2002) "The Advantage of Employing Quantitative and Qualitative Methods in Intercultural Research: Practical Implications from the study of Perceptions of Intercultural Communication Competence by American and Russion Managers" Bulletin of Russian Communication Association
http://russcomm.ru/eng/rca_biblio/m/matveev01_eng.shtml,

APPENDIX 1

Table 1.1

BACKGROUND INFORMATION

Q1					
MALE N = 30	***INCOME***	***DOWNLOADS MUSIC? (Yes/No)***	**FEMALE N = 32**	***INCOME***	***DOWNLOADS MUSIC? (Yes/No)***
Mean	1,7333	1,1	Mean	1,8125	1,3125
Median	1	1	Median	1	1
Std Dev	1,3629	0,3051	Std Dev	1,4013	0,4709

Table 1.2

BACKGROUND INFORMATION

Q2					
MALE N = 21	***INCOME***	***DOWNLOADS MUSIC? (Yes/No)***	**FEMALE N = 27**	***INCOME***	***DOWNLOADS MUSIC? (Yes/No)***
Mean	1,1905	1,0476	Mean	1,3704	1,3704
Median	1	1	Median	1	1
Std Dev	0,5118	0,2182	Std Dev	0,8835	0,4921

Table 1.3

BACKGROUND INFORMATION

Q3					
MALE N = 24	***INCOME***	***DOWNLOADS MUSIC? (Yes/No)***	**FEMALE N = 37**	***INCOME***	***DOWNLOADS MUSIC? (Yes/No)***
Mean	1,625	1,0417	Mean	1,2703	1,3243
Median	1	1	Median	1	1
Std Dev	0,7697	0,2041	Std Dev	0,9617	0,4746

Table 1.4

BACKGROUND INFORMATION

	Male		**Female**	
N	75		96	
	INCOME	***DOWNLOADS MUSIC? (Yes/No)***	***INCOME***	***DOWNLOADS MUSIC? (Yes/No)***
Mean	1,546667	1,066666667	1,479167	1,333333333
Median	1	1	1	1
Std Dev	1,017327	0,251123601	1,123708	0,473879102

Table 1.5

BACKGROUND INFORMATION

Total N	171	
	INCOME	***DOWNLOADS MUSIC? (Yes/No)***
Mean	1,512917	1,2
Median	1	1
Std Dev	1,075767	0,412981641

APPENDIX 2

Table 2.1

PIRACY BEHAVIOUR

Q1	N = 49		
Variable	*Mean*	*Median*	*Std Dev*
Frequency of downloading illegal music copied on P-2-P programs per month	1,7708	1	1,2246
Total compilation of illegal music copied on P-2-P programs	2,3061	2	1,4607

Table 2.2

PIRACY BEHAVIOUR

Q2	N = 34		
Variable	*Mean*	*Median*	*Std Dev*
Frequency of downloading illegal music copied on P-2-P programs per month	1,6176	1	0,9852
Total compilation of illegal music copied on P-2-P programs	2,1471	1,5	1,4798

Table 2.3

PIRACY BEHAVIOUR

Q3	N = 46		
Variable	*Mean*	*Median*	*Std Dev*
Frequency of downloading illegal music copied on P-2-P programs per month	2,2609	1	1,5411
Total compilation of illegal music copied on P-2-P programs	2,7826	2	1,7245

APPENDIX 3

Table 3.1

The Effects of Copyright Law through Information-feeding

Q1	N = 49		
Variable	*Mean*	*Median*	*Std Dev*
Future Downloads in the nearest 6 months	2,449	2	1,4728
The belief of discovery	1,6531	2	0,4809
Probability of discovery for the individuals to stop copying on P-2-P programs	2,7042	3	1,4816
Net Willingness to pay for an original	4,7143	5	2,0207

Table 3.2

The Effects of Copyright Law through Information-feeding

Q2	N = 34		
Variable	*Mean*	*Median*	*Std Dev*
Future Downloads in the nearest 6 months	1,9076	1	1,4665
The belief of discovery	1,7059	2	0,4625
Probability of discovery for the individuals to stop copying on P-2-P programs	2,6176	2	1,371
Net Willingness to pay for an original	3,8824	4	1,8384

Table 3.3

The Effects of Copyright Law through Information-feeding

Q3	N = 46		
Variable	*Mean*	*Median*	*Std Dev*
Future Downloads in the nearest 6 months	2,9873	2	1,7949
The belief of discovery	1,6739	2	0,474
Probability of discovery for the individuals to stop copying on P-2-P programs	2,8913	3	1,1968
Net Willingness to pay for an original	4,6957	5	1,5898
Individual's decline in illegally copying music files	1,5745	2	0,4998

APPENDIX 4

Konsumentbeteende och piratkopiering av musik

För tydliganden av begrepp:

När jag talar om CD-skivor i enkäten så avser jag färdiginspelade CD-skivor man köper i butik, d v s producerade av ett musikbolag.
Med begreppet fildelningsprogram avser jag program som är skapade i syfte at t dela musik, film eller liknande filer med andra personer.

Bakgrundsfrågor

1. Är du man [ ] eller kvinna [ ] ?

2. Vilket år föddes du? _____

3. Hur mycket pengar har du att disponera varje månad efter att hyran, el-, Internet och teleräkningar är betalda. (räkna även alternativa inkomster och gåvor)?

2000 – 4000 varje månad [ ]
4001 – 6000 ” [ ]
6001 – 8000 ” [ ]
8001 – 10000 ” [ ]
10001 – 12000 ” [ ]
Mer än 12000 ” [ ]

4. Har du någon gång laddat ner musik (m h a fildelningsprogram) från Internet det senaste halvåret?

Ja [ ] Nej [ ]

Om du svarat nej på fråga 4 tackar vi för din medverkan!
Nu följer ett antal frågor kring nedladdning av musik m h a fildelningsprogram

5. Hur många låtar laddar du ner i genomsnitt per månad (uppskattningsvis)?

0 – 20 st [ ]
21 – 40 st [ ]
41 – 60 st [ ]
61 – 80 st [ ]
Mer än 80 st [ ]

6. Hur många låtar har du totalt laddat ner (uppskattningsvis)?

0 – 500 st [ ]
501 – 1000 st [ ]
1001 – 2000 st [ ]
2001 – 3000 st [ ]
Mer än 3000 st [ ]

7. Hur många låtar du kommer att ladda ner det närmaste halvåret (uppskattningsvis)?

0 – 100 st [ ]
101 – 200 st [ ]
201 – 300 st [ ]
301 – 400 st [ ]
401 – 500 st [ ]
Mer än 500 st [ ]

8. Tror du att det finns en sannolikhet att du blir upptäckt vid illegal kopiering av musik filer?

Ja [ ] Nej [ ]

9. Upptäckt kan ge vissa påföljder. Hur stor måste sannolikheten vara för att bli upptäckt så att du skall sluta piratkopiera?

1 av 10 piratkopierande personer		blir fällda per år	[ ]
1 av 100	”	”	[ ]
1 av 1000	”	”	[ ]
1 av 10000	”	”	[ ]
1 av 100000	”	”	[ ]
1 av 1000000	”	”	[ ]

10. Hur mycket pengar är du villig att betala för en CD-skiva som du verkligen vill ha under förutsättningen att du även kunde illegalt kopiera den på Internet?

0 – 20 SEK	[ ]
21 – 40 SEK	[ ]
41 – 60 SEK	[ ]
61 – 80 SEK	[ ]
81 – 100 SEK	[ ]
101 – 120 SEK	[ ]
121 – 140 SEK	[ ]
Mer än 140 SEK	[ ]

APPENDIX 5

Konsumentbeteende, piratkopiering av musik och Upphovsrättslagen

Förtydliganden av begrepp:

När jag talar om CD-skivor i enkäten så avser jag färdiginspelade CD-skivor man köper i butik, d v s producerade av ett skivbolag.
Med begreppet fildelningsprogram avser jag program som är skapade i syfte at t dela musik, film eller liknande filer med andra personer.

Upphovsrättslagen (URL)

1) Upphovsrätt består av 2 delar: uteslutande rätt för upphovsmannen att förfoga över verket genom att framställa exemplar av det och rätten att göra verket tillgängligt för allmänheten, d v s verket framförs och visas offentligt, utbjuds till försäljning eller sprides till allmänheten eller offentligt.

2) Var och en får framställa enstaka exemplar av offentliggjorda verk för enskilt bruk. Exemplaren får inte användas för andra ändamål, d v s inte tillåtet att t ex sprida verket utanför den privata sfären.
   - Om ett musikaliskt verk offentliggjorts kan en enskild person kopiera verket som lagts ut på en webbsida på Internet utan tillstånd från upphovsmannen.

3) Den som beträffande ett konstnärligt verk vidtar åtgärder som innebär intrång i det döms, om det sker uppsåtligen eller av grov oaktsamhet, till böter eller fängelse i högst två år

Bakgrundsfrågor

1. Är du man [ ] eller kvinna [ ] ?

2. Vilket år föddes du? _____

3. Hur mycket pengar har du att disponera varje månad efter att hyran, el-, Internet och teleräkningar är betalda. (räkna även alternativa inkomster och gåvor)?

2000 – 4000 SEK varje månad [ ]
4001 – 6000 " [ ]
6001 – 8000 " [ ]
8001 – 10000 " [ ]
10000 – 12000 " [ ]
Mer än 12000 " [ ]

4. Har du någon gång laddat ner musik m h a fildelningsprogram från Internet det senaste halvåret?

Ja [ ] Nej [ ]

Om du svarat nej på fråga 4 tackar jag för din medverkan!
Nu följer ett antal frågor kring nedladdning av musik m h a fildelningsprogram

5. Hur många låtar laddar du ner i genomsnitt per månad (uppskattningsvis)?

0 – 20 st [ ]
21 – 40 st [ ]
41 – 60 st [ ]
61 – 80 st [ ]
Mer än 80 st [ ]

6. Hur många låtar har du totalt laddat ner (uppskattningsvis)?

0 – 500 st [ ]
501 – 1000 st [ ]
1001 – 2000 st [ ]
2001 – 3000 st [ ]
Mer än 3000 st [ ]

7. Hur många låtar du kommer att ladda ner det närmaste halvåret (uppskattningsvis)?

0 – 100 st [ ]
101 – 200 st [ ]
201 – 300 st [ ]
301 – 400 st [ ]
401 – 500 st [ ]
Mer än 500 st [ ]

8. Tror du att det finns en sannolikhet att du blir upptäckt vid illegal kopiering av musik filer?

Ja [ ] Nej [ ]

9. Påföljden att bli upptäckt och fälld enligt den nuvarande URL är att du döms till böter, fängelse i högst två år, vitesförbud, och/eller betalar ersättning. Hur stor måste sannolikheten vara för att bli upptäckt och fälld så att du skall sluta piratkopiera?

1 av 10 piratkopierande personer blir fällda per år [ ]
1 av 100 ” ” [ ]
1 av 1000 ” ” [ ]
1 av 10000 ” ” [ ]
1 av 100000 ” ” [ ]
1 av 1 000 000 ” ” [ ]

10. Med tanke på den nuvarande URL, hur mycket pengar är du då villig att betala för en CD-skiva med förutsättning att du även kunde illegalt kopiera det på Internet?

0 – 20 SEK [ ]
21 – 40 SEK [ ]
41 – 60 SEK [ ]
61 – 80 SEK [ ]
81 – 100 SEK [ ]
101 – 120 SEK [ ]
121 – 140 SEK [ ]
Mer än 140 SEK [ ]

APPENDIX 6

Piratkopiering av musik & den nya Upphovsrättslagen

För tydliganden av begrepp:

CD-skivor i enkäten avses färdiginspelade skivor som köps butik, d v s producerade av ett skivbolag.
Med begreppet fildelningsprogram avses program som är skapade i syfte at t dela musik, film eller liknande filer med andra personer.

Den nuvarande Upphovsrättslagen (URL)

1) Upphovsrätt består av 2 delar: uteslutande rätt för upphovsmannen att förfoga över verket genom att framställa exemplar av det och rätten att göra verket tillgängligt för allmänheten, d v s verket framförs och visas offentligt, utbjuds till försäljning eller sprids till allmänheten.

2) Var och en får framställa enstaka exemplar av offentliggjorda verk för enskilt bruk. Exemplaren får inte användas för andra ändamål, d v s inte tillåtet att t ex sprida verket utanför den privata sfären.
   - Om ett musikaliskt verk offentliggjorts kan en enskild person kopiera verket som lagts ut på en webbsida på Internet utan tillstånd från upphovsmannen.

3) Den som beträffande ett konstnärligt verk vidtar åtgärder som innebär intrång i det döms, om det sker uppsåtligen eller av grov oaktsamhet, till böter eller fängelse i högst två år.

Den nya URL (träder i kraft 1 juli, 2005)

1) I den nya lagen klargörs att alla tillfälliga kopior av musikfiler när de gjorts tillgängligt på Internet via s.k. fildelningsprogram eller P-2-P ingår nu även i upphovsmannens ensamrätt. Detta resulterar till dels en större sannolikhet att bli upptäckt och fälld, och dels att den som begår intrånget vid illegal musikkopiering via s.k. fildelningsprogram eller P-2-P blir ersättningsskyldig.

2) Oavsett om det är fråga om lagligt eller olagligt material ger den nya lagen inte någon rätt att ladda ner och spara mer varaktiga kopior av verk vid tillfälliga former av exemplar.

3) Det är inte tillåtet att framställa exemplar för privat bruk i den nya URL om den egentliga förlagan är olovlig, d v s förlagan kopieras utan upphovsmannens tillstånd trots att den redan gjorts tillgängligt till allmänheten

4) Kopieringen får inte ske om syftet direkt eller indirekt är kommersiellt enligt den nya lagen. Framställningen av musikfiler för privat bruk blir även betydligt mer begränsade. Detta kan ge en större sannolikhet att bli upptäckt och fälld när man framställer och kopierar massvis av musikfiler.

5) Det är förbjudet enligt den nya URL att utan samtycke från upphovsmannen kringgå en digital eller analog spärr som hindrar eller begränsar framställning av exemplar av ett musikaliskt skyddat verk.

Bakgrundsfrågor

1. Är du man [ ] eller kvinna [ ] ?

2. Vilket år föddes du? _____

3. Hur mycket pengar har du att disponera varje månad efter att hyran, el-, Internet och teleräkningar är betalda. (räkna även alternativa inkomster och gåvor)?

2000 – 4000 SEK varje månad [ ]
4001 – 6000 ” [ ]
5001 – 8000 ” [ ]
8001 – 10000 ” [ ]
10001 – 12000 ” [ ]
Mer än 12000 ” [ ]

4. Har du någon gång laddat ner musik (m h a fildelningsprogram) från Internet det senaste halvåret?
Ja [ ] Nej [ ]

Om du svarat nej på fråga 4 tackar jag för din medverkan!
Nu följer ett antal frågor kring nedladdning av musik m h a fildelningsprogram

5. Hur många låtar laddar du ner i genomsnitt per månad (uppskattningsvis)?

0 – 20 st [ ]
21 – 40 st [ ]
41 – 60 st [ ]
61 – 80 st [ ]
Mer än 80 st [ ]

6. Hur många låtar har du totalt laddat ner (uppskattningsvis)?

0 – 500 st [ ]
501 – 1000 st [ ]
1001 – 2000 st [ ]
2001 – 3000 st [ ]
Mer än 3000 st [ ]

7. Uppskatta hur många låtar du kommer att ladda ner det närmaste halvåret?

0 – 100 st [ ]
101 – 200 st [ ]
201 – 300 st [ ]
301 – 400 st [ ]
401 – 500 st [ ]
Mer än 500 st [ ]

8. Tror du att det finns en sannolikhet att du blir upptäckt vid illegal kopiering av musik filer?

Ja [ ] Nej [ ]

9. Påföljden att bli upptäckt och fälld enligt den nuvarande URL är att du döms till böter, fängelse i högst två år, vitesförbud, och/eller betalar ersättning. Men med tanke på den nya URL, kan den som illegalt kopierar däremot få ett högre straffvärde i form av böter och ersättning. Hur stor måste sannolikheten vara för att bli upptäckt och fälld så att du skall sluta piratkopiera?

1 av 10 piratkopierande personer blir fällda per år [ ]
1 av 100 ” ” [ ]
1 av 1000 ” ” [ ]
1 av 10000 ” ” [ ]
1 av 100000 ” ” [ ]
1 av 1000000 ” ” [ ]

10. Med tanke på den nya URL, hur mycket pengar kommer du vara villig att betala för en CD-skiva efter den nya lagen börjat gälla, med förutsättning att du även kunde illegalt kopiera det över nätet?

0 – 20 SEK [ ]
21 – 40 SEK [ ]
41 – 60 SEK [ ]
61 – 80 SEK [ ]
81 – 100 SEK [ ]
101 – 120 SEK [ ]
121 – 140 SEK [ ]
Mer än 140 SEK [ ]

11. Med några av de nya förändringarna i upphovsrättslagen givna i denna enkät, kommer din nedladdning av musikfiler från Internet minska?

JA [ ] **NEJ [ ]**