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TNO-rapport

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Ups and downs

Economic and cultural effects of file sharing on music, film and games

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Management Summary

The main aim of this study is to identify the short- and long-term economic and cultural effects of file sharing on music, films and games. File sharing is the catch-all term for uploading and downloading. The short-term implications examined include the direct costs and benefits to society at large. In order to determine the long-term impact, we analyse changes in the industry's business models as well as in cultural diversity and the accessibility of content.

The study draws on existing sources of information to describe the structure and operation of the film, games and music industries and discusses the most important changes in their business models. Digitisation has played a central role in this process.

The trends and developments are subsequently analysed from a legal perspective, with a primary focus on copyright aspects. The empirical reality of file sharing is described using data collected during interviews with heavy file sharers as well as data from a representative survey of 1,500 internet users in the Netherlands. Other sources include interviews with people working in one of the three entertainment industries and, where none were available, with industry representatives. Note that this part of the study is by no means a consultation of all parties concerned. The research findings are subsequently placed in a broader perspective using comparable scientific studies carried out in other parts of the world. This has enabled us to fill in the missing pieces and to take a closer look at the impact of file sharing on the paid consumption of music, films and games.

The research shows that the economic implications of file sharing for welfare in the Netherlands are strongly positive in the short and long terms. File sharing provides consumers with access to a broad range of cultural products, which typically raises welfare. Conversely, the practice is believed to result in a decline in sales of CDs, DVDs and games.

Determining the impact of unlicensed downloading on the purchase of paid content is a tricky exercise. In the music industry, one track downloaded does not imply one less track sold. Many music sharers would not buy as many CDs at today's prices if downloading were no longer possible, either because they cannot afford it or because they have other budgetary priorities: they lack purchasing power. At the same time, we see that many people download tracks to get to know new music (*sampling*) and eventually buy the CD if they like it. To the extent that file sharing *does* result in a decline in sales (*substitution*), it usually entails a transfer of welfare from producers to consumers. With estimated welfare gains accruing to consumers totalling around €200 million a year in the Netherlands, music producers and publishers suffer turnover losses of at most €100 million a year. These calculations are necessarily based on several assumptions and contain uncertainties as many of the underlying data are not precisely known. Whereas comparable figures cannot be provided for the film and games industries, they follow a similar logic.

Estimates of the volume of global unauthorised download traffic vary strongly, but all signs are that this involves many billions of files per year, constituting a substantial share of international internet traffic. The number of file sharers in the Netherlands is relatively high, which can be explained by the early introduction of broadband in the country and its high penetration. Music is by far the most frequently downloaded product. Based on a compilation of different sources, the number of music downloads in the Netherlands can be estimated at between 1.5 and 2 billion per year, which would amount to 7.5 downloads for each track sold. That said, not all downloaded tracks are

actually listened to as consumers tend to download a great deal more music than they listen to.

File sharing is a widespread phenomenon, with around 4.7 million Dutch internet users aged over 15 years having, over the past 12 months, engaged in downloading without paying on one or more occasions. Generally, file sharing and buying go hand in hand. Consumers who download tend to be aficionados of music, films or games, which therefore play an important role in their daily lives. Among music and film downloaders, the percentage of buyers is just as high as among non-downloaders; among game sharers, the percentage of buyers is even higher than among people who do not download games. In addition, music downloaders have been found to go to concerts more and to buy more merchandise. Game sharers buy more games a year than gamers who do not download and film sharers tend to buy more DVDs on average than do non- file sharers. Most file sharers say they would not change their buying habits if downloading were no longer possible.

Legal framework

Downloading copyrighted content from file-sharing networks, websites and other sources for one's own use is permitted by law in the Netherlands. Games – being computer programs – are an exception to this as they enjoy wider protection. In the case of peer-to-peer (P2P) networks, content is not only often downloaded by users but also made available again to others, usually automatically, in which case the user is both consumer and supplier. This file sharing is a more or less intrinsic element of P2P networks. The uploading of files, whether automated or otherwise, without the prior consent of the right holders is a copyright infringement and may result in both civil and criminal liability. For the purposes of enforcement, intentionally infringing copyright in the course of a business or occupation is an aggravating circumstance.

Measures to combat the variety of practices encompassed by the term 'file sharing' in the Netherlands and Europe focus primarily on the uploading side. The law provides right holders with a range of means of *enforcement under civil law*. Recent policy developments indicate that *criminal enforcement measures* focus in particular on uploading on a commercial and/or large scale. There is reluctance among policymakers at not only national but also European level to 'criminalise' individual end users. Aspects of public interest are at issue in this connection (promoting legal delivery, proportionality, expediency, legal certainty, etc.). The possible role of intermediaries, both individuals and organisations, such as Internet Service Providers, hosting providers and (other) parties involved in P2P traffic, is increasingly a topic of debate. They could play a part in identifying and combating the unauthorised delivery of content.

File sharing and the entertainment industry

The impact of digitisation on the various sectors of the entertainment industry is substantial. Traditional business models used by distributors in each of these sectors and most other actors upstream in the value chain (producers and creators) are based on the controlled access to the products created, in this case films, games and music (recordings). Copyright gives them control over the use and marketing of their products, for which they may charge consumers. The practice of file sharing, however, is making it increasingly difficult for them to maintain control over their works, with the risk of eroding their commercial foundations. Timely response to these changes is of the

essence in order to safeguard their position. In some cases this will necessarily entail a redefinition of business models.

The *music industry* finds itself up against a shrinking market for its products and the ubiquitous problem of file sharing. It may well be that at least part of turnover loss directly reflects this sharing of digital music files, via P2P networks among other routes. The industry's defensive strategy has not succeeded in stemming the swelling tide of music sharing and has failed to come up with an early answer to today's new digital reality. And so it has seen other players, such as Apple, claim key market positions in marketing and delivering digital music files. Charging for digital downloads has so far not provided a definitive solution to the slide in sales. As the new market is now unable to compensate the industry's decline, business model reinvention is more urgent than ever. The fact that the total market for audio formats (physical and downloads taken together) is shrinking faster than Dutch record companies' total turnover suggests that the record labels have found new sources of revenue. This is in line with the industry's all-out efforts to tap new income sources. For established artists, new marketing and income-generating models are being developed where income is generated not so much directly by music recordings, but increasingly by live concerts, merchandising and sponsorship, which in turn are being secured by the industry with the aid of 360-degree contracts. Determining the extent to which these sources of income make good the losses in the market for audio formats is difficult on the basis of the information publicly available. That said, the new models still cater for music recordings but show that in the future the industry is not likely to be able to survive profitably on music recordings alone.

A different picture emerges for the *film industry*, which is still enjoying growth in a number of markets: cinema visits and DVD sales. By contrast, DVD rentals have slumped. This favourable trend compared with the record industry may reflect the fact that film sharing has not taken off on as large a scale as music sharing. If this is indeed the reason, increasing broadband penetration might eventually also cause this industry to record less growth or even to shrink. The urgency the music industry feels to reinvent its business model might then also take hold in the film industry. Films are also at a disadvantage in that it is not in the nature of film consumption for many viewers to quickly want to see the same film again. Free downloading is therefore more likely to result in substitution here than in the music business. And as the role of file sharing to get to know a product, which downloaders may subsequently buy, is less applicable to films, the industry should not allow itself to be lulled into a sense of complacency by still-increasing turnovers.

The *games industry* is a different story yet again. This business is showing exuberant growth, particularly at the console games and related hardware end, and the spectre of file sharing looms much less large in console games than in PC games, where turnover is now flat. The specific platform-restricted hardware-software-content marriage makes the official game release so attractive – compared with a music CD – that this industry might well be able to better prevent or sidestep the file sharing that besets the music business. The hardware-software-content combine also gives large producers and distributors in the industry more scope to ensure profitable operations. These opportunities are sorely lacking in the music and film industries. Another advantage of the games industry is that concept design and product innovation are much more embedded in the gaming culture than in the music and film industries, in particular now that it is increasingly capitalising on the opportunities offered by the Web. From this vantage point it is less complex for the games industry to innovate, if need be by joining forces with the music industry as it is now doing in music games. Boasting such a

strategic advantage, it should not come as a surprise if the games industry ends up the winner in the battle for young consumers' spending money. This would seem to lie ahead given current trends in the joint film, music and games markets. Whereas the size of the entertainment market as a whole is relatively constant, the share of music is declining gradually and the share of games is showing explosive growth.

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1 Introduction and problem statement

This study was carried out by a consortium of TNO Information and Communication Technology (www.tno.nl), SEO Economic Research (www.seo.nl) and the Institute for Information Law (IViR) (www.ivir.nl), and commissioned by the Ministry of Education, Culture and Science, the Ministry of Economic Affairs and the Ministry of Justice of the Netherlands.

1.1 Background

Industries involved in creating, producing, commercialising and distributing content find themselves facing major change because of digitisation. These include the music and film sectors, and for over a decade now also the games sector, alongside the broadcasting industry and print publishers that are outside the remit of this study. Digitisation and its by-product convergence are changing the face of the content industry, with new types of distribution emerging and the boundaries between the different industries blurring. New opportunities are arising while challenges to existing ways of operating require reinvention as digitisation enables consumers to access music, films and games in new ways. File sharing, the uploading and downloading of music, films and games, has become a reality – even if experience shows that online sharing often occurs without the explicit agreement of the right holders, who thus do not receive any payment. Companies producing content worry about the damage to revenues for which file sharing is said to be to blame.

1.2 Problem statement

The impact of file sharing on the content industry's various sectors and the industry at large has been the subject of great debate. Its detractors believe that file sharing is causing untold damage to the content industry and is even putting its economic viability at stake. They warn that this might diminish the range of culture on offer and reduce opportunities for nurturing talent, and that, with investment resources drying up, cultural production practices will, over time, no longer meet society's need for a wide variety of content. This scenario typically crops up in discussions on the impact of file sharing on the music industry, which frequently also suggest that the film and games industries are heading down the same route as soon as file sharing really takes hold there, too.

Others reject these arguments – which, incidentally, come mostly from within the content industry – and feel that unlicensed digital distribution is the outcome of the content industry's failure to innovate and that the digital highway opens up new ways of leveraging content. They argue that by responding to online content sharing by consumers in an innovative way, market players could tap into new value-creating opportunities. Instead of flagging inevitable cultural or social damage, they see opportunities to achieve cultural, social and economic value by new means. To this end, the content industry should reinvent itself by capitalising on the value of content in different ways and at different times, directly through its end-users or indirectly through collaboration with other economic players, if need be outside the content industry itself. They believe content industry players should invest more time and resources in creating new business models to equip themselves for survival in the digital era.

This debate is not just about the content industry, it affects society as a whole. It is not merely the future of an industry that is at stake here, we are talking cultural diversity, opportunities for talented people to develop their creativity and turn it into content, and access to culture for the general public. And this being so, the debate borders on several government policy areas.

This issue is of particular interest to those involved in cultural policy-making, as the government is looking to promote the creation of and access to a wide range of high-quality cultural products. Likewise, it is relevant to the country's aim to develop a robust creative industry that is a key contributor to the economy, and thus also has a bearing on the government's policy to promote innovation and competitiveness in trade and industry. And, of course, the subject also involves the law, particularly in terms of intellectual property.

Against this backdrop, the primary purpose of this study is to identify the broader social, cultural and economic implications of file sharing for three sectors of the entertainment industry: the music, film and games industries. The report makes a number of recommendations and in doing so contributes to the public debate about the subject.

File sharing is the catch-all term for uploading and downloading, and encompasses a range of technologies. What is more, it is the term that is frequently used in the various scientific studies on the subject, including this report. File sharing logically breaks down into downloading and uploading, with the latter particularly relevant in terms of the law as any online offering of copyrighted content is not allowed under Dutch law without the prior consent of the right holder. By contrast, downloading copyrighted material is typically permitted, provided it is for the downloader's own use and meets certain requirements – regardless of whether the content comes from an 'illegal source'. Note that these rules do not apply to games, which are considered computer programs and are therefore governed by different laws. Chapter 3 provides an in-depth review of the legal aspects of uploading and downloading.

To gauge the economic and cultural implications of file sharing, this study will review the scale and consequences of licensed and unlicensed downloading for the content industries as these currently exist. File sharing itself serves as the starting point for observations and speculations on the impact on the various industries of uploading without the prior consent of right holders. With the aid of an examination of the scale of, background to and motives for 'free' downloading and the supposed link to content buying, this study identifies the broader social implications of unlawful uploads of copyrighted content.[1]

1.3 Research questions

This study identifies the economic and cultural implications of file sharing for music, films and games in the Netherlands.

To this end, it provides the answers to the following sub-questions:

- What are the key characteristics of and trends in the three industries – film, games and music – and their respective markets? To what extent are identified trends attributable to file sharing? What are the most important developments in the business models of the sectors of the entertainment industry investigated?

- What is the legal framework of file sharing in the cases of film, music and games? What are the relevant developments in national (Dutch) and European legislation, regulations and legal policy in this field?

- What are people's key motives and considerations in file sharing? Are there any differences in file sharing between films, games and music? How much file sharing can be estimated to go

[1] Note that unpaid-for downloads do not automatically equal content made available online without the prior consent of right holders. Chapter 4 discusses this in greater depth.

on in the Netherlands? What are the possible implications of file sharing for consumer behaviour in other markets in which this content is sold?

- What are the most important welfare effects in the short and longer terms? How are these created and what, to date, have been the roles of the content industry, distribution network operators, the government and consumers? What are the estimated economic effects on each of the three industries? What are the expected effects on cultural diversity? How does file sharing affect the accessibility of culture? What are the implications for government and private individuals?

The answers to the questions posed in this study are based on a mix of research methods and tools.

To find answers to some of our questions we have consulted the relevant literature at various stages of our research and drawn on a range of secondary – particularly statistical – sources. This is exactly what we have done in our review of the state of play in the broader entertainment industry and in three sectors that are the subject of this report: film, games and music. Our legal analysis also primarily reflects a review of the literature and a closer interpretation of the existing legal provision and relevant case law. Our report also draws on existing literature and research studies to create an appropriate framework for assessing the outcomes of our empirical investigation. To identify the welfare effects of file sharing we have also conducted secondary analyses on existing material – the subject of Chapter 6 of this report.

To investigate the background to, motives for and practice of file sharing, we have talked to active uploaders and downloaders and commissioned a survey of a representative group of internet users, conducted by research agency Synovate.

In addition, we have sounded out representatives of the different industry sectors about the effects of file sharing within companies in the entertainment industry and about the new content-leveraging opportunities that the digital era offers. For these interviews we have tried to invite people with direct experience of their markets; representatives of the industry associations were not our first port of call. That said, we have consulted the latter in a number of cases where we could find no-one from the business to talk to us.

1.4 How this report is structured

To assess the impact of file sharing, Chapter 2 sets out the structure, operation and markets of the sectors investigated – music, film, games – and the implications of digitisation and file sharing on these industry sectors. The chapter also discusses the development of new business models in the face of and in response to digitisation, and outlines the development of the nature and scale of the different markets relevant to the film, games and music industries, insofar as publicly available sources allow.

Chapter 3 provides an overview of the legal aspects of file sharing under current law, and also covers relevant policy developments at national and European level. Together, these aspects and trends create a relevant framework for the role of government on this issue.

Chapter 4 reports on a representative survey of 1,500 Dutch internet users, capturing their behaviour and motives in downloading and uploading music, films and games. The survey also investigates purchasing behaviour related to music, DVDs and games, and includes questions about related markets such as concerts and merchandise.

Chapter 5 places the findings of the Dutch consumer survey in a wider international context, allowing for a broader perspective and identifying missing building blocks necessary to gauge the economic effects of file sharing. The chapter also reviews international academic sources on the effects of file sharing on the purchase of music, films and games, focusing primarily on recent research conducted independently of any industry stakeholders and whose publication has been subject to editorial peer review.

Drawing on this comparative analysis and collating it with recent developments in the relevant markets, Chapter 6 identifies the social, cultural and economic implications of file sharing. Conclusions about consumer behaviour, motives and background help to shed light on the ways in which the different industries are responding and looking forward in their strategies, innovations and product development. This ultimately gives rise to an evaluation of the broader welfare effects of file sharing.

Chapter 7 presents our answers to the research questions and provides policy recommendations.

2 State of play in the entertainment industry: films, games and music

The film, games and music industries are sectors of the entertainment industry. Operating in the experience market, these industries leverage access to information and cultural products through copyright, with products that are primarily symbolic in nature. A key feature of the entertainment industry is its specific combination of high fixed initial costs and relatively low variable costs. Also, consumers are only able to establish the value of experience goods such as music, film and games through getting to know them. What is more, consumption of entertainment products is typically non-rival, i.e. use by one consumer does not necessarily affect another's enjoyment of them – especially if these products are available in digital format. With information and communication being crucial features of these industries, trends in information and communication technologies have a decisive influence on the sector – digitisation being a current case in point. In fact, the games industry itself is a product of the digital revolution. File sharing, a by-product of digitisation and the central focus of this study, has major implications for the music, film and games industries. The music industry, in particular, is suffering the effects of file sharing, having been unable to stem the tide of unlicensed digital music downloads with a conservative strategy of legal measures and digital rights management. Reinvention of the business model looks like the only way out: the music economy appears to be facing a shift in spending away from recordings to concert tickets and, to a lesser degree, merchandise. Note, however, that the evidence for this is anecdotal at present, as hard figures for these markets are in short supply. As yet, the film industry is feeling the file-sharing pain less than is the music business, but this looks about to change as broadband is rolled out further in the Netherlands. The 'digitally native' games industry would seem better positioned to respond to the impact of file sharing.

The markets for film, games and music show diverging trends: declining CD turnover is insufficiently offset by the emerging market for paid-for downloads; the market for films is growing in some areas – DVD sales and cinema visits – but declining in others, e.g. DVD rentals; and the games market is enjoying exuberant growth – at the console end of the market (both hardware and content), that is, as PC games have stopped moving. The overall entertainment industry of film, music and games is relatively stable, but its make-up is changing: games are gaining ground while the share of music is shrinking in terms of money spent on CDs and paid-for downloads.

2.1 Introduction

This chapter provides insight into the specific nature of the entertainment industry and its key trends, particularly in the film, games and music industries. Looking first at the characteristics of the sector and the products marketed, it will touch on the way the industry has traditionally been run before moving on to the question of how digitisation in general – and the phenomenon of file sharing in particular – is changing the structure and operation of these industries. Key trends in the entertainment market are also taken on board, with a focus on the music industry as manifesting the most important and far-reaching changes. The first part of the chapter ends on the emergence of new business models in the entertainment industry, again – and for the same reason – zooming in on the music industry. A creative industries playing field thus comes into view, within which the implications of file sharing are – or will become – visible.

Incidentally, in terms of turnover and profits the entertainment industry has yet to switch to a new earnings model, even if many market watchers are presaging such a shift. The film, games and

music industries are currently generating most of their turnover and earnings by leveraging creative content in time-honoured ways, predominantly music recordings, films or games on specific physical formats sold directly to consumers through various retail channels. Other, equally traditional ways of leveraging creative content include playing music in concert halls, stadiums and at festivals, selling content-based and other related products – i.e. merchandise – and screening films at cinemas and art-house theatres. The second part of this chapter examines concrete developments in these three markets of the entertainment industry in some greater detail. It presents data gathered from secondary, mainly publicly available sources, i.e. literature and market data. It also factors in knowledge about and insight into the entertainment industry and industry sectors that may be gleaned from the literature. Our outline of a number of trends and developments draws on data made available by market research company GfK.

Having to use mainly existing sources does mean that we do not have sufficient data for all relevant markets, e.g. live music performances within and outside the Netherlands – a booming business these days. The same limitation applies to the trade in entertainment-related merchandise.

2.2 The entertainment industry: structure, characteristics and operation

This study covers three sectors in the entertainment industry, which differs from other industries on a number of key points. It first discusses particular qualities of the industry's products and services, implying a specific production process marked by certain economic characteristics. It subsequently explains why the industry's products and services are ideally suited to digital operation and distribution, but thus also ultra-susceptible to unlawful distribution and file sharing. It then moves on to describe the industry's business model and the changes afoot. These changes have been discernible first in the music industry, which is therefore central to our discussion of new business models.

2.2.1 *Experience goods and public goods*

The film, games and music industries generate the bulk of their revenues by marketing their products directly to consumers. We are talking here about the release of films on DVD, music on CD and games on consoles, and not so much about the generation of royalties. This is the market in culture, information and entertainment, whose products appeal to consumers primarily for their symbolism, representing a world and evoking an experience. Their value is in the experience that consumers can typically only rate after consumption – which is why these are also known as 'experience goods'.

To an important degree, marketing and promotion in these industries involve managing expectations – by selectively releasing parts of the product, for instance, a phenomenon known as sampling. In fact, the music industry is known for sharing its products with potential customers by releasing them for radio broadcasts and by producing music videos to promote them on TV. Experience has shown that consumers will then want to own their own copies of the music and thus have access at self-chosen times and frequencies. In the film and gaming industries, by contrast, broadcasting the whole product through mass media as a means of promotion is unusual, as this is not expected to generate turnover the way it does in the music business. Broadcasting films on television is a way of generating revenues for film producers and distributors in itself, and is certainly not aimed at promoting DVD sales, even if this is often its effect, e.g television series whose DVD appeal lies in the fact that they have been previously broadcast. In this way, then, the music industry is significantly different from the film and games industries.

Although most entertainment industry products are in physical format – in the shape of DVDs, CDs and games – their value is primarily non-physical: it is in the experience, the story, the

information. With all of these products essentially involving information, developments in information technology typically have major implications for the way in which the entertainment industry is able to operate or commercialise its products – the digital revolution being a case in point.

Another typical feature of these experience goods is that their consumption by one consumer does not happen at the expense of other consumers' ability to use them. If someone buys and eats a loaf of bread, nobody else will be able to eat it, but this is not the case when someone watches a film on DVD or plays a computer game. Economists call the latter type of goods 'non-rival'. If it is possible to prevent a person from accessing goods, these are excludable and called 'club' goods, whereas if their access is non-excludable they are known as 'public' goods. Because of their non-excludable and non-rival nature, public goods often depend on public finance.

Traditional examples of public goods include street lighting, defence and – in the Netherlands, especially – dikes. One possible way to finance public goods is to introduce a cross subsidy – an obvious course of action when the provision of a public good increases the demand for other products or services that are excludable. A classic example here would be a lighthouse paid for from port dues levied at a nearby port. At this juncture, it is hard to find examples from the entertainment industry that match this model. A future scenario might envisage free access to music recordings, financed by revenues from concerts, promotional merchandise and advertising contracts signed by the artists involved. Discussions about new models for the music industry, which this chapter will review later, often anticipate such a future.

The physical formats carrying music, films and games are rival goods, but the information or files themselves are not. This is enabling consumers to share the music or films they own and make them accessible to others, in return gaining access to creative content that others have filed on their computers in digital format. Mutual advantage occurs, but the holder of the rights is kept out of the loop.

With entertainment industry products essentially being information and digitally transmittable, the emergence of this type of file sharing was only to be expected as soon as technology made it possible. In the days before the digital revolution, consumers shared music by lending out LPs to others to make analogue tape recordings. This type of file sharing *avant la lettre* was circumscribed by technology only, but that did not stop the music industry from campaigning against the phenomenon under the slogan 'Home Taping is Killing Music'.[2] The advent and ongoing development of digital technology has sharply reduced technological limitations, although entertainment industry companies, drawing on that same technology, are re-introducing these in the shape of copying restrictions and digital rights management (DRM). Such measures would all appear to be attempts to keep control of the spread of goods and to thus continue to be able to market these as club goods. Meanwhile, some content providers have had a change of heart because of the heavy resistance they have run into from consumers, who feel restricted in their use of the music they have actually bought.

2.2.2 *High fixed costs of production*

Production in the entertainment industry is often a collective process marked by a far-reaching division of labour that frequently even transcends companies. The film industry is a good example, as it brings together people and companies for each production and disbands them after the project is completed – a real 'project industry'. Games are similarly designed and produced by

[2] For research into this phenomenon in the Netherlands, see SEO (1979) *Onderzoek naar het maken van geluidskopieën op banden en cassettes door particulieren.* ('A study of audio copies on tapes and cassettes by private individuals.') Amsterdam: SEO [commissioned by Stichting STEMRA and NVPI].

different companies at different locations around the world, turning out titles that the big global distributors will subsequently release on the console market through state-of-the-art digital networks that link locations and operations (see Section 2.3.2.). Game production budgets are easily as large as those for major Hollywood movies. The music industry is not usually known for its massive scale and complex output, but even here production tends to involve large numbers of people and multiple companies.

The entertainment industry typically spends large amounts on production compared with low distribution costs. Also, production involves sunk costs that can only be recouped by leveraging recorded and released creative content, staging live performances[3] – in the case of music – and marketing merchandise. If a music recording, film or game fails to catch on and the market for related live performances and merchandise does not materialise, these costs have to be written off in their entirety. This is different from most other industries, where fixed assets can usually be sold on to others and a proportion of spending thus recouped. Not so for the entertainment industry: there is simply no market for a dud film or an unpopular game. The sunk costs are truly sunk.

By contrast, marginal costs – i.e. the costs per extra unit of production, which in this industry typically relate to distribution – are relatively low and have even got close to zero in this digital age. After all, the costs of digital distribution are very limited, particularly as compared with production costs. This is what makes large-scale operations so profitable for the media industry: once it has recouped its high initial sunk costs, profits can shoot up as marginal costs are very low indeed.[4]

2.2.3 *Piracy and file sharing*

This combination of high fixed costs and low marginal costs, together with the fact that entertainment goods are so easy to distribute, make this sector highly sensitive to illegal commercial activity. Some hijack creative content without the consent of its right holders and sell copies in the market. These pirates, as they are sometimes called, make relatively quick money as the costs of distribution – i.e. the physical cost of copying data files or the cost or unlawful digital distribution – are very low indeed. They are also not burdened by high production costs, nor do they pay for any rights.

Meanwhile, piracy interferes with the right holders' lawful marketing of their products, causing them to incur losses. To a lesser or greater degree, all sectors covered in this report face such commercially motivated infringements of their rights.

The key features of entertainment products as described earlier have also made it relatively easy for the public at large to share digital music files, with the advent of P2P networks in the past decade – starting with Napster in 1999 – having played a pivotal role. These P2P networks differ from commercial piracy in a number of ways, as consumers downloading music – and, knowingly or unknowingly, making their own music libraries available to others – typically have other motives than commercial pirates who consciously infringe the rights of producers, artists and actors to line their own pockets. This is not to say that commercial considerations might not play a role in P2P networks, not necessarily because these networks are out to make money from music sharing as such but because they reach certain socio-demographic groups that might be attractive to advertisers. Obviously, there is a value to keeping these networks online, a motive that carried more weight in the early days of P2P networks, when Napster was sold to Bertelsmann. Later

[3] Live performances do not always have the same marketing relationship with CD-recorded music or digital downloads straight to the consumer's home. Artists will sometimes first build a live reputation before marketing their music.
[4] A typical scenario in the electronics industry and particularly in the car industry.

generations of P2P networks have been less driven by specific companies able to directly or indirectly generate revenues from the value of the network. Kazaa, for example, sold adware – through so-called pop-ups, for instance – that made it possible to collect information about users that was then sold on to others – Microsoft, Netflix and DirectTV among them. When users protested, Kazaa launched a paid ad-free service alongside its free ad-supported one.[5]

P2P practices might be damaging to the industries we are investigating in this report, although the precise extent of the damage is very difficult to ascertain without intimate knowledge of consumers' motives and considerations. After all, downloading music may be argued to be a kind of sampling, a way of getting to know a piece of music that is comparable to listening to the radio or going to record shops and listening there before deciding whether or not to buy. The analogue age's counter-argument that not every home-taped recording implied one less vinyl LP sold would also seem to hold for the digital era: not every downloaded track implies a loss of revenue for the music industry. The discussion of a consumer survey in Chapter 4 and the review of the international literature on the subject in Chapter 5 delve deeper into the issues at stake.

To ensure that right holders enjoy the fruits of their labours, the law upholds copyright and related rights and right holders have a legal right to take action against the unlawful distribution of their work (see Chapter 3).

2.2.4 *Business model*

Today's still dominant business model of key players in the entertainment industry is predicated on leveraging access to creative content on a large scale. Content is typically created under the auspices of companies in the music, film and games industries, which pick up the tab for production costs and sell the products on the consumer markets in physical formats (e.g. music on CD, film on DVD, games for consoles), screen them in cinemas (film) or grant performing rights for special use – e.g. public broadcasting or other public uses of music or film, licensing TV channels to broadcast films or allowing the use of music in audio-visual productions. And, of course, content can now also be distributed and marketed online, and on a scale previously undreamed of via the traditional channels. However, if the industry loses control of its products, it is currently very vulnerable indeed, seeing club goods turn into public goods with the inherent problem of recouping costs.

As the entertainment industry is in the business of experience goods, it has a tough time predicting success: a large number of productions never break even and huge hits have to make up for flop-related losses. And those massive hits also have to prove that these companies can achieve financial performances that will please their shareholders. Both the music industry and, to a lesser degree, the film industry stress that file sharing hits them really hard. Rejecting the oft-heard argument that things cannot be all that bad as their top hits account for huge sales, these industries point out that they need the revenues from such mega-sales to invest in new and unproven productions, many of which will never be successful. In other words, if the froth goes out of major productions, film, games and music companies will no longer be able to offer their current wide range of products.

With the actual market for many Dutch entertainment industry products being by definition circumscribed, Dutch companies benefit a great deal less from economies of scale than their American counterparts. Add to this the high initial costs faced by national entertainment industries and we see a Dutch film industry that does not recoup its costs on the large majority of films. As a

[5] Vaccoar, V..L. & Cohn, D. Y. (2004) The evolution of business models and marketing strategies in the music industry. *International Journal on Media Management, 6* (1&2), 46-58. p.48.

result, the industry fundamentally relies on public funding – as is the case in many other European countries – and film financing reflects a mixture of economic and cultural considerations. Music industry production budgets may not be as large, but here too the size of the national market is invariably a key budgetary consideration that warrants restraint. In the Dutch music business, recording companies typically have to make their own way in the market, while venues hosting bands that have yet to make it to the top tend to rely on government money.

The games industry is dominated by international repertoire. Entertainment games target worldwide markets and virtually none are made for specific countries or language areas. Games producers take an industry view of the national versus international issue, while governments try to get and keep them operating within their borders: games companies operate in growth markets and often provide a stimulus to a country's entertainment, and information industries. The games industry benefits indirectly from public funding, for instance in terms of research and development,[6] but this applies to industries outside entertainment as well.

The entertainment industry draws on information and communication technology to produce, market and distribute its products and services. And it is precisely because these products are in the information category – in the widest sense of the word – and are often distributed through information networks, that digital distribution's new features and possibilities have ushered in major changes, as we have noted. In fact, the games industry as we know it today is itself the brainchild of digital technology.

Ironically, with its possibilities for endless reproduction and distribution and consequent massive increase in scale, digital technology at the same time also facilitates copyright breaches – a phenomenon that has been described as the 'digital paradox'.[7] The music industry initially proved very reluctant to use digital opportunities for this very reason, but that has not prevented the widespread unauthorised distribution of creative content. Some industry watchers claim that this caution in distributing music, films and games online has in fact promoted unlawful distribution – and still does. This very trend is forcing the various players to take a close look at their current business models and, when finding that digitisation is pushing them towards obsolescence, to develop new ones. The next section explores a number of new trends and business models.

2.2.5 *New business models*

Of course, the entertainment industry has itself been one of the first beneficiaries of digital breakthroughs. The digitisation of physical formats ushered in a massive market, with consumers replacing some or all of their vinyl collections with CD recordings. The advent of the DVD was a major quality improvement in the film and video industries and proved a big boost to the video-buying market. The industry has benefited enormously from the digital formatting of films and other video material and it would seem that, even aside from the substitution effect, digital formats have themselves been a tremendous boon to turnover. With the launch of the Blu-ray Disc the market now offers an even higher-quality format, in keeping with the trend for quality improvements within existing models of film formats. At this juncture, it is unclear what part Blu-ray will play in the development of the film and video industry.

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[6] The €10m government-subsidised Game Research for Training and Entertainment (GATE) programme is designed to put the Netherlands on the map as a leading international research player in entertainment and serious games. And national governments in different countries – e.g. Canada, France – are trying to attract games companies by offering tax breaks as part of their incentive programmes for the creative industries.

[7] Rutten, P. & van Bockxmeer, H. (2003) *Cultuurpolitiek, auteursrecht en digitalisering*. ('Cultural politics, copyright and digitisation') Delft: TNO Strategy, Technology and Policy.

At the end of the day, digitisation of the physical format was a process innovation turned product innovation, and the next logical step in an innovation process that had already largely captured the production practices of the music and film industries. The launch of the CD and DVD gave a new shape to the distribution of content, the core product, and bolstered quality in the process. With the quality of transmission and consumer enjoyment enhanced, music and film products were launched in the markets in a new way.

Digitisation also proved a big boost to producers of home entertainment systems, who saw a new market for digital players emerge. At the time, companies such as Philips and Sony reaped major synergy benefits from the combination of content production and systems development, with the production and marketing of entertainment hardware. The strategy also had its drawbacks: despite tremendous efforts, the digital successor to the analogue compact cassette – Philips's DCC and Sony's MiniDisc – only succeeded in making a big dent in development and marketing budgets but never produced significant returns or a truly successful product. And the so-called enhanced CD has gone much the same way.

The introduction of digital formats has not fundamentally changed the value chains in the film and music industries; and, incidentally, neither have internet stores such as amazon.com or the Dutch online shop bol.com. Granted, there have been changes in the individual links of the creation, production, release, distribution and consumption chain, and the traditional shops are now also up against e-tailers, but at this stage of digitisation there is – as yet – no sign of entirely new links or the disappearance of players in the music industry value chain.

This state of affairs is perhaps even more evident when it comes to online distribution. The digitisation of information and communication networks has facilitated electronic distribution of first music and later also video. Despite the tremendous potential of this development, the entertainment industry has been very slow to respond, with fear of the unlawful distribution of digitised products being the rather questionable hold-up. The industry has long held on to a specific way of thinking and operating and has thus offered little room for the necessary radical innovations, with the music business not fast enough on its feet to move with the new situation. And time is also running out for the film and video industry.

Skilful consumers mastering information and communication technology have combined with the development of network capacity to increasingly squeeze the entertainment industry's traditional business model. Digital consumers, wise to technological possibilities and new applications in the digital arena, are now making demands of products and services – demands that the entertainment industry, stuck in its traditional practices, has failed to meet sufficiently over the past few years. With the aid of ICT and innovative entrepreneurs who refuse to be held back by current intellectual property laws in their concepts and services design, consumers have had a taste of attractive products and services, which the entertainment industry has been slow or failed to develop. Established entertainment industry players have proved singularly unable to meet these consumers' needs, as Vaccaro and Cohn describe in their assessment of the music industry:

> *Traditional firms have been accused of lacking the cultural capital to make a successful transition to a new business model in the information age, and it has been suggested that the record labels need to change their interaction from lawsuits to a marketing and promotional orientation.*[8]

[8] Vaccaro & Cohn (2004), p. 56.

The message is clear: the music industry should focus more on consumer wishes as to how music should be offered instead of seeking refuge in any established business fortress. Aside from the lawsuits that Vaccaro and Cohn mention, the entertainment industry has also tried to restrict consumer access to paid-for applications via digital rights management (DRM). However, the drawbacks of DRM have proved so many and so negative that operators are increasingly choosing to ignore this route altogether. For one thing, DRM-protected CDs often did not work on computers, restricting consumers in their freedom to play their music where they want and when they want. At the end of the day, it would seem that the music industry has done itself a grave disservice by its caution in offering music online and by bringing to bear the heavy guns of the law and DRM: file sharing has spread while turnover and profits in the record industry have declined.

1999 proved a watershed year for the content industry, particularly in music. It was the year that Napster set up business and the phenomenon of P2P networks was born. Napster enabled consumers to share music via the internet and brought extensive music libraries within their reach, with right holders missing out. It would be possible to describe the history of P2P services and practices as a legal cat-and-mouse game involving the content industry, its interest groups, P2P designers, consumers, the law, and law- and rule-making government as the main players.

The current state of play is one of still extensive traffic in copyright-protected information shared via P2P networks. This mainly involves music files, but the signs are that film and video files are gaining ground, which is made possible by these networks' increasing capacity. The music industry is now offering a growing supply of licensed downloads, the market for which is also expanding. Note that attempts by major record companies to jointly develop the market for paid-for downloads through an integrated service have failed. Investments by several major music industry players in joint music services such as MusicNet and PressPlay have not been the hoped-for success nor brought the desired market positions. An OECD report notes that concerted efforts were dogged by difficulties in clearing rights and arguments about the nature, conditions and set-up of a joint platform in the face of a burgeoning P2P trade providing 'free' access to their music libraries. It also points out the lack of user-friendliness of the music industry's digital offering in the shape of complicated user interfaces and high up-front costs imposed by monthly subscription fees. But one of the most decisive factors, the OECD believes, was the lack of comprehensive and integrated music catalogues that consumers could buy from a single supplier, plus the fact that consumers were unable to get all the music they wanted. In 2005 the OECD counted over 200 licensed online offerings in OECD countries.[9] The market for licensed digital downloads was finally tapped in 2004 by Apple, serving consumers with its smart mobile iPod devices. Through its iTunes, Apple has since grown into the world's main online music seller, with a clear offering and pricing structure.

The turnover and sales data that we will present later in this chapter show that market growth in licensed downloads has failed to make up for the downslide in the physical format market. This is not to say that file sharing is wholly to blame for the music industry's shrinking market: there is a real possibility that the industry's offering has become less tempting in recent years in the face of the numerous leisure spending alternatives – another possible explanation for the music business losing ground.

There are a number of reasons why the music industry has been the first to feel the pinch of the advent and rise of digital networks. For one thing, digital music uses relatively little bandwidth and even the first generation of networks had enough capacity to bring music to consumers' homes within an acceptable time frame. In terms of sound quality, downloaded music proved an

[9] OECD (2005) *Digital Broadband Content: Music*. Paris: OECD, p. 46.

acceptable substitute for CD-recorded music, and consumers were able to copy their music from physical format or directly from the internet onto a digital mobile player that was smaller, easier and more multifunctional than the portable CD player. Meanwhile, massive numbers of consumers put their CD collections online by participating in P2P networks such as Napster and later Kazaa, gaining access to a vast range of recordings in return for their own uploads – and all circumventing the established music industry.

The film industry could benefit from the music industry's cautionary tale. Instead, much like the music business in the early years of file sharing, it has spent the past few years honing its strategy of lawsuits and DRM. While sharing of filmed content would seem to have been on a swift upward trend, experiments with licensed film downloads remain few and far between. Lulled, perhaps, by the ongoing rise in DVD sales and cinema visits, the film industry is studying reinvention of its business model less assiduously than the music industry is now forced to do.

Many reviews of the future of the entertainment industry advocate investments in new business models. However, there is no unequivocal definition of what a business model is, let alone any consensus on the road the entertainment industry should travel to find its new model.

Discussions and contributions on new business models in the entertainment industry – which, incidentally, focus almost exclusively on the music industry – tend to have different emphases. Some zoom in on the method of delivery and payment for products and services, e.g. selling CDs, games or DVDs online or offering content as downloads for consumers to pay for. Others focus on the potential implications of digitisation in the value chain, and in particular on players that add too little value and are likely to fall victim to disintermediation, the most obvious threat being e-commerce cutting out the middle man that is the music shop, or record companies becoming obsolete as artists reach their audiences directly. Still others prefer a much more integrated approach and look at real-life existing models, or, more sweepingly, no longer link business models to industries or specific value chains, but to networks of companies that jointly market products or services in relatively loose configurations. An example would be an alliance of a music producer with a soft drinks maker offering downloadable music on the latter's site to help promote sales of the drink. In this scenario, players normally operating in different industries create joint value by collaborating outside the box of traditional value chains. Digital networks and their potential uses across different sectors offer a range of possibilities for new connections through value networks that would typically be temporary, unlike familiar business models, unexpected and mostly innovative. The whole concept of the business model would give way to the value network, offering significantly less rigid relationships than those in the value chain of a fully fledged industry or specific company.

The OECD report identifies four new online music business models that emphasise distribution and transaction of products and services and not so much the structure of the industry.[10]

- *Digital download (à la carte*): music is sold directly per download (iTunes), is stored on the users' own devices and becomes their property.
- *Streaming subscriptions:* instead of paying per download, users pay a fixed monthly fee to stream an unlimited number of music files, but will not get to own them.
- *Portable subscriptions:* users can download large collections of music for a fixed monthly fee, with ownership cancelled if they stop paying their subscriptions.
- *Streaming radio:* listeners pay a monthly subscription fee for access to online radio.

[10] OECD (2005) *Digital Broadband Content: Music*, p. 49

Premkumar[11] prefers 'digital distribution strategies' to business models and identifies several actors in the value chain, with strategy variation mainly reflecting the degree to which one or more actors become redundant to the chain because they add insufficient value: disintermediation – a concept central to virtually all reviews of the impact of digital trends on business models.

- *Record company-retailer-customer:* the traditional chain remains in place. Customers go to their local music shops to make their own CD compilations on-site.
- *Record company-customer:* record companies sell digital files directly to customers and cut out retailers.
- *Record company-intermediary-customer*: record companies sell their digital files through online intermediaries, who work with many if not all providers of online music. Currently the dominant online model, this is a direct digital transposition of the traditional bricks-and-mortar shopping concept.
- *Artist-customer*: artists sell their own music to customers online, disintermediating record company and shop.
- *Artist-intermediary-customer:* artists sell their music to consumers through online retailers, cutting out the record companies.
- *Audio-on-demand:* customers pay a fixed amount to receive customised playlists from a service provider.

In his analysis of the added value of the various agents in the music business's digital value chain, Frost[12] concludes that the record companies have had their day. Advocating an overhaul of the music business, he finds that the value that this actor claims does not match the value it adds. He feels that cutting out the record companies offers the benefits of lowering prices to consumers and increasing revenues to artists. He also sees such lower prices as the key instrument to fight online piracy, and estimates that a bundle of songs such as the number currently sold on CDs should be priced at around $3.

In their study of the evolution of business models and marketing strategies in the music industry, Vaccaro and Cohn[13] define a business model as the way companies build and use their resources to offer more value for money to their customers than their rivals and thus make money. Three existing models come in for close scrutiny:

- *Traditional business models* based on mass production and distribution of physical formats.
- *Revolutionary models* based on unauthorised P2P file sharing, enabled by software-providing companies and allowing millions of consumers to share music without any payment to their right holders.
- *New business models* under which consumers pay to download music from authorised providers.

Vaccaro and Cohn predict that the models that will survive are those that are able to deliver sufficient scale to turn the slim profit margins on individual downloads into solid earnings, particularly if they manage to combine this with add-on products and services such as hardware, subscriptions to online music magazines or concert tickets. Implicitly, the authors are saying that the new business model in its current set-up might not be fully viable on its own – a supposition corroborated by the fact that iTunes was at least partially designed to be a driver of iPod sales.

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[11] Premkumar, G.Prem (2003) Alternate distribution strategies for digital music. *Communications of the ACM*, 46 (9), pp. 89-95.
[12] Frost, R.L. (2007) Rearchitecting the music business: Mitigating music piracy by cutting out the record companies. *First Monday,* 12 (8).
[13] Vaccaro & Cohn, p. 47.

In response to this analysis, Frost would probably say that the record companies' takings in the existing download models are too high and that this is why they will never be a runaway success. Record companies in his perception simply take too much for what they deliver, and he feels disintermediation of the record companies is therefore inevitable. Whether or not record companies are indeed appropriating too big a cut from existing music downloads is a subject that merits further study.

The striking thing about this – admittedly limited – review of academic research into the subject of potential new business models in the music industry is the rather narrow view the research takes. All the talk of new models aside, most analyses hardly venture beyond the commercialisation of music recordings, with many of them also focusing mainly on the sale of these recordings, for example through music and video streaming subscriptions to consumers. None of this addresses the observation made in Section 2.2.1 that music in the MP3 format is non-excludable and non-rival. To all intents and purposes, it meets the definition of a public good and there is therefore an inherent difficulty in recouping its cost. As long as file sharing remains a fact of life, its licensed counterpart will have to compete with 'free' in terms of price and ease of use.

An altogether different route, virtually ignored in the analyses we have briefly reviewed, would be to focus on alternative sources of revenue that do still guarantee excludability. One obvious choice would be to link recordings to live concerts, ringtones, merchandise and other types of income-generating activities for authors, artists, publishers and producers. Music could be brought into audiovisual productions – from commercials to music games for consoles – or be coupled to completely different types of product, ranging from cars and soft drinks to energy and clothes, with these products' marketing budgets paying for a chunk or all of the music recording costs. The analyses make no mention of even more radical innovations such as Sellaband's business model, which enables consumers to invest in the recording of a band or artist whose demo they can listen to online. If investments of what Sellaband calls 'believers' reach the $50,000 threshold, the artist is given a chance to record an album. Investors become shareholders and recording rights belong to Sellaband.

A process innovation that *has* taken the music industry by storm is what is known as the 360-degree contract, under which bands and artists sign over to a record company or investor a share in everything directly or indirectly related to their recordings, from merchandise and live performances to downloads and sponsorship revenues. The introduction of these contracts is a clear recognition of the link between the various sources of income from the different markets – think of the lighthouse paid for by port duties as an obvious analogy here. After all, in one way or another all this turnover is generated by music. Some artists sign 360-degree contracts with record companies and others with concert promoters, the most prominent among them being Live Nation. All this goes to show that business model innovation in the music industry is often more complex and wide-ranging than mere marketing and distribution of downloads.

Focusing on new business models, Jacobs's 2007 book on the cultural side of innovation identifies a typical combination of product, process and transaction innovation.[14] He draws on Margetta,[15] who argues that business models really break down into two separate parts, one involving everything to do with the making of something, i.e. design, purchase of resources or commodities, and production, with the second part comprising all the activities involved in selling something: finding and reaching consumers, selling, distributing or offering a service. Jacobs pinpoints product and process innovation at the first stage and transaction innovation at the second stage of the model.

[14] Jacobs, D. (2007) *Adding values. The cultural side of innovation*. Arnhem: Artez Press, pp.50-51.
[15] Margetta, J. (2002) *What Management is*. New York: Free Press, quoted in Jacobs (2007).

If we combine Jacobs's approach with the concept of value networks that Ballon[16] among others has introduced into the discussion of business models, a broad playing field emerges that may well include just the new models the music industry is looking for. The value network context, for instance, makes sense of the alliance between Universal Music and mobile operator Vodafone for music access via mobile phones. Ballon suggests that 'value' and 'control' take centre stage in research into and development of new models in the value network context, which would make for a better understanding of business model innovation in the music industry, and, at the end of the day, the wider entertainment industry also. What is more, these are precisely the terms within which the industry will have to operate if it is to stay in business.

2.3 Market developments in film, games and music[17]

This second part of Chapter 2 provides greater detail on the three entertainment industries at centre stage in this report: film, games and music. It analyses the structure, operations, turnover and sales trends of each of these industries and thus paints a broad canvas to help in evaluating the economic, social and cultural implications of file sharing in the Netherlands.

Before embarking on a more in-depth review of the three industries, we will first compare the relevant markets and discuss their mutual relationships. The film industry, the games industry and the music industry all operate in markets serving consumers who cluster together in particular socio-demographic groups and taste communities. Music and games industry customers, for instance, are much more prevalent among the young than in all other age brackets.

Figure 2.1 shows up the relationships between the various markets in terms of sales and turnover in the three industries. Note that this involves retail turnover and includes online shops, with Table 2.1 providing rather more detailed figures.

As no reliable figures are available for some market segments, a proportion of total film and music industry turnover will be ignored for the purpose of this study. The numbers for the film industry do not include art-house theatre-generated turnover (see Table 2.3), film operation via broadcasting companies and different kinds of pay TV – a key add-on market – or income from DVD rentals. Music business figures lack data on the revenues from live music, performing rights (copyright and related rights) and the sale of merchandise – together making for a significant source of income.[18] Income from music that is licensed for all kinds of purposes – films, ads – falls outside the scope of this study . Traditionally merely considered 'add-on' or 'related', these activities are bound to gain in economic importance in the future as the different industries converge, a trend that is likely to affect the degree and origin of value creation within the network of a converging entertainment industry.

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[16] Ballon, P. (2007) Business Modelling Revisited: The Configuration of Control and Value. *The Journal of Policy, Regulation and Strategy for Telecommunications, Information and Media*, 9 (5) pp. 6-19.

[17] Our outline of the overall Dutch entertainment market and the separate markets for music, film and games draws on a range of sources. Research consultants GfK keep constant tabs on the Dutch retail market, reporting on the basis of empirical research and using this to derive future projections. GfK projections featuring in this chapter should be read as an indication from an industry-relevant source. In addition, various industry associations release figures on the relevant markets: the Dutch association for producers and importers of image and sound carriers (NVPI) on the music, video and interactive markets, and both the Netherlands Film Fund (*Fonds voor de Nederlandse Film*) and the Dutch cinema union (*Nederlandse Bioscoop Bond*) for the cinema market. Note that some of their figures are also either entirely or partly based on GfK research.

[18] Not really featuring in this report as no reliable turnover and sales data are available.

Figure 2-1 Entertainment sales (millions of units) and turnover (€ million) 2006 and 2007

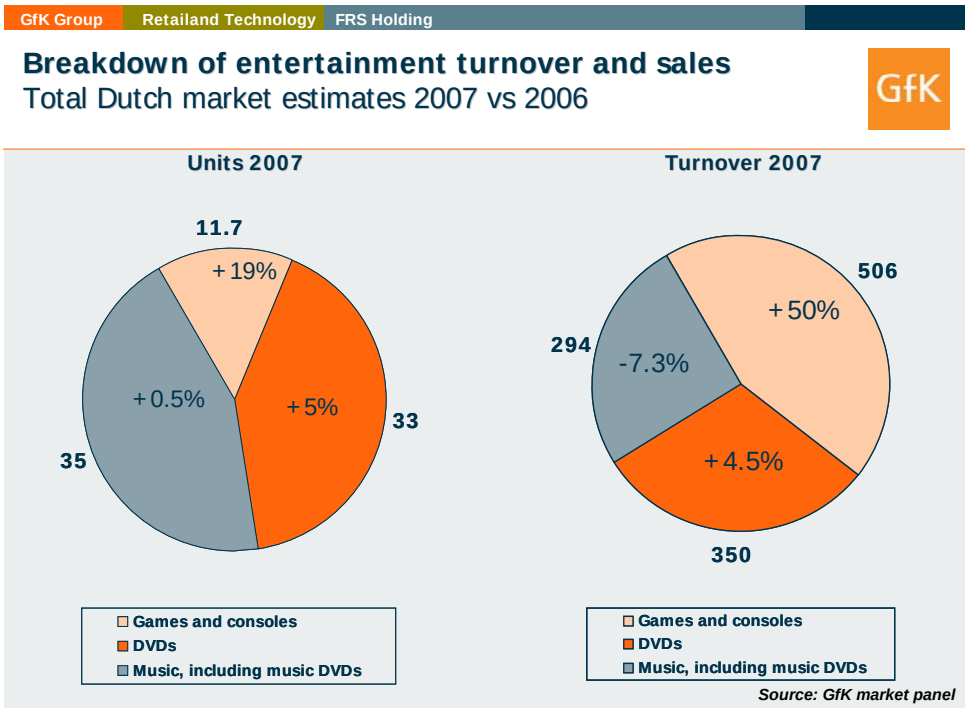


Table 2-1 Entertainment market sales, turnover and growth in 2006 and 2007

The entertainment market in 2007

	in millions of euros			in millions of units		
	2007	2006	%	2007	2006	%
Albums	238.2	247.9	-4	19.0	19.5	-2
Singles	4.2	6.4	-35	1.0	1.7	-37
Music video (DVD/VHS)	39.3	52.5	-25	2.9	3.5	-19
Downloads	12	10.1	19	12	10.1	19
Total Audio	**293.6**	**316.9**	**-7.3**	**34.9**	**34.8**	**0.5**
VHS	0.2	0.7	-74	0.05	0.2	-78
DVD	346.4	332.5	4	32.4	30.1	8
UMD	0.8	1.1	-29	0.09	0.09	0
Blu-ray	1.8	0.0		0.06	0	
HD DVD	0.4	0.0		0.01	0	
Total video	**349.5**	**334.3**	**4.6**	**33.2**	**30.4**	**9.3**
PC games	57.1	57.2	0	3.7	3.8	-3
Console games	227.1	170.8	33	6.9	5.5	26
Total games	**284.2**	**228**	**24.6**	**10.6**	**9.3**	**14**
Total entertainment software	**915.3**	**869.1**	**5.3**	**66.7**	**64.4**	**3.6**
Games hardware (consoles)	212.2	112.5	89	0.99	0.62	60
Total entertainment market	**1139.5**	**991.7**	**14.9**			

Figures derived from GfK Benelux Marketing Services and NVPI. The table captures consumer spending, including VAT, on listed entertainment products. The figures do not include direct or indirect spending on renting, borrowing, copying, listening to, watching or any form of consuming entertainment products.

With a significantly higher number of retail outlets now recording and reporting games sales, the picture of the 2007 markets is more accurate than ever. To enable a solid comparison, the figures for 2006 have been adjusted accordingly and may therefore differ from figures previously published.

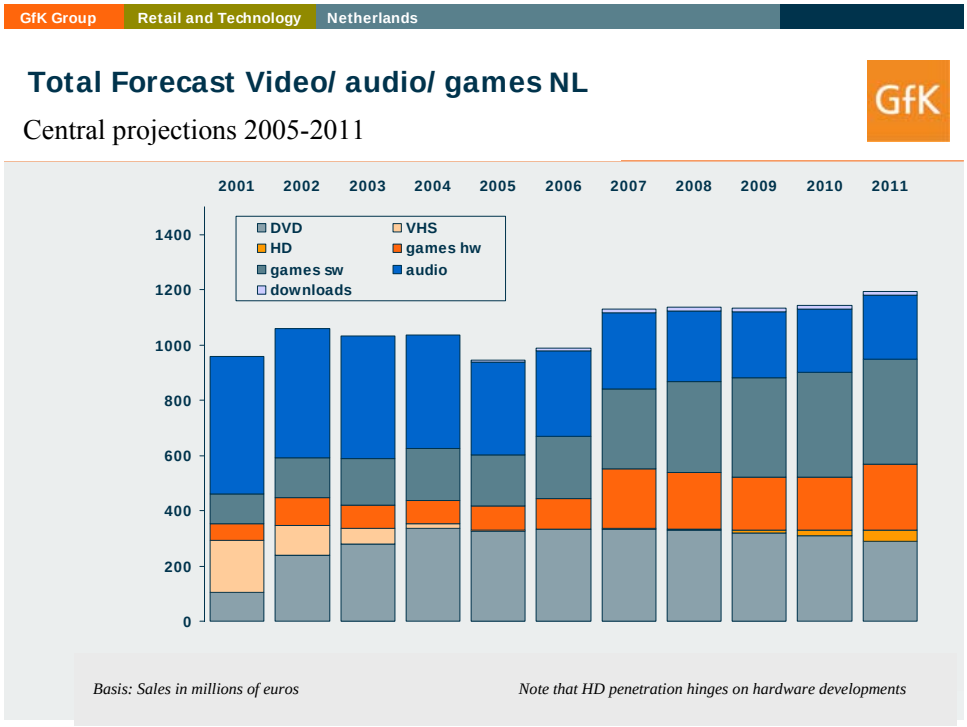
The total market for all three industries – CDs, DVDs, consoles, CD-ROMs, etc. – adds up to nearly eighty million units and is worth some €1.1 billion in turnover. The games industry accounts for a relatively small proportion in terms of units sold – i.e. console games, PC games and consoles – but boasts the biggest turnover.[19] Average product prices for both games and consoles are high in this industry. The fact that games industry figures include consoles whereas MP3 players, for instance, do not show up in the numbers for the music industry, reflects the close connection between hardware producers and games makers (Nintendo, Sony, Microsoft), which offers mutual funding opportunities particularly of consoles by games. Note that hardware prices are more about perceived competition than about costing, and that producers typically recoup their hardware costs by leveraging their own content on their own platforms. Aside from its comparatively high unit prices, the games industry displays phenomenal growth, particularly in terms of turnover.

The film and video industry and the music industry account for a comparable share of the overall market in terms of units sold, but turnover and average price per product are significantly higher in the former than in the latter. What is more, the market for DVDs is growing in terms of both units and turnover, while the music industry, by contrast, shows flat unit growth of 0.5% and a serious downturn in turnover of 7.3%. Online sales of physical formats (CDs) account for the biggest proportion: in 2007 11.3% of CDs were sold via the internet, with the figure at 10.7% for DVDs and at 4% for games.[20]

Figure 2-2 presents a retail breakdown of the entertainment market including games hardware from 2001, based on reported total turnover. Market projections from 2008 were carried out and provided by GfK.

[19] Please note that the two other industries have significant side-earner markets that do not show up in these statistics: cinema box office receipts and rentals in the film and video industry, and live perfomance takings and revenues from public performance of creative content at shows and in the media.
[20] Source: GfK 2008.

Figure 2-2 Breakdown of retail turnover



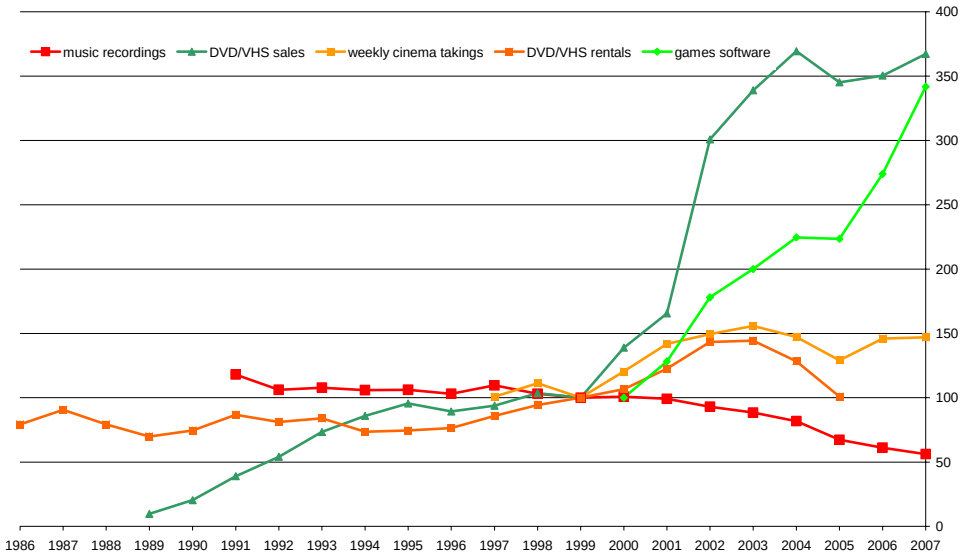
Source: GfK 2008

The figure captures a slightly fluctuating total of a fundamentally changing nature. In the markets for films on picture-and-sound formats, analogue VHS has been replaced by digital DVD, with Blu-ray Disc on the horizon as the new money-spinner by the end of the current decade. The audio segment – i.e. CDs – is clearly losing ground and the rise of legal, paid-for digital downloads has been unable to head off the drop in CD sales.

However, for the entertainment industry as a whole the CD downslide is more than offset by the value currently being realised by games software and hardware. Were we to ignore games hardware, the content market would be contracting slightly at retail level, despite the rise of gaming. And this is probably why content producers and right holders have been looking outside their traditional haunts for new commercial opportunities. A similar account of value developments in such new fields is not available as yet.

Drawing on the same range of data we will use later in this chapter, we have collated the developments in the various market segments so as to facilitate comparison. The data involve music recordings (on CD and as licensed downloads), DVD sales, DVD rentals, cinema turnover based on average weekly takings and games software. For the sake of comparison, we have indexed turnover for each of these industries, with 1999 as the baseline (turnover in 1999 = 100). 1999 was not just the year of the memorable Prince song of the same title, but also saw Napster go online and sow the seeds of the phenomenon that has inspired this study: file sharing.

Figure 2-3 Turnover in market segments of the film and video, music and games industries (1986-2007, indexed, 1999 = 100)



Please note that 2003 interruptions in music recording and DVD measurements have been repaired on the basis of growth figures. Cinema visit index figures are based on weekly takings to correct for extra weeks in 2000 and 2006. Figures for games software: 2000 = 100, as there were no figures available for 1999 and before.

As the chart clearly shows, films on DVD and games software are the big growth markets. The cinema market has been stable for a fair number of years, barring a minor dip in 2005. By contrast, the markets for DVD rentals and music recordings are fading, with the latter the biggest loser. The search for explanations frequently points at file sharing, a hypothesis discussed at length in the first part of this chapter and investigated further in Chapter 6.

The following sections highlight the specifics of and trends in the film, games and music industries.

2.4 Film industry

2.4.1 *Scope*

It is not easy to define the exact scope of film as a content category. Film fits into the audiovisual industry inasmuch as it involves 'the development of ideas and concepts for audiovisual expression, their realisation in the production process and their commercialisation by way of different platforms, ranging from cinema and DVD to TV and online computer screen'.[21] The film industry develops and realises productions primarily for screening at cinemas and art-house theatres, subsequently released and exploited through other platforms and channels: DVD, pay TV and broadcasting. Production of TV programmes and commercials are not included in the definition of the film industry. [22] However, companies operating in the film industry – e.g. some

[21] P. Rutten, D. Jacobs, T. IJdens and K. Koch (2005) *Knelpunten in creatieve productie. Resultaten van een onderzoek naar de Nederlandse creatieve industrie.* Delft: TNO ICT.

[22] See P. Rutten, D. Jacobs, T. IJdens and K. Koch (2005) Knelpunten in creatieve productie. Resultaten van een onderzoek naar de Nederlandse creatieve industrie. In: B.Hofstede and S.Raes (Eds.) *Ons creatief vermogen. De economische potentie van cultuur en creativiteit*, pp. 155-187. Amsterdam: Elsevier; J. Poort, G.Marlet and C. van Woerkens, Scale and importance of creative production in the Netherlands. In: B. Hofstede and S.Raes (Eds). ibid, pp. 39-60.

producers but particularly facility companies – often also engage in activities in these latter types of audiovisual production. Moreover, Dutch broadcasting companies often also invest in film and turn original big-screen productions into television series.

2.4.2 *Industry structure and funding*

Compared with the United States, the European film industry is highly fragmented and largely organised along national lines. Because of this, companies and productions are typically smaller in scale, have less access to finance and are internationally less successful than their American counterparts.

That said, Europe's annual output of films is relatively high, with the 25 EU countries having released 761 films in 2004, 150 more than the United States. By contrast, average European film budgets come nowhere near those of the States. In 2004, a major American film company was looking at an average budget of $62 million – $29 million for production houses associated with the majors – as against $9.3 million for UK producers, $6.6 million for a French film and $3 million for an Italian one.[23] The figure for Italy is a fraction below what the Netherlands Film Fund estimates it furnished per film in 2003: €3.3 million.[24] By 2006 this amount had fallen to €2.8 million.[25] Obviously, Europe is churning out many more films on significantly slimmer budgets than the United States. These American budgets are much larger as their films are more capital-intensive, target a much bigger market and can simply afford more money because of the reputation of American movies.

European national markets and the occasional success outside one's own borders add up to insufficient money to create a structural foundation for strong national film industries. European film productions therefore often receive financial support from their governments for a mixture of cultural and economic reasons.

In the Netherlands, too, subsidies are crucially important. In addition to direct funding by the Netherlands Film Fund, the government has tried to attract private capital for the production of feature films through a range of tax measures, but has had mixed success. Dutch film financing is also closely tied up with public broadcasting companies and related funds such as the Dutch Cultural Broadcasting Fund (STIFO) and the National Broadcasters Coproduction Fund (COBO). For producers, this almost invariably means negotiations with several parties to obtain sufficient funding, and the need to meet different content requirements and rules. In addition to these main funds, other key sources of finance include private capital, regional, local (Rotterdam in particular) and European funds.[26]

The economic importance of the film industry has been the subject of various studies over the past few years. In 2004, Wils and Ziegelaar calculated investment in Dutch film production at a total €52.5 million, with the Netherlands Film Fund contributing €22.5 million, the broadcasting companies, National Broadcasters Coproduction Fund and the Dutch Cultural Broadcasting Fund jointly chipping in €11.9 million, private investors accounting for €7 million, the so-called 'Telefilm' project €5 million, the Rotterdam Film Fund €2.6 million, distributors €1.9 million and European funds €1.6 million.[27]

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[23] KEA, European Affairs (2006) *The Economy of Culture in Europe*. Study prepared for the European Commission, DG Education and Culture. pp. 222-233.
[24] Netherlands Film Fund (2003) *Film Facts and Figures of the Netherlands 2003*. Amsterdam
[25] Netherlands Film Fund (2007) *Film Facts and Figures of the Netherlands 2007*. Amsterdam
[26] Wils, J., & Ziegelaar, A. *Sectoronderzoek film en televisie. Een onderzoek in opdracht van de Federatie Filmbelangen*. ('Film and television industry: A survey commissioned by the Netherlands Federation of Film Professionals'), June, 2005.
[27] Wils, J., & Ziegelaar, A. Ibid.

In 2006, the twenty feature films supported by the Netherlands Film Fund had a combined production budget of €56 million, some 44% (€24.6 million) of which went on subsidies according to the Fund's data. That year's biggest-budget Dutch feature film was also its most successful: *Zwartboek* (Black Book). The film had a budget of nearly €18 million, attracted one million paying customers and accounted for 4.2% of the country's box office gross. The runner-up in 2006, *Kruistocht in Spijkerbroek* (Crusade in Jeans) had a €10.5 million budget (1.5% of box-office receipts), followed by *Wild Romance* with a budget of €3.5 million and a 0.1% share of film-goers. [28]

Table 2-2 lists the best-attended Dutch feature films in 2006. It shows a clear picture of a market in which the top films account for the bulk of box office receipts. Together, these top 20 Dutch films attracted 11.2% of total cinema visitors to both Dutch and foreign films in 2006 and accounted for the same percentage of box office gross. The three best-attended Dutch films took 7.4% of gross receipts, with the other 17 claiming 3.8%. And two of the three best-attended films also commanded the highest subsidies. Obviously, the Dutch film market is driven by a small vanguard of films that would simply not exist without government finance.

[28] Netherlands Film Fund (2007) *Film Facts and Figures of the Netherlands 2007*. Amsterdam, p.8.

Table 2-2 Twenty most successful Dutch films screened at cinemas in terms of visitors (numbers and share) and gross receipts (amounts and share), plus overall market for Dutch films (2006)

	Title	Visitor numbers in 2006 (x 1,000)	Share of total visitors in 2006	Gross receipts (€1,000s)	Share of total gross receipts in 2006
1	ZWARTBOEK	984	4.2%	7,019	4.5%
2	KRUISTOCHT IN SPIJKERBROEK	354	1.5%	2,352	1.5%
3	AFBLIJVEN	325	1.4%	2,172	1.4%
4	ZOOP IN INDIA	297	1.3%	1,683	1.1%
5	DE GRIEZELBUS	146	0.6%	865	0.6%
6	OBER	97	0.4%	658	0.4%
7	N BEETJE VERLIEFD	68	0.3%	501	0.3%
8	IK OMHELS JE MET DUIZEND ARMEN	60	0.3%	395	0.3%
9	NACHTRIT	35	0.1%	248	0.2%
10	BUDDHA'S LOST CHILDREN	34	0.1%	206	0.1%
11	PARADISE NOW	32	0.1%	192	0.1%
12	WILDROMANCE	27	0.1%	167	0.1%
13	DOODEIND	26	0.1%	168	0.1%
14	HET PAARD VAN SINTERKLAAS	23	0.1%	130	0.1%
15	BOLLETJE'S BLUES	19	0.1%	142	0.1%
16	KNETTER	13	0.1%	66	0.0%
17	SL8N8	12	0.1%	87	0.1%
18	4 ELEMENTS	9	0.0%	43	0.0%
19	PRETPARK NEDERLAND	7	0.0%	49	0.0%
20	SPORTMAN VAN DE EEUW	5	0.0%	30	0.0%
	OTHER PRODUCTIONS	43	0.2%	212	0.1%
	Total	2,616	11.2%	17,385	11.2%
	Total visitor numbers 2006/ Gross receipts 2006	23,387		155,862	

Source: Netherlands Film Fund (2007)

Derksen and Driessen reckon that in the 2002-2005 period some 11-12% of takings in the total Dutch market for cinema and art-house theatre screenings of Dutch and foreign productions were generated by Dutch-made products.[29]

2.4.3 *Three markets*

Film industry products generate money in three related markets. A significant proportion of films eventually released on DVD, broadcast on TV or otherwise distributed through the broadcasting networks are first screened at cinemas or art-house theatres. This is true of almost all films that generate the bulk of DVD sales and rentals, and that represent the biggest value on the broadcasting market. Often, these feature films will have the biggest production budgets and their success on the cinema and art-house circuit to a large extent also predicts their success in other

[29] L. Derksen, J. Driessen, J. Economisch belang van film in Nederland. Waardecreatie in een dynamische sector. ('Economic importance of film in the Netherlands. Value creation in a dynamic sector.' Commissioned by Filmwereld, 2007.

distribution channels, which is why countrywide screening tends to be a potential source of value for later release windows.

That said, the carefully orchestrated windowing strategy is under pressure. The assumption that the industry can optimise revenues by staggering releases is increasingly being knocked, because at the time of the film release consumers are displaying a greater demand to own the film on DVD or as a digital download. And by this time – or even earlier – digital copies will anyway be cropping up online or in physical format.

As reliable data are in short supply, the table below does not include film screening on television. It does capture 2002-2006 turnover figures as reported in 2007 by the Netherlands Film Fund for three release windows: cinemas and art-house theatres, VHS and DVD sales, and VHS and DVD rentals. Theatrical screening and sales were relatively stable during this period, but rentals were on a clear downward trend (compare Table 2-3). 2006 even showed a marked uptrend in cinema and art-house theatre and in DVD sales. No numbers are available for the rental market.

Table 2-3 Market trends in the film and video industry

	Turnover (€ million)						
	2002	*2003*	*2003**	*2004*	*2004**	*2005*	*2006*
Cinema, art-house theatre	156	163	163	154	154	135	156
DVD and VHS *sales*	340	383	323	351	352	329	334
DVD and VHS *rentals*	152	153	153	137	136	107	NA
Total	648	699	639	642	642	571	-
	Index: 2002 = 100						
	2002	*2003*	*2003*	*2004*	*2004*	*2005*	*2006*
Cinema, art-house theatre	100	105	105	99	99	87	100
DVD and VHS *sales*	100	113	95	103	104	97	98
DVD and VHS *rentals*	100	101	101	90	89	71	NA
Total	100	108	99	99	99	88	-

Source: Netherlands Film Fund (2007) *Film Facts and Figures of the Netherlands 2007.* Amsterdam, p.15
*) Film releases only

Meanwhile, 2007 numbers have now also been released for some industry market segments, showing DVD sales up 4.8% to €350 million and box office takings down 1.3% to €153.8 million. However, the first half of 2008 showed a decline in the DVD markets.

2.4.4 *Employment*

Wils and Ziegelaar have also looked at employer numbers for companies operating in the Dutch film and television industries, estimating producers at 125, facility companies at 175, distributors at 20 and cinema operators at 174. They arrive at a job total for the film and television production industry – i.e. actors, crew, production houses, facility companies, directors, scriptwriters and independent producers – of 6,000 in 2005.

For the purposes of this report we have analysed employment development in a few sectors of the film industry, i.e.

- film distribution
- film screening
- film and video production (excl. television producers)

- video- and film-supporting activities.[30]

Together, these four sectors of the industry accounted for 11,090 jobs in 2006, an increase of 2,740 compared with 1996 (see Table 2-4). This implies an annual growth of 2.9% and thus exceeds both the entertainment industry as a whole at 2.1% over the same period and total job growth in the Netherlands of 1.7% per annum.

At an average 4.3% per annum and an increase of 2,200 jobs over the period, production companies top the league, with runners-up facility companies recording growth to the tune of 380 jobs and an average 2.6%. Any assessment of these figures should allow for the possibility that these increases were driven by production orders from outside the feature film industry, e.g. advertising films or corporate productions. At the film screening end, jobs have grown only marginally by 0.4% – effectively 100 jobs over the entire period – while jobs at the distribution end have added a modest 2.4%, or 50 more jobs, in the period.

Table 2-4 Employment trends in a number of film and video industry sectors

	Jobs 2006	Real-term growth over 1996-2006 period	Average growth 1996-2006 (%)*
Film distribution	240	50	2.4%
Film screening	2,750	100	0.4%
Video and film producers	6,410	2,200	4.3%
Facility companies	1,680	380	2.6%
Total	11,090	2,740	2.9%

Source: LISA
*) Average annual jobs growth in the entertainment industry: 2.1%; overall Dutch economy: 1.7%

2.5 Games industry

2.5.1 *Scope*

The games market breaks down into entertainment and 'serious' games. This study focuses primarily on entertainment games, i.e. gaming for pleasure, the reason being that the issue of unlawful distribution specifically applies to this end of the market. It also largely ignores games developed specifically for mobile or internet use – known as casual games, viral games, virtual worlds and advergames. This category of games is hardly affected by file sharing: unlike the PC games and video games at the centre of this review, these are typically free of charge or sell at comparatively low prices. Within the broader category of entertainment games, the Dutch association for producers and importers of image and sound carriers (NVPI)[31] considers these two as separate categories. Having been designed for personal computers, computer games are also known as PC games and are distributed via CD-ROM, DVD or the internet. Video games, by contrast, are played on specific hardware – so-called game consoles that are typically hooked up to television screens. The most widely sold of these are PlayStation 2 & 3, Xbox and Xbox 360, Wii and GameCube, alongside portable consoles such as Nintendo DS and PlayStation Portable. Other portable devices such as mobile phones and PDAs are also used as gaming platforms for

[30] Drawing on the National Information System of Employment (LISA).
[31] The industry association for the entertainment business, NVPI, serves the interests of producers and distributors of interactive software (www.nvpi.nl).

video games. This study will now look more closely into the market for these games, focusing on the Netherlands and including the international arena where appropriate.

Table 2-5 Most important consoles on the global market

	Name	Number of consoles sold since launch (millions)*	Average price	Type
1	Wii (Nintendo)	21.9	€250	TV connection
2	Xbox 360 (Microsoft)	17.2	€350	TV connection
3	PlayStation 3 (Sony)	10.4	€450	TV connection
4	Nintendo DS (Nintendo)	67.5	€150	Portable
5	PlayStation Portable (Sony)	31.4	€200	Portable

Source: Jan Benjamin, Agressie heeft haar langste tijd gehad. Games industry: Jong en oud, vrouwen en mannen, iedereen speelt tegenwoordig. ('Aggression has had its day. Games industry: Young and old, women and men, everyone is gaming these days.') *NRC Handelsblad*, 4 March 2008, p. 14.

According to NVPI figures, in 2006 the bulk (74%) of all console and PC games were sold through entertainment stores. Consumer electronics shops shifted 18% of the remaining one-quarter, department stores 8% and online shops a mere 2%.

2.5.2 *Console and PC games: industry structure and funding*

Game development – i.e. concept, outline and design – is typically the domain of independent companies not linked to manufacturers or publishers.[32] In Europe, the United Kingdom boasts the largest number of development companies (120), followed by Germany (50), France (45) and Italy (27).[33] It is the final producers that coordinate realisation and create the end-product. Parts of production are farmed out to others, e.g. companies that translate games or do animations. To develop and make games, developers will use specialist middleware, a type of software that – as its name suggests – enables different game applications to communicate. Big developers increasingly use proprietary middleware, but the smaller ones do not have the resources and typically license in the software they need.

Games industry operators frequently belong to international networks that enable development and parts of production to be carried out at many different locations. Producers will typically contact the ultimate game publisher and secure finance, recouping their investment depending on how well the game sells and the royalties agreed with the publisher. Europe's Electronic Arts, for one, releases games designed and developed in-house as well as by others. Distributors ship the games to the shops and decide which retailers in which part of the world will get to sell them, and in what quantities. However, publishers increasingly cut out the distributors to do business with retailers directly.

The market for game consoles and by extension also console games is dominated by a few providers who vertically control their own markets. That is to say, producers of games hardware (consoles) sometimes also release the relevant games in addition to buying in games from other developers.

[32] Slot, M. (2004) Nederland in de internationale game industrie. ('The Netherlands in the international games industry'), Master's thesis for Media & Journalism.
[33] Ibid.

To be able to release games that run on Sony, Microsoft and Nintendo consoles, developers, producers and publishers need licenses that can only be granted by the Big Three, and the three technological formats are not interchangeable. Licensed independent publishers will typically develop their games for multiple platforms. Obtaining a licence requires major investment: developers have to spend millions and be able to show finished games without any guarantee of permission to market. Platform managers want to know who will be distributing the game, who is doing the marketing and sometimes even insist on seeing programmers' CVs. Dutch company Playlogic is one of nearly thirty companies worldwide that are licensed to release games for all consoles. Having invested millions over the past couple of years, Playlogic has been in the black since the third quarter of 2008 and has obtained a listing on Nasdaq in order to beef up its credibility.[34] Incidentally, the Dutch games industry does not command a particularly strong position in console games, but it does in their online counterparts.

The major producers and publishers in the market for console games are Electronic Arts (annual turnover 2006: €2.39 billion, profit €50 million) and Activision Blizzard (annual turnover €2.52 billion). Vivendi Universal, which also operates in the music and film markets, is the majority shareholder in the latter. [35]

Table 2-6 Top 5 game producers according to Game Developer Magazine (2007 financial year)

	Name	Turnover 2007 € million	Profits 2007
1	Nintendo Software (Japan)	2,380	Not available
2	Electronic Arts (US)	2,050	50
3	Activision Blizzard (US, France)	2,520	Not available
4	Ubisoft (France)	450	27
5	THQ	534	21

Source: Jan Benjamin, Agressie heeft haar langste tijd gehad. Games industry: Jong en oud, vrouwen en mannen, iedereen speelt tegenwoordig. ('Aggression has had its day. Games industry: Young and old, women and men, everyone is gaming these days.') *NRC Handelsblad*, 4 March 2008, p. 14.
*) Based on turnover, profits and reputation. With turnover at €651 million and losses of €91 million, Take Two Interactive has failed to make it to the Top 5.

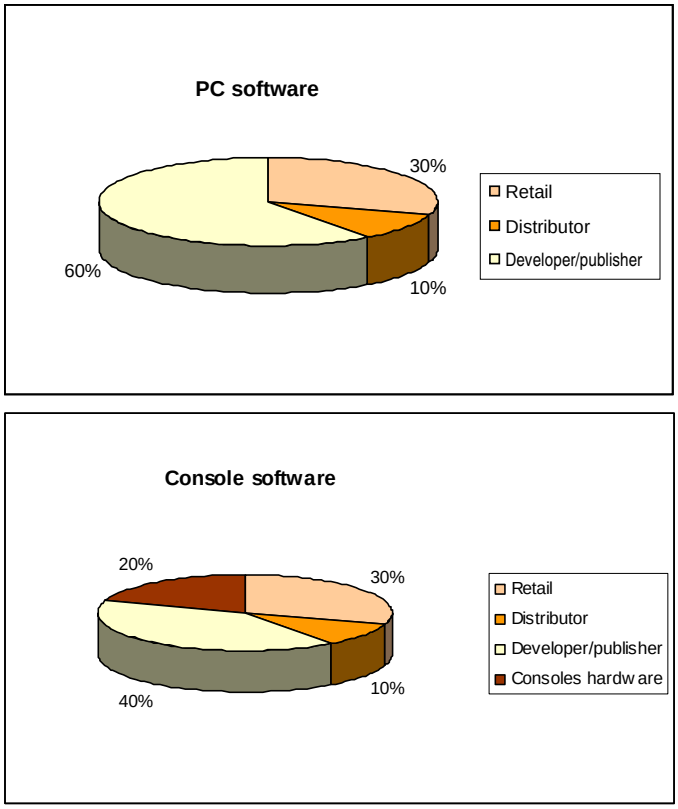
Take Two Interactive[36] witnessed perhaps the most spectacular console game release to date, when Grand Theft Auto IV for Xbox and PlayStation hit the market in March 2008. Worldwide, the company sold 3.5 million copies of the game on the first day of its release, representing a value of €310 million. After seven days, turnover had shot up to a massive €500 million. Just like the film industry, the games industry needs to secure large takings in the first few days and weeks after release.

The market for PC games has a rather more open structure, as it faces fewer of the restrictions applying to consoles. However, with game consoles such as PlayStation, Xbox and Nintendo hugely popular, the console market is difficult to avoid for developers and publishers aiming to reach a mass market for high-quality games and provide a special games experience at relatively high prices.

[34] Johan Leupen, Vechten om plek op de plank. Playlogic bokst op tegen de titanen van de gaming-industrie en maakt eindelijk winst. ('Fighting for shelf space. Playlogic up against gaming industry Titans, turning a profit at last.'), *Het Financieele Dagblad,* 13 December 2007, p.16.
[35] Jan Benjamin, Agressie heeft haar langste tijd gehad. Games industry: Jong en oud, vrouwen en mannen, iedereen speelt tegenwoordig. ('Aggression has had its day. Games industry: Young and old, women and men, everyone is gaming these days.') *NRC Handelsblad*, 4 maart 2008, p. 14.
[36] In 2006 the company reported a loss of €91 million on €651 million in turnover

The different practices in the console and PC games markets show up in the revenue breakdown across the various players.[37]

Figure 2-4 Breakdown of revenues in console and PC games markets



Source: OECD 2005

Note that in the market for PC games the developer and publisher take 60% of revenues, while in the console market one-third of revenues goes to platform providers Sony, Nintendo and Microsoft.

Guerilla Games, Playlogic and Khaeon Games are examples of Dutch developers targeting the console market, with Playlogic also operating as publisher and Guerilla Games bought by Sony in 2005. A number of Dutch players focus largely on the market for PC games, mobile games (Media Republic) and online games (Zylom). Industry association BGIn identifies eight Dutch design studios focusing on the market for console games.[38] In fact, the Netherlands claims a strong position in the market for serious games, which this study hardly touches upon as unlawful distribution is not really an issue here.

2.5.3 *Market trends*

The giant leap in the market for entertainment games, particularly at the console end, has pushed the games market to volumes well in excess of the music industry and rivalling the film market.

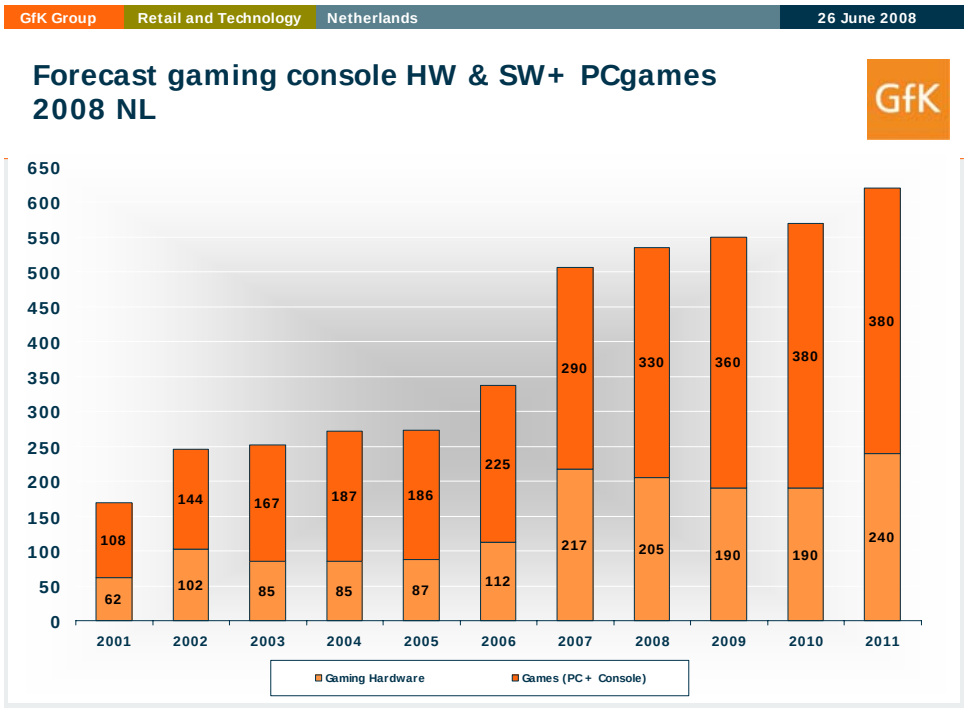
[37] OECD (2005) *Digital Broadband Content: The online computer and video game industry*. 12 May 2005.
[38] Hoogtij voor Nederlandse games ('Heyday of Dutch games') http://www.z24.nl/bedrijven/it_telecom/article47190.ece/Deze_game_komt_uit_Nederland.html, 27 August 2007, viewed 11 March 2008.

The global gaming market was estimated to be worth €30 billion in 2006, with half of this generated in the United States and Japan.

Only a few years ago, in 2003, a survey commissioned by the European Commission put the global games market at €15.3 billion and similarly found the United States and Japan to be dominant both in terms of their share of the global market – 2005: 39.4% and 33.7% respectively – and in terms of production and development of hardware (Sony, Nintendo, Microsoft) and games (Sony, Nintendo, Microsoft, Electronic Arts). The industry saw its turnover in Europe rise from €2.6 billion in 1997 to €5.25 billion in 2003, the United Kingdom being the most important market.[39]

GfK puts the overall Dutch market for PC and console games and console hardware at €337 million in 2006, with its forecasts for the period up to and including 2011 indicating impressive growth and showing a fundamentally different picture from expected market trends in the film and video industry – and even more so vis-à-vis expected turnover trends in the music industry.

Figure 2-5 Games market development (games and consoles) 2001-2011 (€ million)



Source: GfK, 2008

Table 2-7 captures trends in games software only, breaking down turnover and unit sales.

[39] KEA, European Affairs (2006) *The Economy of Culture in Europe*. Study prepared for the European Commission, DG Education and Culture. pp. 270-274.

Table 2-7 Markets for PC games and console games (software) 2000-2007, in terms of turnover (€ million) and units (millions)

Year	Turnover	Growth	Volume	Growth
2000	83.23		3.55	
2001	106.71	22%	4.13	14%
2002	148.21	28%	4.59	10%
2003	166.5	12%	5.26	15%
2004	187.0	125	6.6	27%
2005	186.0	-1%	6.8	3%
2006	228.0	15%	9.3	26%
2007	284.4	25%	10.6	14%

Source: NVPI

2.5.4 *PC games*

Unlike the broader market for games, PC games have seen less of a surge: in fact, this market is shrinking. Price erosion is causing declining turnover, with the first fall recorded in 2005: 15% lower turnover on contracting volumes. In 2006, sales of PC games picked up by 10% but turnover continued on its way down, while in 2007 sales were stable and turnover again declined – a trend that continued into the first half of 2008: 20.4% fewer PC games sold and turnover down by 24.9%.[40]

Table 2-8 Market for PC games 2002-2006, in terms of turnover (€ million) and volume (millions of units)

Year	Turnover	Growth	Volume	Growth
2002	61.7		2.74	
2003	67	9%	3.05	11%
2004	68	1.5%	3.7	22.6%
2005	58	-15%	3.2	-15%
2006	57.1	-2%	3.8	10%
2007	57.1	0%	3.7	-3%

Source: NVPI

2.5.5 *Console games*

In 2006 the market for console games stood at 5.5 million units with a total value of €170.8 million. As market volumes (number of units) have risen more sharply than turnover (euros), we are talking price erosion for the year. And yet, even financial growth was robust at 33%, a trend that continued into 2007, the most notable aspect being that turnover grew more rapidly than volume, pointing to an increase in average unit prices. The trend stayed much the same in the first half of 2008: nearly one-quarter more in turnover with unit sales 20.4% higher.[41] Price erosion would appear to have been halted, with more console games sold at higher prices.

[40] Werner Schlösser, 'Boeken en gamehardware redden halfjaarcijfers. Videomarkt voor het eerst in rood.' ('Books and game hardware save interim figures. Video market in the red for the first time.') *Entertainment Business.* Volume 32, October 2008, pp. 40-41.
[41] Ibid.

Table 2-9 Market for console games (software) 2002-2006, in terms of turnover (€ million) and volume (millions of units)

Year	Turnover	Growth	Volume	Growth
2002	86.51		1.85	
2003	99.5	15%	2.20	19%
2004	119	19.6%	2.95	33.9%
2005	128	7%	3.6	24%
2006	170.8	33%	5.5	52%
2007	227.1	33%	6.9	26%

Source: NVPI

Specific data for the console market – i.e. the hardware end – are available for a period of three years only. Though sizeably smaller than the market for games in 2006 (€112.5 million compared with €170.8 million), this was still a good-sized market, with 620,000 game consoles sold. In 2007, turnover kicked ahead by a phenomenal 89%, driven by 60% volume growth that, once again, shows higher average prices per unit. That year saw nearly one million consoles sold.

Table 2-10 Market for game consoles (2002-2006) in terms of turnover (€ million) and volume (millions of units)

Year	Turnover	Growth	Volume	Growth
2005	89	-	0,56	-
2006	112.5	74%	0,62	10%
2007	212.2	89%	0,99	60%

Source: NVPI

Unmistakably, console games and game consoles together constitute the key driving forces behind turnover developments in the games and the broader entertainment markets.

2.5.6 *Employment*

There are few precise data for employment in the games industry, as today's statistics do not agree on a clear classification of games companies. In Europe, an estimated 13,250 people are involved in the development of games, a key player being France's Ubisoft with 1,100 employees. US games developer Electronic Arts has 930 people on its payroll in Europe.[42]

The Dutch Game Development Monitor puts the number of companies in the gaming industry at 100, employing a total 1,500 people and turning over nearly €1 billion. Note that this figure does not just derive from PC and console games and console hardware; serious games are a particular strength of the Dutch games industry. But even allowing for this, there is no denying that the Dutch games industry is a flourishing net exporter: Dutch producers are turning over more than is being spent at the retail end. According to the NLGD Foundation a total of 1,200-1,400 people are involved in games production in the Netherlands – entertainment, applied and serious.[43]

[42] KEA, European Affairs (2006) *The Economy of Culture in Europe*. Study prepared for the European Commission, DG Education and Culture. pp. 270-274.
[43] Zibb (2007) 'Explosieve groei Nederlandse game-industrie' ('Explosive growth of the Dutch games industry'), http://www.zibb.nl/10220162/Bedrijfsvoering/ict/Nieuws/ICT-nieuwsbericht/Explosieve-groei-Nederlandse-games industry.htm, viewed 23 November 2007. Please note that figures include other types of gaming.

2.6 Music industry

2.6.1 *Scope*

The music industry can be construed as the types of activity based on producing and commercialising music in the shape of – rights to – compositions, recordings, performances or related products and services. At the heart of these activities is the recording industry, which engages in the production and commercialisation of recordings. Authors, publishers, performers and producers of music earn money from music and recordings by many different means, e.g. selling physical recording formats, offering recorded music online, licensing others to use these recordings. Sources of music revenues also include performing rights via radio or television, in public places such as restaurants, shops and even beauty parlours, and licensing the use of music in commercials or films. Live performances are a key money earner for artists, particularly those who have become famous by their records, with merchandising an important related market.

2.6.2 *Industry structure and funding*

Various parties from specific disciplines contribute to the development, creation, production, marketing, distribution and sale of music recordings. The origin of a recording will be the composition of a song, a symphony or other creative content, with its composer or singer/songwriter typically taking it to a music publisher who will commercialise the rights on behalf of its creator and receive a share of the revenues in return. To make a recording, a music artist or bands will typically approach a record company or be approached by them if the latter discerns potential. The record producer will pay the author and publisher a fee to use the recording.

The record label's artist and repertoire (A&R) people will build relationships and sign contracts with talented artists, thus creating a catalogue of recordings for the record company to commercialise. Recordings are typically financed by the record company, and performing artists receive royalties per album sold, with advances and often also marketing and promotional costs coming out of future royalties. If no such royalties materialise, the advances are not usually recouped but will remain open and charged to any revenues from subsequent recordings. If a band or an artist decides to change labels and has not yet paid all costs, the original label will in some cases demand restitution from the new label signing on the artist/band. But even if the costs of production and marketing have been paid from revenues, the recording will remain the property of the record company, which retains the publishing rights.

Over the past decades, between 70% and 85% of the Netherlands' turnover from music on CD, music DVD or commercial download, has come from music recorded outside the Netherlands and performed by foreign artists. This usually means that the music recording was made abroad by an associated company or other business partner and reproduced at a CD factory within or outside the Netherlands by order of the Dutch company or outlet. The Dutch partner in this set-up will then pay royalties to its foreign associate for each album it sells. Conversely, the foreign partners pay royalties for music recorded in the Netherlands by Dutch artists. Multinational labels operating in the Netherlands typically pay more royalties abroad than these companies receive from their foreign partners. Since the mid-1990s, Dutch productions[44] have had a share of between 20% and 27% of the Dutch market, having bounced back from an all-time low of 15% or less in the early 1990s.[45]

[44] This refers to music recordings by artists of Dutch origin regardless of whether their music is in Dutch or any other language.
[45] NVPI audio market information.

The European market for music recordings is shrinking. Estimated at $12.4 billion in 2004, this was significantly lower than the $14.8 billion it generated in 2001. In 2002, 2003 and 2004 the European market contracted by 3.7%, 8.2% and 5.3% respectively. Worldwide, the music market is also shrinking: $33.6 billion in 2004, compared with $39.7 billion in 2000.[46]

Table 2-11 captures the size of the record business in different countries, breaking the figures down into physical formats, online (digital) formats and performing rights. The Netherlands is the tenth biggest market in the world, with 81% of turnover through physical formats, 15% generated through performing rights and 4% via digital downloads. Revenues from performing rights are uncommonly high in the Netherlands, suggesting that its music industry is very adept at leveraging recordings in this manner. By contrast, digital sales account for a very low share of revenues.

Table 2-11 Worldwide sales of recordings (physical, digital and performing rights) in 2007

		Trade values 2007				Market Split			Retail Values 2007		
		US$ (m)	Local currency (m)		% change	Physical	Digital	Perf. Rights	US$ (m)	Local currency (m)	
1	USA	6,059	USD	6,059	-9%	75%	24%	0%	10,394	USD	10,394
2	Japan	3,577	JPY	421,152	0%	82%	16%	2%	4,897	JPY	576,608
3	UK	2,042	GBP	1,021	-13%	85%	8%	6%	2,976	GBP	1,488
4	Germany	1,564	EUR	1,142	-4%	89%	6%	5%	2,277	EUR	1,662
5	France	1,086	EUR	793	-17%	86%	7%	7%	1,609	EUR	1,175
6	Canada	496	CAD	531	-14%	85%	11%	4%	650	CAD	695
7	Australia	414	AUD	497	-10%	89%	8%	3%	619	AUD	743
8	Italy	365	EUR	266	-17%	87%	7%	6%	536	EUR	392
9	Spain	306	EUR	223	-20%	83%	8%	9%	423	EUR	309
10	Netherlands	281	EUR	205	-2%	81%	4%	15%	402	EUR	294
11	Russia	220	RUB	5,626	-2%	98%	2%	0%	426	RUB	10,885
12	Brazil	193	BRL	377	-25%	86%	8%	6%	276	BRL	537
13	Mexico	191	MXP	2,085	-19%	92%	8%	0%	304	MXP	3,318
14	Belgium	187	EUR	136	-1%	85%	6%	9%	249	EUR	182
15	Switzerland	178	CHF	214	-7%	94%	6%	0%	233	CHF	280
16	Austria	152	EUR	111	-1%	86%	6%	8%	293	EUR	214
17	South Africa	151	ZAR	1,067	2%	98%	2%	0%	243	ZAR	1,716
18	Sweden	150	SEK	1,014	-9%	85%	7%	9%	222	SEK	1,503
19	South Korea	144	KRW	133,667	-8%	39%	61%	0%	334	KRW	310,809
20	India	140	INR	5,787	12%	74%	17%	10%	213	INR	8,787
	Other	1,510							2,345		
	Total	**19,405**			**-8%**	**82%**	**15%**	**3%**	**29,922**		

Notes:

Physical sales include: audio formats (singles, LPs, cassettes, CDs, DVD Audio, SACD, MiniDisc) and music video formats (DVD, VHS, VCD).

Digital sales include: single track downloads, album downloads, music video online downloads, streams, master recording ringtones, full track audio download to mobile, ringback tunes, music video downloads to mobile and subscription income. Excluded from these figures: midi files (monophonic and polyphonic ringtones) and non-music content to mobile.

Performance rights figures reflect monies received by record companies from collection societies for licenses granted to third parties for the use of sound recordings in music videos in broadcasting (radio and TV), public performance (nightclubs, bars, restaurants, hotels) and certain internet uses.

Source: IFPI 2008

Despite emerging trends in music commercialisation, record companies have remained central players in the music industry. For a very long time, the industry was dominated by five majors – large internationally operating record companies – but with the merger between Sony Music and Bertelsmann Music Group (BMG) it has now gone down to four. For a while, the merged company had a mixed ownership structure inspired by both parent companies. However, Sony recently announced its intention to buy Bertelsmann's share in the joint venture – for which it has the go-ahead from the European Commission. The other majors are Universal Music, a Vivendi company (France), EMI and Warner Music – the latter two owned by private investment

[46] KEA, European Affairs (2006) *The Economy of Culture in Europe*. Study prepared for the European Commission, DG Education and Culture. p. 235

companies. The majors jointly control around three-quarters of the global music market, with the rest held by independent labels.

Table 2-12 Record companies' share of the Dutch market in 2007*

	Record company	Share
1	Universal Music Nederland	27%
2	EMI Music Holland B.V.	23%
3	SONY BMG Music Entertainment	19%
4	Warner Music Benelux B.V.	10%
5	Rough Trade Distribution	4%
6	CNR Entertainment BV	2%
7	Play it Again Sam	2%
8	Artist & Company	2%
9	Digidance BV	2%
10	Coda Nederland BV	1%

*) This breakdown is by and large the same for the individual markets (albums, CDs and downloads).
Source: NVPI

In 2007, entertainment shops accounted for the bulk of turnover in the market for physical audio formats (59%), with the two runners-up electronics and internet shops each at 14%. Department stores took 10%, home electronics stores and supermarkets accounted for 3%. The market share of electronics shops and internet shops grew by 3% compared to 2006, at the expense of the entertainment outlets.[47]

One music recordings-related market is that for live concerts and performances, often primarily driven by the popularity of the performing artist's recorded music. Of course, this is not always the case, and is less so for classical music than for pop genres. Little is known about the scale of the live performance market, but research by GfK Germany revealed that the market for concerts outstrips that for music recordings. In Ireland, the concert market was found to be worth slightly over half the market for recordings.[48]

By far the most important player in the Dutch market for live concerts is Mojo Concerts, part of the international company Live Nation. Mojo schedules international artists' concerts in the Netherlands and negotiates contracts with agents and artist managers. In addition, it runs its own facility, the Heineken Music Hall in Amsterdam, and is involved in getting a concert facility off the ground in Amsterdam comparable to Rotterdam's Ahoy in terms of capacity. The Entertainment Group is another key player in the Dutch market, organising concerts by artists well-known to their Dutch audiences, such as Marco Borsato, Guus Meeuwis and Trijntje Oosterhuis.

With income from recordings having fallen in the past few years and with music producers at least having the impression that concert receipts are on the increase, record companies have been negotiating 360-degree contracts under which record producers get a share of the revenues of concerts and merchandise on the grounds that the value of artists, their concerts and merchandising reflects the fame they have achieved through the production and marketing of their recordings – which is why it is considered only fair that producers get to share in the takings from

[47] Source: NVPI 2008

[48] Both surveys were reported in KEA, European Affairs (2006) *The Economy of Culture in Europe*. Study prepared for the European Commission, DG Education and Culture. pp. 243-244.

related markets. Robbie Williams was one of the first to sign a 360- degree contract, with UK company EMI. Meanwhile, another trend has emerged under which artists enter into a 360-degree contract with concert promoters – such as Live Nation – and not the record companies. Madonna is a case in point and so is U2, in part at least. It is Live Nation that then agrees partnerships with the record companies to produce recordings.

As the music industry is currently structured, copyright is the key foundation for the business models of both music producers and promoters of live music. The compositions made into recordings and performed at the concerts combine with the performing artist's reputation to create the actual value, and copyright ensures that their authors are compensated. Music publishers commercialise copyrighted music on behalf of its authors in return for a percentage of the revenues, typically 33% or more. These music publishers are frequently owned by the record companies producing the recordings, but certainly not in all cases. The European market for music rights was estimated at €3.4 billion in 2005.[49]

Leading music publishers include EMI Music Publishing, Warner Chappell, Universal Group Music Publishing and Sony/ATV – most of them direct associates of the recording industry's majors. Worldwide, these names account for an estimated two-thirds of the global market for music rights. Smaller, independent publishers command one-third, while there is an emerging trend for major artists who write their own content to set up their own music publishing companies.

The music industry was the first beneficiary of the opportunities offered by digitisation, with the launch of the CD in the 1990s proving a tremendous boost to turnover. However, it has also been the first to get derailed by digital networks.

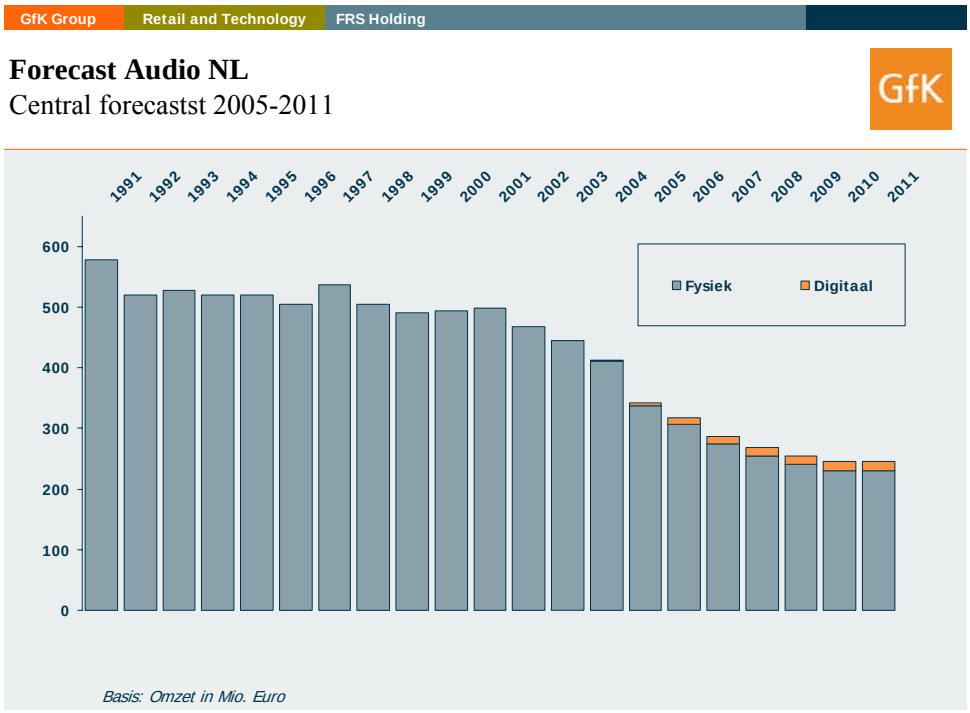
2.6.3 *Market trends*

The music business breaks down into a number of sub-markets, with the market for physical music formats the leading and traditionally most used indicator for the state of play in the industry. The past few years have seen a slight change: music videos and music DVDs are now also included, and more recently also non-physical online formats for consumers.

Figure 2-6 shows trends in the market for music recordings under this breakdown as captured by GfK for the 1991-2006 period, including forecasts up to and including 2011. As the figure indicates, the nosedive in turnover clearly sets in around the turn of the millennium, and GfK does not expect it to level off until 2010. Strikingly, digital distribution as a sales channel plays only a relatively modest part.

[49] KEA, European Affairs (2006) *The Economy of Culture in Europe*. Study prepared for the European Commission, DG Education and Culture. pp. 241-242.

Figure 2-6 Audio market development 1991-2011



Source: GfK, 2008

Table 2-13 shows the market for music recordings to have lost the most ground in 2005, with the pace of contraction gradually slowing to a negative 8% in 2007.

Table 2-13 Market for physical music formats (excluding downloads, including VHS and DVD music videos from 2002) in terms of turnover (€ millions) and units (millions)

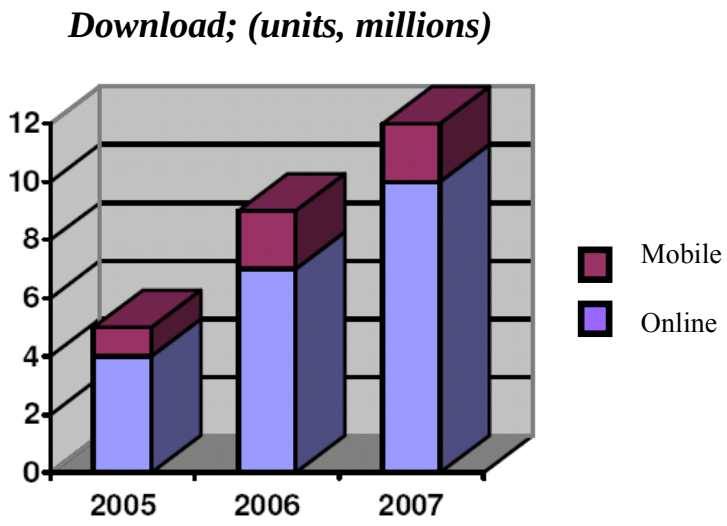
Year	Turnover	Growth	Volume	Growth
1998	505	-6%	41.5	-9%
1999	490	-3%	39.5	-5%
2000	494	1%	39.9	1%
2001	486 (498)	-1.5%	37.7 (38.7)	-5.5%
2002	467	-6%	34.2	-11%
2003	444	-5%	33.3	-3%
2004	411	-7%	31.7	-4.8%
2005	338	-18%	27.2	-14%
2006	307	-9%	24.6	-9%
2007	282	-8%	22.9	-7%

Source: NVPI

The decline in the market for music recordings continued in the first six months of 2008: total turnover dropped 5.5% with volumes up by 2.2% thanks to an increase in the market for legal digital downloads. This latter market grew by 17% in terms of units and value, to a total of

6.28 million units and €6.22 million in turnover on an overall music market worth just under €115 million in the first six months of 2008.[50]

Figure 2-7 Market for downloads in the Netherlands (units) 2005-2007



Source: NVPI

As Figure 2-6 makes abundantly clear, revenues from downloads have been unable to stem the tide of falling physical format turnover. Although still in its early, tentative stages, the licensed download market is growing swiftly, as demonstrated by Figure 2-7.

IFPI figures for 2007 put worldwide turnover from online and mobile sales channels at 15%, working out at $2.9 billion (as captured in Table 2-11).[51] The number of – mobile or online – downloaded tracks stood at 1.7 billion worldwide, representing an advance of 53% on 2006. This has not prevented a fall in total turnover for the music industry in most countries, Japan and South Korea being important exceptions. Reporting a mere 4% of turnover from digital downloads, the Netherlands is lagging most other countries.

In keeping with total turnover trends in the audio format market (Table 2.13), record companies in the Netherlands have also seen their turnover go down, albeit by significantly less than the broader market for music recordings since 2005. This would suggest that record companies have found other sources of income besides directly marketing recordings in the consumer market.

[50] Werner Schlösser, 'Boeken en gamehardware redden halfjaarcijfers. Videomarkt voor het eerst in rood.' ('Books and game hardware save interim figures. Video market in the red for the first time.') *Entertainment Business.* Volume 32, October 2008, pp. 40-41.
[51] Around 30% in the United States compared with an estimated 5% in the Netherlands (webwereld.nl). For films, the global average was a mere 3%.

Table 2-14 Turnover of record companies in the Netherlands (NVPI), music formats and downloads (€ million) in 2007*

Year	Turnover	Growth
2002	266.3	-7.0%
2003	253.5	-4.8%
2004	229.9	-9.3%
2005	197	-14.3%
2006	186.3	-5.4%
2007	176	-5.5%

*) Excluding revenues from secondary sources, performing rights and revenues from home copying

Source: NVPI

Please also note that revenues from performing rights of music recordings on the basis of related rights[52] do not feature in this turnover breakdown. The value of these performing rights for producers and performing artists is the subject of Table 2-15.

In 2007, the value of collected neighbouring rights for public performance in the Netherlands rose by over 38% to in excess of €58.4 million, one-quarter from the media and three-quarters related to performing rights. The increase was due entirely to the latter category and largely reflects improved collection procedures by SENA. In 2007 SENA collected a relatively large number of payments still owing from previous financial years, ending up paying €17.8 million to producers and €19.5 million to performing artists.

Table 2-15 Neighbouring rights revenues (€ million) 2006-2007

Revenues	2007	2006
Media	13.4	13.2
Performing rights	45.0	29.0
SENA Netherlands	58.4	42.2
International	4.8	3.3
SENA total	63.2	45.5
Other rights	2.2	2.7
Grand total	65.4	48.2

Source: SENA 2008

A relevant additional market important in this respect is that for authors right-related performing rights collected by BUMA. The value of these rights is not factored into any of the markets we have outlined here[53] and the rights are paid to music publishers or directly to music authors.

Performing rights as collected by BUMA in 2007 were worth a total €129 million, including over €10 million from outside the Netherlands for the use of BUMA-represented catalogues. Note that BUMA does not just represent the interests of Dutch music authors, whose share accounts for an estimated 80-90% of the total value.

[52] Rights related to a recording and belonging to the performing artist and producers of the recordings (see Section 3.1.2).
[53] As with payment to right holders on the basis of mechanical production rights, for instance, which are factored into the recorded music turnover (physical music formats and downloads) on the consumer market. This, incidentally, also applies to the royalties that producers pay artists.

Table 2-16 Revenues from performing rights BUMA-represented right holders (€1,000s) 2003-2007

Source	2007	2006	2005	2004	2003
Radio and television	45,714	42,286	41,981	41,180	37,739
Concerts	18,249	18,354	15,499	15,443	14,910
Hospitality industry	15,744	15,431	14,582	15,279	14,683
Workplaces	15,143	12,620	11,853	11,172	10,805
Retail	11,427	10,605	9,935	10,389	9,806
Online	840	564	331	380	201
Cable	12,292	11,387	11,110	10,495	10,998
Foreign	10,023	8,725	8,284	8,432	6,860
Total	129,432	119,972	113,575	112,770	106,002

Source: Buma 2007

As we have noted before, little beyond anecdotal evidence exists about the size and development of the market for concerts. This is all the more unfortunate given the reported importance of this market in compensating for the contracting recorded music market.

Anecdotal evidence or not, Mojo Concerts is clearly the most important player in the Dutch concert market. As said, it runs its own facility, Amsterdam's Heineken Music Hall, staging 140 concerts and attracting 1.2 million visitors in the Netherlands in 2007.

The Dutch club circuit, plus a few smaller pop festivals, are the only parts of the live performance sector we have any structural data on, as these are members of the industry association VNPF, comprising 96 venues and festivals. These venues host a wide range of Dutch and foreign acts (a ratio of 70% to 30%) and employ over 6,400 people, two-thirds of them volunteers. Member venues, which average a capacity of 660 visitors, jointly turned over in excess of €90 million in 2007 and received nearly €20 million in total municipal subsidies in that year.[54]

2.6.4 *Employment*

Employment trends in the Dutch music industry provide an incomplete picture: analysis of the LISA database on employment in 'publishers of music recordings' – i.e. record companies – suggests a slight increase in jobs. In 2006, the industry gave employment to 2,430 people, having grown by a total 210 jobs between 1996 and 2006, an average annual expansion of 0.9%. The entertainment industry at large recorded growth at 2.1% over the same period and total job numbers in the Netherlands were up by 1.7% per annum. Employment at the record companies is obviously lagging, and the average company size has also come down by 5.8%. Further research would be desirable to uncover the specific reasons for the downturn, plausible reasons being that the music majors are downsizing their workforces and/or that former employees are striking out on their own.

A sharp fall in employment has occurred in the reproduction of sound and image formats and the computer media, a sector also including CD and DVD manufacturing plants. Following the restructuring of the industry many jobs were lost in the Netherlands: in 2006 there were a mere 1,410 jobs left with no less than 2,740 having disappeared between 1996 and 2006, an average annual decline of 10.2%. The average company size in this sector also shrank by 9.6% per annum.

[54] Werner Schlösser, 'Helft clubs in de rode cijfers.' ('Half the clubs in the red.') *EB Live*, June 2008. pp. 32-33.

2.7 Summary and conclusions

Despite being part of the entertainment industry, the three industries at the heart of this study are charting their own course in more ways than one.

The music industry finds itself up against a shrinking market for its products and the ubiquitous problem of file sharing. It may well be that at least part of turnover loss directly reflects this sharing of digital music files, via P2P networks among other routes. Chapters 4 to 6 will look into this issue in depth. Whatever else it may show, our investigation of these industries suggests that the music industry is in the most desperate need of business model reinvention. Our observations in the first part of this chapter and the market analysis in the second part both point to numerous shifts in the music industry that suggest the opening up of new sources of revenue. We would conclude that the total market for music formats – both physical and online – is contracting faster than the Dutch record companies are able to unearth new sources of income to bolster their total turnover figures. And the definitive solution to industry contraction has yet to be found. Generally, the music industry's initial defensive strategy of lawsuits and DRM has not stemmed the swelling tide of music files being shared through P2P networks and in other ways. The industry has failed to come up with an early answer to today's new digital reality and has seen other players, such as Apple, claim key market positions in marketing and delivering digital music. New sources of revenue are most fully developed in music, but the industry holds out the least bright prospects for employment. Job growth has been lagging both the entertainment industry at large and general employment trends in the Netherlands.

A different picture emerges for the film industry, which is still enjoying clear growth in a number of markets: cinema visits and DVD sales, in particular. By contrast, DVD rentals have slumped. These rather favourable trends as compared with the recorded music industry may reflect the fact that film sharing has not taken off on such a large scale as music sharing. If this is indeed the reason, increasing broadband penetration might eventually also cause this industry to record less growth or even to contract. The urgency that the music industry currently feels to reinvent its business model might then also take hold in the film industry. The latter industry is also at a disadvantage in that it is not in the nature of film consumption for viewers to quickly want to see the same film again, and it should not allow itself to be lulled into a sense of complacency by still-increasing turnovers. For now, employment trends in the industry are still positive.

The gaming industry is a different story yet again. This is a booming business, particularly at the console games and related hardware end, and the spectre of file sharing looms much less large than in PC games, where turnover is now flat. The specific platform-restricted hardware-software-content marriage makes the official game release so attractive – compared with a music CD – that this industry might well be able to prevent or sidestep the file sharing that besets the music business. Concept design and product innovation are much more embedded in the games industry culture than in the music and film industries. From this vantage point it is less complex for the industry to innovate, if need be by joining forces with the music industry as it is now doing in music games. Boasting such a strategic advantage, it should not come as a surprise if the games industry ends up the winner in the battle for young consumers' spending money. Employment trends in this as yet modestly sized industry are positive.

3 Legal framework

Downloading copyrighted content from file-sharing networks, websites and other sources for one's own use is permitted by law in the Netherlands. Games are an exception to this, as they enjoy wider protection under the Copyright Act.

In the case of peer-to-peer (P2P) networks, content is not only often downloaded by users but also made available again to others, usually automatically. File sharing is a more or less intrinsic element of P2P networks. The uploading of files without the prior consent of the right holder is a copyright infringement and may result in both civil and criminal liability.

Criminal enforcement focuses in particular on commercial and/or large-scale uploading. Policymakers at not only national but also European level are reluctant to use criminal law instruments against individual end users. Aspects of public interest play a part in this connection (promoting the legal delivery of content, proportionality, expediency, legal certainty, etc.).

This chapter outlines the legal context of file sharing under current law and identifies relevant policy developments at national and European level. Copyright is central here and – in so far as relevant – a distinction is made between three product markets (music, films and games). This chapter provides an answer to the following question formulated in the introduction:

What is the legal framework of file sharing in the case of film, music and games? What are the relevant developments in national (Dutch) and European legislation and regulations and legal policy in this field?

Sections 2 and 3 deal successively with the legal aspects of downloading and uploading. Sections 4 and 5 examine the role of intermediaries and aspects of enforcement. Section 6 outlines Dutch policy developments, and Section 7 discusses the European dimension.

3.1 Downloading

The downloading of copyrighted digital content constitutes a reproduction (copying) within the meaning of section 13 of the Copyright Act (*Auteurswet*). Every form of downloading (from P2P networks or a website, on a mobile phone, etc.) basically involves making a copy. The prior consent of the right holder is required in principle for making a copy of protected content.[55]

3.1.1 *Consent*

A right holder may give consent by means of a licence (e.g. in the form of a contract with the user, by using alternative licence forms such as Creative Commons licences) or through an implicit licence (e.g. offering content for downloading on a website). Whether or not content is offered in exchange for payment is not in itself an indication of whether the content concerned is offered with the consent of the right holder. It is common knowledge that P2P networks are increasingly being used by unknown as well as known right holders to promote their work or raise their public profile. Moreover, in the case of certain forms of viral marketing, content can initially be

[55] One-off copies and copies that are technically unavoidable (e.g. made during a transmission) are disregarded, section 13a Copyright Act.

downloaded free of charge, but the user must subsequently pay to listen, for example, to a music recording again.

No consent is required to download certain types of content. This applies to content that is not (or is no longer) copyrighted, such as material whose protection has expired (sound recordings more than 50 years' old, works of authors who have been dead for more than 70 years, etc.). Nor is consent required for downloading content that is not eligible for protection (facts, formulas and creations lacking their own original character). Likewise, 'torrent' files, which specify the name, size and location of a file, do not enjoy copyright protection.

3.1.2 *Private copying*

Downloading is lawful even without prior consent if one of the copyright exceptions is applicable. The most relevant exception for the purposes of the present study is the exception for private use, as regulated in sections 16b and 16c of the Copyright Act. The exception for private use also applies to related rights such as in recordings on CDs or DVDs.[56] This means that consumers may download content from P2P networks,[57] websites and social networks (Hyves, MySpace, etc.) even without the consent of the right holder. Both non-economic and economic arguments have been advanced for this private use exception.[58] *Non-economic arguments* include protection of the user's privacy, promotion of participation in intellectual life, personal development and encouragement of creativity and freedom of expression. *Economic arguments* are the high costs and practical difficulties that would make it impracticable to enforce a prohibition on making copies for private use. Another consideration mentioned in the context of the private use exception is the need to strike a balance between, on the one hand, the aims of copyright (i.e. encouraging creativity, innovation and wider distribution) and the cost/benefit ratio (limiting the possibility for third parties to use existing creations) and, on the other, encouraging authors and producers.[59]

A copy may be made for private use if the following conditions are fulfilled (sections 16b (1) and 16c (1) Copyright Act):

- it is made by natural persons (not by businesses, institutions or organisations);
- without any direct or indirect commercial aim;
- exclusively for private practice, study or use (i.e. not for practice, study or use by third parties);
- the number of copies remains limited.

Under section 16c (2) of the Copyright Act, an additional condition for making digital copies for private use is that a fair levy is paid. This levy is collected in the Netherlands from the producer or

[56] Section 10 e Act of 18 March 1993, containing rules for the protection of performing artists, producers of phonograms or of first fixations of films and broadcasting organisations and amendment of the Copyright Act 1912 (Neighbouring Rights Act).
[57] Haarlem District Court, 12 May 2004, AMI 2004, p. 185 (ZoekMP3 case); Parliamentary Papers II 2002/3, 28482, no. 5, p. 32. P.B. Hugenholtz, '*Napster: een bliksemonderzoek*', Computerrecht 2000/5, p. 228; D.J.G. Visser, '*Napsteren, Gnutellen en de afwezigheid van legale muziek op internet*', Computerrecht 2001, p. 132. But see also: J.M.B. Seignette, '*Napster en de controle van de rechthebbende over de distributie van zijn werk*', 2 AMI/Tijdschrift voor Auteurs-, Media-, en Informatierecht 2001, pp. 29 and 32.
[58] For an overview of the reasons for the private copy exception, see N. Helberger and P.B. Hugenholtz , '*No place like home for making a copy*', 22 Berkeley Technology Law Journal 2007, p. 1061, 1068 ff, L. Guibault, *Copyright Limitations and Contracts*, Kluwer Law International 2002, pp. 47 and 48, M. Senftleben, Copyright, Limitations and the Three-Step Test, Kluwer Law International, Amsterdam, 2004, p. 158 ff.
[59] S.J. Liebowitz and S.E. Margolis (December 2003), Seventeen Famous Economists Weigh in on Copyright: The Role of Theory, Empirics, and Network Effects, , p. 6, http://ssrn.com/abstract=488085 ; W.J. Gordon, '*Excuse and Justification in the Law of Fair Use: Commodification and Market Perspectives*', in: N. Elkin-Koren and N. Weinstock Netanel (eds.), *The Commodification of information*, Kluwer Law International, The Hague, 2002, p. 9 ff, http://ssrn.com/abstract=293690 .

importer of blank recording media (CDs, videotapes, mini discs, etc) under the private use scheme. Ultimately, the levy is charged to the consumer.[60]

Making copies for friends and third parties is not covered by private use as regulated in the Copyright Act. It has been suggested that file sharing using BitTorrent-type programs in particular is not purely for private use. This is because the specific properties of the software are such that the content is automatically offered to third parties again after or even during the downloading.[61] As against this, it is argued that the main reason for downloading content is still private use and that the users are not primarily concerned with sharing the content with third parties. However, this does not alter the fact that a user who offers content to third parties commits an unlawful act of publication (for more about this see the next section).[62] This example shows that in practice the legal distinction between reproduction and publication is not always easy to apply because the newer P2P programs automatically link downloading to uploading. This means that the user can no longer choose merely to download or is possibly even unaware that the program is also uploading.

The second requirement for the reproduction of copies for one's own use is that it must take place without any direct or indirect commercial aim. It has been argued that as anyone who downloads content from the internet saves the costs of buying a (legal) copy this yields a commercial benefit.[63] It is not a condition of the private use exception that the maker of the copy should have bought the original.[64] Nor can it be automatically assumed that the person making the copy would have bought the original if copying had not been permitted.[65] There is an obvious comparison with the lending and borrowing of CDs.

The prevailing view in the Netherlands is that it makes no difference whether private copies come from an illegal source.[66] A source is considered to be illegal if the copied content is distributed without the consent of the copyright holder or if the downloaded file has been produced without the consent of the copyright holder. In answer to written questions from members of parliament the Minister of Justice recently confirmed once again that section 16c of the Copyright Act does not impose a requirement that a legal source is necessary for the making of a private copy.[67] Arguments against such a requirement are that it is generally difficult for users to determine whether or not a source is legal and that such a requirement would be difficult to enforce and could adversely affect the amount of the payment owed to the right holder for private copies.

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[60] For the relationship between levies and DRM see: P.B. Hugenholtz, L. Guibault, S. van Geffen, *The future of levies in a digital environment*: Final report, Instituut voor Informatierecht, Amsterdam, 2003, http://www.ivir.nl/publications/other/DRM&levies-report.pdf

[61] In this sense see Seignette 2001, p. 32. B. Rietjens, '*Over leechers, seeds en swarms: auteursrechtelijke aspecten van BitTorrent*', 1 Ami/Tijdschrift voor Auteurs-, Media- & Informatierecht 2006, p. 11.

[62] Visser 2001, p. 132.

[63] P. Arkester, '*Copyright and the P2P challenge*', 3 European Intellectual Property Review 2005, pp. 107 and 108 et seq. Seignette 2001, p. 32.

[64] Visser 2001, p. 132.

[65] See chapter 6

[66] In this sense, see: Spoor, Verkade and Visser 2005, para 5.37. Haarlem District Court, 12 May 2004, 85489/HA ZA 02-99 (Techno Design v Stichting Brein), para. 6.18. Answers to written Parliamentary Questions II 2006/2007, question no. 2060719410; Parliamentary Papers II, 2007/08, 28482, no. 5, p. 33 et seq. Parliamentary Papers II, 2007/08, 28482, no. 8, p. 13; Letter from the Ministers of Justice, Economic Affairs and Education, Culture and Science to the House of Representatives on copyright policy, 20 December 2007. *Parliamentary Papers II*, 2007/08, 29.838, no. 6. p. 12. But see also: The Hague District Court, 25 June 2008, 246698/HA ZA 05-2233 (ACI-SONT), para. 4.4.3: the court held that making a private copy of illegal material would be an illegal act, but did not explain the reasons for its position or apply the three-step test. Appeal and appeal in cassation are still possible.

[67] Answers to written parliamentary questions, Annex *Parliamentary Papers II* 2006/07, no. 2060719410; *Parliamentary Papers II*, 2007/08, 28.482, no. 5, p. 33 et seq.; *Parliamentary Papers II*, 2007/08 28.482, no. 8, p. 13. See also Haarlem District Court, 12 May 2004, 85489/HA ZA 02-99 (Techno Design v Stichting Brein), para. 6.18;

3.1.3 *Games*

The exception for private use does not apply to the downloading of games in the form of computer programs (section 45n of the Copyright Act). Games may be reproduced without the consent of the right holder only if this is necessary for the use and study of the program for the purpose of the work concerned (sections 45j and l Copyright Act) or for making a reserve copy (section 45k Copyright Act) or if copying is essential in order to obtain the information needed in order to achieve interoperability with other programs (section 45m Copyright Act).

3.2 Uploading

The internet provides many ways of sharing digital content, for example through file sharing sites, social networks and delivery of content through private (or commercial) websites. Sharing digital content involves both making a copy (section 13 Copyright Act) and making the content available publicly within the meaning of section 12 of the Copyright Act.[68]

The concept of 'making available to the public' raises a number of issues, particularly in the context of file sharing sites.

3.2.1 *File sharing*

It is debatable, for example, when a work can be said to be published, particularly in the case of the popular BitTorrent protocols. What distinguishes BitTorrent protocols from other file sharing programs is that files are divided into parts and then offered, still in parts, to all users taking part at any given moment in the exchange of files. In other words, a peer often does not offer an entire file but only a few parts of it. The question whether the exchange of small parts of a file itself constitutes making available within the meaning of copyright law has not yet been clearly answered.[69] The most important argument against this is that no work can be recognised in the small and often encrypted parts themselves.[70] This discussion is of only limited relevance. After all, the consent of the right holder is, in principle, also required for the distribution of such parts: section 12 of the Copyright Act refers explicitly to a requirement of consent, even for the making available of parts of a work (it does not indicate how large these parts should be). In addition, the result can be taken as a point of departure: the work is ultimately made available by all peers together.[71]

A related question is whether users can be held liable for automated processes.[72] The newer file sharing programs in particular often do not give users the choice of only downloading files. The content is automatically made available again to third parties. Having said this, it could also be argued that the user makes the content available publicly and thus infringes the copyright of the author or right holder.[73] The question whether the user intended to do this is not relevant to the question of whether or not the uploading was legal.[74]

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[68] In certain circumstances the distribution of digital content may include making a copy beforehand; this private copy provision is not applicable here.

[69] For a detailed consideration of this question see B. Rietjens, pp. 8 and 11 et seq. Gercke 2007, pp. 791 and 799.

[70] Gercke 2007, p. 799.

[71] Rietjens 2006, p. 12.

[72] Answered in the negative by Gercke 2007, p. 799.

[73] See C. Gielen (ed.), *Kort begrip van het Intellectuele Eigendomsrecht*, Kluwer, 2007, p. 493; Rietjens 2006, p. 12.

[74] The question of whether or not the user intended to make content available is relevant only in determining whether a criminal act was committed (see para. 5) and in determining damages (a requirement of imputability applies here – see Art. 6:162 Civil Code).

3.2.2 *Social networks*

Putting content on a website accessible to the public or on P2P networks is a form of making available to the public. What is less clear is whether putting content on social networks in such a way that it is accessible only to friends and relatives is an infringement. In view of the existing case law it seems likely that 'non-public' must be narrowly interpreted and confined to sharing content with a closed circle of relatives and friends or a similar group. This is because the case law requires fairly close personal ties between the persons concerned if the sharing is to qualify as 'non-public'.[75] Close ties of this kind do not generally exist in the case of social networks such as Hyves and Myspace.

3.2.3 *Other aspects*

It has already been indicated in the previous section that making copies for third parties does not come within the private use exception and that distributing private copies is therefore not lawful. A user may, for example, make copies of a musical work for his own use, but he may not share it with third parties without the consent of the right holder.

The same applies to a user who buys a CD, DVD or a file. This does not amount to consent from the right holder to make the content available on the internet. Without the right holder's explicit consent to publication in the form of a licence, a contract of sale or a text with the CD or DVD, the content of CDs, DVDs or MP3 files may not be made publicly available.

Nor is the unauthorised uploading of digital content in p2p networks covered by a copyright exception.[76]

3.3 Liability of intermediaries

An important issue in the debate on unlawful downloading and effective measures to combat it is the extent of the responsibility and duty of care of 'intermediaries'. Intermediaries facilitate the distribution of and access to content on the internet, without usually themselves offering or using the content. Examples of intermediaries on the internet are Internet Service Providers (ISPs), hosting providers and the producers/facilitators of P2P software.

The responsibility of the Internet Service Providers and hosting companies is regulated through a system of rules of liability that can be found, above all, in the implementation of the E-Commerce Directive[77] in the Dutch Civil Code, the principles of which have already been reflected in the case law. The courts have held in various cases (dating from both before and after the implementation of the Directive) that providing opportunity to infringe copyright does not in itself constitute an infringement,[78] but that intermediaries (such as ISPs or website operators and perhaps also therefore providers/facilitators of P2P networks) are obliged, 'on the grounds of the general duty of care owed in such circumstances to cooperate and take adequate measures if they

[75] See Spoor, Verkade and Visser 2005, paras. 4.30, 4.35 and 4.37; Gielen 2007, pp. 455-456 with further references to case law. Supreme Court 24 December 1993, NJ 1994, 641, Amsterdam Court of Appeal, 17 October 1997, AMI 1997, p. 39, European Court of Justice 7 December 2006, Case C-306/05 (Sociedad General de Autores y Editores de España (SGAE) v Rafael Hoteles SA).

[76] P.B. Hugenholtz 2005, p. 228; Visser 2001, p. 13. Opinion of Advocate General D.W.F. Verkade with the Supreme Court judgement of 19 December 2003 (BUMA/KAZAA), 1 AMI 2004, pp. 9, paras 5.1-5.13.

[77] Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the internal market ('Directive on electronic commerce'), OJ EC 2000 L 178, p. 1.

[78] See The Hague District Court 9 June 1999, AMI 1999, p. 110 (Scientology v XS4ALL), para. 16. The Hague District Court, 5 January 2007, IER 2007/22, p. 96 (Brein v KPN), para. 4.15; Haarlem District Court, 12 May 2004, 85489/HA ZA 02-99 (Stichting Brein v Techno Design), para. 6.23; Amsterdam Court of Appeal, 28 March 2002, AMI 2002, p. 134 (KaZaA).

are informed that users of [their] computer systems are committing copyright infringements or otherwise acting unlawfully through the service provider's home page.'[79] According to the case law, ISPs still act unlawfully if and in so far as a) they are notified of the presence of copyrighted content (author's note: without the consent of the right holder), b) there are no reasonable grounds for doubting the correctness of this notification, and c) the ISPs do not then take action as quickly as possible to remove this information from their computer systems or make this information inaccessible.[80] This does not mean that the intermediaries are obliged to actively prevent copyright infringements, particularly in situations where it is not possible to check whether a file to which reference is made does constitute an infringement.[81] However, it may not always be clear to the intermediary whether copyrighted content has been put into circulation without the consent of the author and that the notification is therefore correct. The intermediary does, after all, also have a duty of care towards the provider of the information.[82]

It has been advocated that the liability rules that apply to ISPs and hosting companies should also be applied to the producers/facilitators of P2P (software).[83]

What is also relevant is section 26d of the Copyright Act, on the basis of which a court may direct intermediaries to discontinue services that are used to commit infringements. The court must take account in this connection of the share or involvement of the intermediary in the infringement, the purpose of the claim (proportionality), the interests of the right holder and any costs and damage the intermediary may suffer as a consequence of an order to discontinue the service.[84]

3.4 Enforcement instruments and procedures[85]

A distinction can be made between civil and criminal instruments and procedures in relation to the enforcement of copyright and action taken in this connection to prevent unlawful acts.

3.4.1 *Civil law*

The civil law rules for copyright enforcement are partly of a specific nature (e.g. the rules in the Copyright Act) and partly of a general nature (including tort law).[86] Copyright can be enforced against anyone committing an infringement. Various instruments are available, including an injunction backed by a penalty for non-compliance (also in the case of imminent infringements),[87] damages, surrender of profits, attachment, destruction of infringing content and means of production, claim for ownership of such content or means of production, recall of infringing products from the trade, and demands for personal information (name and address etc.) of infringers from the intermediaries (such as ISPs). The provisions on surrender of profits and attachment in the Copyright Act focus specifically on infringers who act in a commercial or

[79] Idem.
[80] Idem.
[81] Haarlem District Court, Brein v TechnoDesign, para. 6.23.
[82] M. Schellekens, *Aansprakelijkheid van Internetaanbieders* (Liability of Internet Providers), dissertation, 2001, p. 203, see also p. 205: right holders can strengthen their position 'by ensuring that the works they put into circulation (or cause to be put into circulation) bear clear identification marks.'
[83] Hugenholtz 2000, p. 228. This view is not undisputed. Others advocate following the stricter line taken by the US courts in the Napster and Grokster cases.
[84] Parliamentary Papers II, 2005/06, 30.392, no. 3, p. 26.
[85] An analysis of the prosecution policy pursued in practice is beyond the remit of this study.
[86] For a detailed description, see Spoor, Verkade and Visser 2005, para. 11.1-11.38.
[87] Supreme Court, 4 March 1938, NJ 1938, p. 948.

professional capacity.[88] When imposing enforcement measures the courts must weigh the interests of the defendant (such as privacy and freedom of expression) against those of the right holder.[89]

3.4.2 *Criminal law*

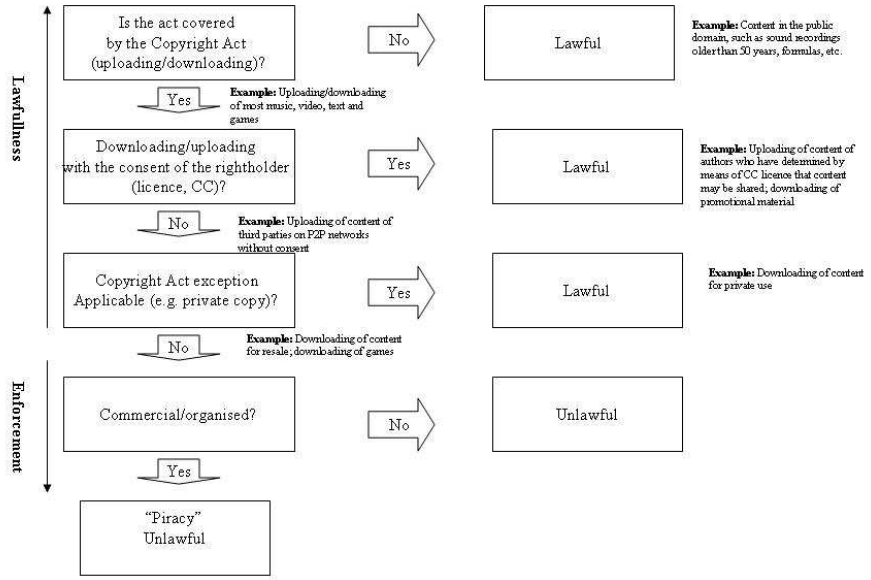
As regards means of enforcement under criminal law, it should be noted that an individual user who infringes copyright (e.g. by uploading without authorisation) may be guilty of an indictable offence (*misdrijf*) if he acted with intent (section 31 Copyright Act). Intent can be defined as 'the will to carry out the prohibited act or attain the prohibited consequence'.[90] Not every instance of unauthorised uploading is committed with intent. Intent may be doubted, for example, in the above situations where users make use of P2P or BitTorrent software.[91] Conditional intent may be held to exist in certain circumstances, namely where users 'knowingly expose themselves to the far from negligible chance …'[92] Users might possibly be presumed to realise that using P2P software can also result in the distribution of copyrighted content.

Whether or not it is possible to prove that the publication was actually committed by the suspect does not affect the possible applicability of the provisions of distribution in section 31a of the Copyright Act (with intent) or section 32 of the Copyright Act (without intent). The sanctions that can be imposed are a term of imprisonment or a fine. An indictable offence within the meaning of section 31 of the Copyright Act carries a maximum sentence of half a year's imprisonment or a category 4 fine. If the offence is committed in a commercial or professional capacity the sentence is higher. In this case, commission of the offence referred to in section 31 of the Copyright Act carries a maximum sentence of four years' imprisonment or a category 5 fine (section 31b Copyright Act).

As regards enforcement under the criminal law it should also be noted that the powers of investigating officials are more far-reaching in relation to infringers who act in a professional or commercial capacity than in relation to other infringers. For example, investigating officials are entitled at all times to demand to be allowed to inspect all documents or other data carriers if this can be deemed reasonably necessary for the performance of their duties (section 36a Copyright Act). There are also differences in the powers to arrest suspects not caught in the commission of the act, to impose remand in custody and to carry out searches of property for the purpose of seizure. [93]

Figure 3-1 Overview of the legal situation in the Netherlands.

[88] The general rules of Article 6:162 Civil Code also apply.
[89] Supreme Court, 25 November 2005, C04/234HR (Lycos v Pessers), para. 5.4.3. See also European Court of Justice, 29 January 2008, C-275/06 (Promusicae v Telefonica de Espana).
[90] Spoor, Verkade and Visser 2005, para. 12.4.
[91] Gercke 2007, p. 799; Rietjens 2006, p. 10. B. Cohen, '*Incentives Build Robustness in BitTorrent*', http://www.bittorrent.com/bittorrentecon.pdf
[92] Supreme Court, 9 November 1954, NJ 1955, 55.
[93] Spoor, Verkade and Visser 2005, para 12.4



3.5 Policy developments in the Netherlands

In December 2007 the Ministers of Justice, Economic Affairs and Education, Culture and Science wrote a letter to the House of Representatives of the Dutch parliament setting out the government's policy priorities in the copyright field.[94] The Ministers emphasised in their letter the responsibility of right holders to enforce their copyright. In the letter they mention the use of technical protection measures and of the existing instruments and procedures under civil law to enforce copyright. The Ministers stated that criminal law 'serves as an ultimate remedy, which is applied mainly where the public interest is affected by the infringement'.[95]

Law enforcement should, according to the Ministers, focus primarily on combating piracy at the source, in other words tackling those who upload illegally. The Ministers are against focusing enforcement efforts primarily on those who download for their own use from an illegal source. According to the letter, this would 'require a substantial investment with only a limited result'. The consumer would also be confronted with a question that is not always easy to answer, namely when can a source be said to be legal and whether a website that purports to offer legal files (whether or not in consideration of payment) is reliable.[96]

These policy priorities were confirmed in a second letter from the Ministry of Justice to the House of Representatives in April 2008. The second letter focused in particular on law enforcement on the internet and combating cyber crime.[97] According to the letter, cyber crime includes large-scale copyright infringements caused by illegal uploading. Once again, the emphasis is put on the

[94] Letter from the Ministers of Justice, Economic Affairs and Education, Culture and Science to the House of Representatives on copyright policy, 20 December 2007. *Parliamentary Papers II*, 2007/08, 29.838, No. 6.
[95] Ibid, p. 27.
[96] Ibid, p. 12.
[97] Letter from the Ministry of Justice, Directorate-General for the Administration of Justice and Law Enforcement, to the House of Representatives, concerning law enforcement and the internet, 14 April 2008, Parliamentary Papers II, 2007/08, 28.684, no. 133.

market participants' own responsibility (prevention, self-protection measures and civil enforcement). The letter states in this connection that 'it is necessary to make a balanced and careful assessment of the competing interests of protecting privacy and enforcing intellectual property rights in the light of the specific circumstances of the case'.[98]

According to the Minister, criminal law should be used to enforce copyright only if this is in the public interest. This would be the case 'where piracy is on such a large scale and the market is disrupted to such an extent that the problem cannot be adequately tackled by private action or where organised crime is involved.'[99] Criminal law enforcement will focus on combating the source of the illegal content, namely the person who illegally uploads on a large scale. According to the letter, the application of criminal law should be confined to specific situations. Important criteria for the application of criminal law are the extent of the damage in relation to the economic means of the private party involved and the manner in which the offence has been committed (e.g. degree of cunning, crudeness and methodicalness).[100]

The letter states that there is an important role to be played by intermediaries, such as ISPs or hosting companies. The letter announces that the duty of care for intermediaries will be considered in more depth in the coming period.[101]

3.6 Policy developments at European level

3.6.1 *Consultation on creative content online in the Single Market*

The European Commission launched a consultation on creative content online in the Single Market in 2008. Piracy and the unauthorised uploading and downloading of copyrighted content were important topics of this consultation and the related Communication from the European Commission.[102] The aim of the consultation was to prepare a future recommendation of the European Commission and to initiate a discussion with stakeholders on a number of points mentioned by the European Commission in this connection. According to the European Commission, the fight against online piracy should focus on:[103] (1) developing legal offers; (2) educational initiatives; (3) enforcement of legal rights; and seeking improved cooperation from Internet Service Providers (ISPs) in stopping dissemination of infringing content. A special point of attention of the Commission is encouraging more intensive cooperation between music and film producers, ISPs, government bodies and users.[104]

The public consultation process lasted until the end of February 2008. The 700-odd contributions to the consultation are currently being evaluated.[105] The European Commission announced that it

[98] Ibid, p. 37.
[99] Ibid, p. 27.
[100] Ibid, p. 15.
[101] Ibid, p. 11.
[102] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Creative Content Online in the Single Market, Brussels, 3 January 2008, COM(2007) 836 final, p. 8.
[103] See also C. McCreevy, *Counterfeiting and Piracy*, Speech, Conference on Counterfeiting and Piracy, Brussels, 13 May 2008.
[104] According to the Communication from the Commission on Creative Content Online in the Single Market, 'It would indeed seem appropriate to instigate co-operation procedures ('code of conduct') between access/service providers and right holders and consumers in order to ensure a wide online offer of attractive content, consumer-friendly online services, adequate protection of copyrighted works, awareness raising/education on the importance of copyright for the availability of content and close cooperation fight [sic] piracy/unauthorised file-sharing'.
[105] The contributions can be found at http://ec.europa.eu/avpolicy/other_actions/content_on line/index_en.htm.

would make recommendations on creative online content by mid-2008 (but has not therefore managed to meet this deadline).

3.6.2 *European Parliament resolution on cultural industries in Europe*

The European Parliament has called on the Commission to focus in its fight against piracy on soft measures such as the provision of information, cooperation between the parties involved and enforcement of the existing law.[106] It emphasised the need to strike a balance between 'the opportunities for access to cultural events and content and intellectual property rights …'. The European Parliament stresses that consumers who are not seeking to make a profit should not be criminalised. As the Parliament states, criminalisation is 'not the right solution to combat digital piracy'.[107] In its resolution the European Parliament also stated that it was against the interruption of users' internet access by ISPs as a sanction for unlawful uploading and downloading.

3.6.3 *Proposal for a Directive on criminal measures aimed at ensuring the enforcement of intellectual property rights*

The objective of the Proposal for a Directive on criminal measures aims at ensuring the enforcement of intellectual property rights[108] is to introduce criminal penalties to supplement the civil and administrative measures, procedures and remedies already laid down in Directive 2004/48/EC.[109] The proposed Directive will relate, among other things, to intellectual property rights in the content that forms the subject of this study (i.e. games, film, music). The core of the proposal is Article 3, which provides that the Member States must ensure that 'all intentional infringements of an intellectual property right *on a commercial scale*, and attempting, *aiding or abetting and inciting* such infringements, are treated as *criminal offences*' (author's italics).

The draft directive has met with considerable criticism,[110] partly because the phrases 'on a commercial scale', 'intentional' and 'aiding or abetting such infringements' are judged to be unclear. The active involvement of right holders in criminal investigation teams has also been criticised.[111] It has been pointed out that there is a danger that the rules (including the strict sanctions and high penalties) may be applied not only to professional/organised infringers but also to ordinary citizens. Another criticism concerns the power of the European Commission to regulate criminal law aspects of copyright.[112]

In March 2008 the European Commission announced that it would carry out a study of the legal situation in the Member States and the need for the directive.[113] At present it is not known what form the further action on this directive will take.

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[106] European Parliament, Resolution of the European Parliament of 10 April 2008 on cultural industries in Europe, A6-0063/2008, Brussels.

[107] Ibid, para. 17.

[108] Amended proposal for a Directive of the European Parliament and of the Council on criminal measures aimed at ensuring the enforcement of intellectual property rights, Brussels, 26 April 2006, COM(2006) 168 final.

[109] Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights, OJ L 157, 30 April 2004, pp. 45–86.

[110] For an overview, see http://action.ffii.org/ipred2/

[111] See for example R. Hilty, A. Kur & A. Peukert, Statement of the Max Planck Institute for Intellectual Property, Competition and Tax Law on the Proposal for a Directive of the European Parliament and of the Council on Criminal Measures Aimed at Ensuring the Enforcement of Intellectual Property Rights, 22/9/2006, Rn. 23

[112] Disagreement exists, above all, about the interpretation of a judgement of the Court of Justice in which it held that subject to certain conditions there is a power for the EC to regulate certain criminal law matters in the environmental field; Court of Justice, judgement of 13 September 2005, Case C-176/03 (Commission v Council), Rec.2005, p.I-7879. For the Dutch position, see the letter from the House of Representatives to F. Frattini, 3 July 2006, which can be found at: http://europapoort.eerstekamer.nl/9310000/1/j9tvgajcovz8izf_j9vvgbwoimqf9iv/vgbwr4k8ocw2/f=/vhc0fvdga1qw.doc

[113] European Commission, Answer to a written question of Nicola Zingaretti (PSE) to the Council, P-0541/0825, March 2008, http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=P-2008-0541&language=EN. See also European Council,

3.6.4 *Review of the Copyright Directive*

According to the recent report on the evaluation of the European Copyright Directive,[114] no relevant amendments to the directive on unauthorised downloading or uploading are likely in the near future.

3.6.5 *Green Paper on Copyright in the Knowledge Economy*

The Green Paper on Copyright in the Knowledge Economy[115] does not deal specifically with the problem of unauthorised downloading and uploading. The Green Paper discusses copyright infringements mainly in relation to search engines, linking, caching, etc. As such the Green Paper is not relevant to the present issue.

3.6.6 *Review of Directive on Electronic Commerce*

The liability of intermediaries such as ISPs and hosting companies was an important issue in the review of the Directive on Electronic Commerce. The European Commission concluded in its first report on the application of the directive from the year 2003 that there were no indications as yet that the provisions on the liability of intermediaries need to be modified.[116]

3.6.7 *Review of telecommunication framework*

The issue of unauthorised distribution (illegal uploading and downloading) was recently considered at length in the European Parliament, which discussed the proposed changes to the existing package of guidelines for the communications sector. At its sitting of 24 September the Parliament agreed during the first reading to the proposals of the European Commission, but did make various proposals for amendments. It became apparent during the sitting that no majority existed for stricter rules on copyright infringements.[117] For example, ISPs will not be obliged to disconnect end users who have committed an infringement.[118] However, an amendment (no. 138) was adopted which states that 'no restriction may be imposed on the fundamental rights and freedoms of end-users, without a prior ruling by the judicial authorities, notably in accordance with Article 11 of the Charter of Fundamental Rights of the European Union on freedom of expression and information, save when public security is threatened where the ruling may be subsequent'. According to yet other amendments, the national regulatory authorities and other public bodies should promote cooperation between providers of communication networks and services (e.g. ISPs) and the content industry.[119] The European Parliament emphasises in this

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Outcome of Proceedings of Working Party on Substantive Criminal Law, 2005/0127 (COD), Brussels, 27 June 2007, http://register.consilium.europa.eu/pdf/en/07/st10/st10714.en07.pdf

[114] European Commission, Commission Staff Working Document, Report to the Council, the European Parliament and the Economic and Social Committee on the application of Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society, SEC(2007)1556, Brussels, 30 November 2007.

[115] European Commission, Copyright in the Knowledge Economy, Green Paper, Brussels, 16 July 2008, COM(2008) 466/3.

[116] European Commission, Report from the Commission to the European Parliament, the Council and the European Economic and Social Committee – First report on the application of Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the internal market ('Directive on electronic commerce'), COM/2003/0702 final, Brussels, 21 November 2003.

[117] Strict rules of this kind are advocated above all in France. They can be found in a draft law known as 'le projet de loi relatif à la Haute Autorité pour la diffusion des œuvres et la protection des droits sur internet' (HADOPI), which is also controversial in France (e.g. negative recommendations of the telecommunication and privacy regulatory authorities). For the version approved by the Senate see http://ameli.senat.fr/publication_pl/2007-2008/405.html.; Germany has expressly decided against stricter regulations or enforcement. In the United Kingdom consultations focusing on self-regulation are still under way (*Consultation on Legislative Options to Address Illicit Peer-to-Peer (P2P) File-sharing;* http://www.berr.gov.uk/files/file47139.pdf)

[118] For the decision-making on the telecom framework (in particular amendment 138), see: http://ec.europa.eu/prelex/detail_dossier_real.cfm?CL=en&DosId=196418.

[119] European Parliament legislative resolution of 24 September 2008 on the proposal for a directive of the European Parliament and of the Council amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks, Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector and Regulation (EC) no. 2006/2004 on consumer protection cooperation (COM(2007)0698 – C6-0420/2007 – 2007/0248(COD)), Brussels, 24 September 2008, P6_TA-PROV(2008)0452, amendments 112, 192

connection that assessing whether content, applications or services are lawful is the responsibility of the relevant public authorities and not of ISPs.[120] Under the proposal, cooperation procedures should not impose a general supervisory obligation on ISPs.[121] It is also proposed that the national regulatory authorities should cooperate with ISPs in order to provide consumer information about copyright infringements.[122]

The European Commission subsequently presented new proposals on 7 November following the first reading in the European Parliament. By expressing support in these proposals for amendment 138, the Commission stressed that it was not in favour of stricter legislation relating to end users.[123] Although, on 27 November, the Council of Ministers once again did not adopt the amendment in question, it also did not make any fresh proposals that would restrict the position of end users.

3.7 Conclusion

Downloading copyrighted content from file sharing networks, websites etc. is permitted by law in the Netherlands for one's own use (this does not apply to the downloading of games). The uploading of files (whether automated or otherwise) without the prior consent of the right holders is a copyright infringement and may result in both civil and criminal liability. For the purposes of enforcement, intentionally infringing copyright in the course of a business or occupation is an aggravating circumstance.

The description of policy developments at European and national level shows that the measures to combat unauthorised distribution/illegal downloading focus in particular on the uploading side. The law provides right holders with a range of means of enforcement under civil law. Civil enforcement against individual end users involves principles of proportionality and lawfulness. A balance must specifically be struck between the (economic and non-economic) interests of right holders and the interests of users (right to privacy, freedom of expression, acquisition of knowledge, etc.).

Policy developments also indicate that criminal enforcement measures focus in particular on uploading on a commercial and/or large scale, in other words on the source of the illegal supply. There is reluctance among policymakers at not only national but also European level to 'criminalise' individual end users. Aspects of public interest play a role in this connection (promoting legal delivery, proportionality, expediency, legal certainty, etc.). The present debate on a review of the communication framework will probably dictate developments at national level in the Netherlands.

More generally, it can be noted that the possible role of intermediaries such as ISPs, hosting providers and (other) parties involved in P2P traffic is increasingly a topic of debate.

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[120] Ibid, amendment 194.
[121] Ibid, amendment 192.
[122] Ibid., amendment 191, 67, 76.
[123] See the relevant press release (and the underlying proposals): http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/1661&format=PDF&aged=0&language=NL&guiLanguage=en.

4 Downloading in the Netherlands

This chapter discusses the findings of a representative survey of 1,500 Dutch internet users, who were asked about their behaviour, motives and knowledge in relation to file sharing of music, films and games.

File sharing or 'free' or unlicensed downloading is widespread in the Netherlands: some 4.7 million people over the age of 15 out of a total of 13.5 million have, over the past 12 months, engaged in downloading without paying on one or more occasions. Downloading music is most common, with 40% of all internet users doing it, followed at some distance by films (30%) and games (9%).

The relationship between free downloading of music, films and games and physical format buying is complex and ambiguous. Generally, file sharing and buying go hand in hand, with no sign of full substitution of buying by downloading. In fact, Dutch consumers who download unpaid-for music typically buy as many CDs as consumers who do not download, but tend to visit concerts more and buy more merchandise. Film downloaders buy more films than do non-file sharers and go to the cinema equally frequently. Game sharers buy many more games than people who do not download. The majority of Dutch file sharers say they would not buy any more or less if downloading were impossible. Some replied they would buy more, others less, illustrating the complex relationship between file sharing and buying.

The survey also found that many consumers are unaware of what is and is not permitted in terms of uploading and downloading and the techniques used (peer-to-peer, newsgroups, etc.).

4.1 Design of the survey

To gain a better grasp of consumers' file-sharing activity, their motives and knowledge about the issue, we conducted a representative survey of a sample of the Dutch population. The purpose of the survey was to find answers to the following questions: What are people's key motives and considerations in file sharing? Are there any differences in file sharing between films, games and music? How much file sharing can be estimated to go on in the Netherlands? What are the possible implications of file sharing for consumer behaviour in other markets in which this content is sold?

How the research was carried out
The research team drew up a questionnaire, which was first tested on a number of consumers. Following adjustments, research agency Synovate put the questionnaire to their online panel between 2 and 8 April, with 1,500 respondents completing it.

The questionnaire kept as close as possible to daily life and day-to-day language so as to achieve a true and accurate picture of consumers' activities and motives. The term 'file sharing', for instance, was avoided in Dutch in favour of 'downloading', which in pre-survey testing proved to have the right connotations for Dutch consumers. That said, music, films and games are downloaded in different ways. Downloads are paid for at sites like iTunes, for instance, but unauthorised suppliers – through newsgroups – may also sometimes charge for them. Downloading can be free through peer-to-peer software or via newsgroups, while promotional sites may also offer music, films or games free of charge. As the free download comes from an authorised source, this type of downloading cannot be classified as unlawful distribution. A number of survey questions probed more deeply into the use of promotional sites.

This complex state of play means that, in many cases, consumers are unable to tell from what source – free or paid – they are downloading, making it practically impossible to reliably establish the relationship between downloading behaviour and unlawful distribution. Eventually, the researchers decided to focus their research on free downloading, in keeping with practice established in another consumer survey – the subject of Chapter 5. To gauge the extent to which lawful downloading from promotional sites is relevant to file sharers, the survey included separate questions on this issue, enabling the researchers to arrive at some estimates of the extent of free downloading resulting from unlawful distribution.

Another complicating factor is that many consumers are unfamiliar with the very techniques they use for downloading, as well as the legal implications of their actions, a finding that emerged at the pre-survey testing phase. This is why the questionnaire did not make use of legally correct terminology – i.e. unlawful distribution – but opted instead for distinctions that match consumer experience, i.e. free downloading.

Respondents were asked how much time they spend listening to music, watching films and gaming. If the response was that no time was spent on music, films or games, no further questions were asked. A total 1,464 respondents completed questions about music (98% of the sample), 1405 about films (94%) and 778 about games (53%).

The sample is broadly representative of the Dutch internet population aged 15 upwards in terms of its socio-demographic characteristics and internet usage – with minor deviations. One such deviation was a slight overrepresentation of heavy internet users, prompting a weighting of the survey outcomes to arrive at a representative picture. Another point worth noting is that the Dutch internet population does not precisely coincide with the Dutch population because not everyone in the country has internet access. This study will sometimes extrapolate survey findings to the entire Dutch population, expressly noting this in the relevant instances and, if applicable, discussing the validity of any such observations.

A key challenge in designing any questionnaire is that respondents may tend to give answers that they see as socially desirable. We have attempted to prevent social desirability bias in various ways, one being that the questionnaire's introduction emphasises both the anonymity of the information at all times and the fact that it is the government that commissioned the study. In addition, the survey was not introduced as being about file sharing or online piracy: the questions were said to be feeding into research into how consumers feel about films, music and games.

The questionnaire was structured into a series of general questions about music preferences and listening behaviour, moving on to purchasing behaviour and only then touching on file sharing. Nowhere was there any mention of piracy, with the questionnaire consistently using the term downloading and not making any reference to lawful or unlawful activities.

This chapter presents the findings of the questionnaire, with subsequent chapters delving deeper into their implications from a broader economic and cultural perspective.

The following sections capture the key findings of the consumer survey, with 4.2 discussing numbers of file sharers and buyers, 4.3 arriving at a profile of file sharers, 4.4 covering various aspects of file sharing and 4.5 looking at paying for downloads. Section 4.6 highlights purchasing and download frequencies, while 4.7 examines the interaction between file sharing and buying.

Summarising key conclusions,[124] Section 4.8 touches on attitudes towards file sharing and awareness of what is or is not permitted.

4.2 Numbers of file sharers and buyers of CDs, music downloads, DVDs and games

Forty-four per cent of the Dutch internet population had downloaded online formats over the past 12 months without paying (Table 4-1). Music downloads are most popular: 40% report downloading music in the past year, 13% films and 9% games.

Buyers significantly exceed file sharers: 84% of the internet population had bought music on CD or paid for a music download, a feature film on DVD or a game for a game console or personal computer. Thirty-six per cent of film viewers had visited the cinema in the past 12 months.

Table 4-1 File sharing and buying by Dutch internet population in the past 12 months

	File sharing	Buying
Music (N=1464)	40%	70%
Film (N=1405)	13%	54% (excl. cinema visits)
Games (N=778)	9%	28%
Total (N=1500)	44%*)	84%*)

*) totals below sums of individual percentages as activities are not mutually exclusive

With some 80% of the Dutch population over the age of 15 having internet access,[125] an extrapolation of the number of people that have engaged in file sharing in the past year produces the following numbers:
- 4.3 million music downloaders
- 1.4 million film downloaders
- 1.0 million game downloaders

The total number of file sharers adds up to around 4.7 million, well below the sum of the individual categories as many download various online formats.

Extrapolating the internet population's purchasing behaviour in precisely the same manner, we end up with:
- 9.4 million music buyers
- 7.3 million DVD/film buyers
- 3.8 million game buyers

The total number of buyers of all physical formats adds up to 11.3 million.

Please note that this estimate marks a ceiling as the internet population is younger, on average, than the Dutch population and as younger people typically consume more of these products, more often (see Section 2.3 and Table 4.5 below). An overestimate of the number of buyers would seem probable here.

Table 4-2 shows about one-third (35%) of the Dutch population over the age of 15 to have downloaded without paying in the past year, most of them obtaining at least music downloads. The low percentage of game downloads (7%) ties in with the fact that more than half the

[124] The sample of 1,500 respondents is large enough to produce significant correlations. To keep this study readable, we have refrained from providing confidence intervals. If the text explicitly mentions 'differences' between figures, we are invariably referring to statistically significant differences.
[125] CBS Statline (2006): the Dutch population over the age of 15 stood at 13,481,233 at 1 January 2008.

population do not game. To highlight these differences, the table also gives the number of file sharers as a percentage of the number of internet users consuming these cultural products. The evidence shows 18% of gamers to download without paying on occasion, which is more than film viewers (14%) but fewer than music listeners (41%).

Table 4-2 Percentage of downloads in the past year

	File sharers as a % of the Dutch population	File sharers as a % of the internet population listening to music, watching films and/or gaming
Music	32%	41%
Film	10%	14%
Games	7%	18%
Total	35%*)	44%*)

*) totals below sums of individual percentages as activities are not mutually exclusive

Table 4-3 shows the sales channels Dutch people use for their music, films and games. The traditional shops are way ahead: over half the internet population (57%) buy music in shops, nearly half (46%) buy the odd film and one in five (20%) occasionally buy games at a regular shop. Web shop buying is less frequent and paid downloading rarer still. Of these three cultural products, music is bought the most, games the least. No less than 80% never buy a game, a figure that stands at 30% for music.

Table 4-3 Music, film and game buying by the internet population

	Music	Films	Games
Shops	57%	46%	20%
Internet shops	27%	16%	8%
Paid-for downloads	1%	1%	1%
On demand TV		3%	
Total	70%	54%	28%

*) totals below sums of individual percentages as activities are not mutually exclusive

The key question is whether free downloading precludes buying physical formats or whether there is overlap between the two. Figures 4-1, 4-2 and 4-3 reveal the relationship between buyers and non-buyers among file sharers and non-file sharers of music, films and games. As it turns out, people downloading the occasional piece of music or film do not buy their physical formats any less or more often. Sixty-eight per cent of free music downloaders also buy music, while 72% of non-file sharers do. And 61% of people reporting sharing films also buy them, while only 57% of non-file sharers do. For music and film, then, the differences are statistically insignificant. By contrast, game downloaders are significantly more often buyers too: 67% of file sharers buy, compared with 51% of non-file sharers. Buying and downloading games obviously overlap extensively.

Figure 4-1 Buyers and non-buyers among file sharers and non-file sharers of music

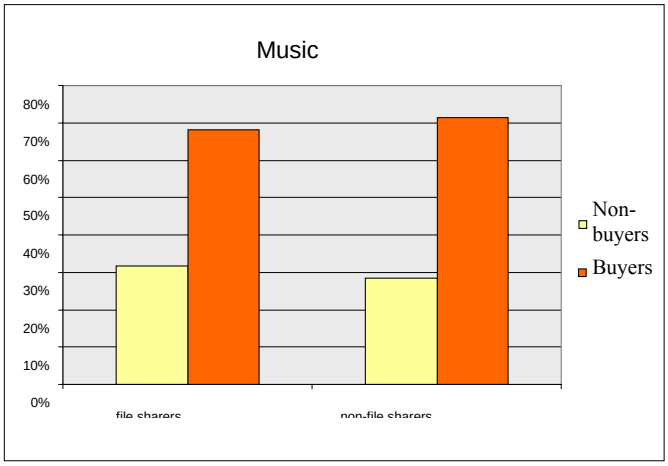


Figure 4-2 Buyers and non-buyers among file sharers and non-file sharers of film

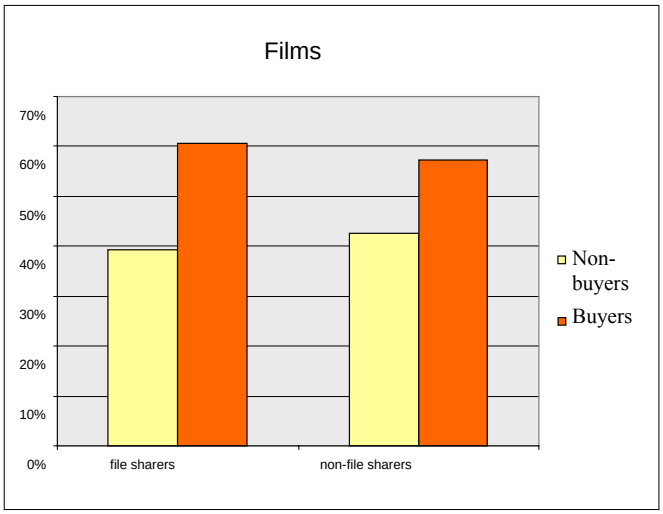
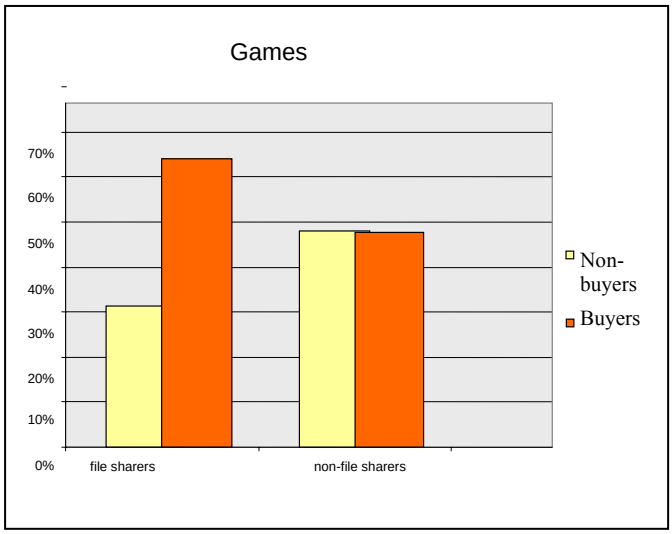


Figure 4-3 Buyers and non-buyers among file sharers and non-file sharers of music



The survey also revealed that a small proportion of file sharers obtain music, films and games for others only – to give as gifts, for instance – but not for themselves. The percentages are 6% in music, 8% in films and 4% in games.

4.3 A file sharer profile

File sharers mainly stand out from the overall Dutch internet population by their age: they are younger. Men are over-represented in this group, with file sharers typically owning more state-of-the-art equipment than non-file sharers. A striking difference between the two groups is CD player ownership: it would seem that owning a CD player does not fit the consumption style of a file sharer. In addition, file sharers rate their internet knowledge higher than do non-file sharers.

Table 4-4 compares file sharers' socio-demographic profile with the overall internet population in the Netherlands. *Age* turns out to be the key distinguishing feature: the 15-24 year age group is greatly over-represented in the group of file sharers. Of the Dutch internet population, 18% is between 15 and 24 but music downloaders have 28% in this age bracket, film sharers 30% and game downloaders no less than 40%. The over-50s, by contrast, are under-represented.

The age profile also shows up under *work and education*: students in secondary schools and higher education are over-represented (accounting for 16% of the internet population but 24-31% of the file-sharing groups); the slightly below average percentage of university graduates and other higher education-trained respondents reflects the fact that many of these file sharers have yet to finish – or even embark on – their studies. As other educational groups reveal no significant differences between file sharers and the internet population at large, these have been left out of the table.

In terms of *gender*, file sharers are relatively often male (57-74%), particularly if they download films or games. Closer analysis reveals that this does *not* tie in with differences in consumption behaviour: women and girls do not report gaming or watching films any less – or more. And although file sharing exceeds the average a little in urban areas, regional differences are negligible.

File sharers typically own more state-of-the-art *equipment* than the average internet user: 55% of the Dutch internet population own an MP3 player compared with 74% of music downloaders. This difference is across the board and even extends to non-related products, with music and film sharers owning game consoles more often than the average internet user, and game downloaders tending to own mobile phones with music-playing capabilities. One exception to the equipment rule is the CD player: file sharers own fewer of these than the average internet population (74-75% vs 79%). CD players may well be considered obsolete by a specific group of file sharers.

Twenty per cent of Dutch internet users rate their *internet knowledge* as above average, with this percentage at one-third for music downloaders and even more than half for film and game downloaders. And while over one-third of the internet population describe their use of the internet as heavy – i.e. over seven hours a week – more than half of file sharers do so (49-58%).

Table 4-4 Socio-demographic profile of file sharers

	Internet population	Music downloaders	Film downloaders	Game downloaders
Socio-demographic characteristics				
Gender: male	52%	57%	74%	61%
Age: 15-24	18%	28%	30%	40%
25-34	20%	21%	26%	23%
35-49	33%	35%	34%	24%
50+	30%	16%	10%	13%
In work	56%	58%	58%	51%
In school/education	16%	24%	29%	31%
Other	28%	18%	13%	18%
Size of household (persons)	2,91	3,13	3,27	3,11
University or higher vocational education	37%	33%	37%	31%
Other characteristics				
Equipment: MP3 player	55%	74%	79%	74%
CD player	79%	74%	75%	74%
Multimedia player	7%	10%	19%	17%
Game console	29%	42%	50%	52%
Mobile phone with music-playing capabilities	48%	61%	72%	62%
Internet knowledge: below average	11%	5%	4%	6%
average	69%	63%	42%	41%
above average	20%	33%	55%	53%
Internet usage: < 2.5 hrs/week	27%	15%	12%	8%
2.5 – 7 hrs/week	36%	36%	33%	34%
> 7 hrs/week	37%	49%	55%	58%

Table 4-5 captures the dominant age characteristics, giving the percentages of all age groups engaging in downloading. As it reveals, two-thirds of the youngest age group have shared files in the past 12 months. For the 25-34 and 35-49 age brackets this is nearly half, and although older generations download less, the phenomenon is anything but negligible in these age groups. Of internet users between 50 and 65 years of age, 29% are file sharers, as are 15% even of the over-65s. That said, downloading games and to a lesser degree also films, is primarily the province of the young. Games are downloaded by one in five of the youngest group (20%), with other age brackets scoring around 10% lower. Nearly all file sharers download music (with the age-group percentages matching the overall averages for all products fairly closely). Only a very small group of people – averaging 4% – download films or games but not music.

Table 4-5 Percentage of file sharers by age bracket, broken down by product group

Age	All products	Music	Film	Games
15-24	66%	62%	22%	21%
25-34	47%	42%	17%	11%
35-49	47%	43%	13%	7%
50-65	29%	25%	5%	5%
65+	15%	14%	3%	1%
Average	44%	40%	13%	9%

The tables in Box 4.1 highlight the relationship between genre preferences and file sharing, and specify the extent to which the youngest age group prefers particular genres.

Box 4.1 File sharing and genre preference

In music, people with a preference for soul/urban, experimental, rock, dance and pop report a significantly higher than average percentage of file sharing, with the youngest age bracket relatively often indicating a preference for these music genres (compare the middle and right-hand columns). The reverse is true for classical music and easy listening: these genres are downloaded relatively infrequently and are also less sought after by the young – a finding that helps explain why many of our observations are derived from the differences in downloading behaviour between generations. Similar patterns emerge for films () and games (Table 4-8), although age effects are less pronounced here. Incidentally, note the marked difference in the experimental music category between the number of file sharers (58%) and the percentage of users actually stating a preference for this genre (4% and 5% respectively).

Table 4-6 Relationship between file sharing and music genre preference

	% file sharing the genre	% of internet population preferring the genre	% of 15-24 age bracket preferring the genre
Soul/urban (hip hop, R&B)	59%	20%	27%
Experimental/avant-garde (ambient, minimal)	58%	4%	5%
Rock (alternative, hard rock, punk, metal)	57%	32%	44%
Dance (disco, house, trance, techno)	51%	33%	47%
Pop (pop, boy bands, girl bands)	49%	53%	71%
Roots Americana (country, folk, blues)	42%	17%	9%
Jazz	40%	21%	20%
World music (reggae, ska, African, Balkan, Latin)	39%	20%	15%
Non-genre (Dutch-language, soundtracks)	39%	38%	26%
Easy listening (including musicals, crooners)	38%	50%	35%
Classical	30%	33%	21%
Average	41%		

Table 4-7 Relationship between file sharing and film genre preference

	% file sharing the genre	% of internet population preferring the genre	% of 15-24 age bracket preferring the genre
Fantasy (e.g. Lord of the Rings)	19%	38%	42%
Action (e.g. The Bourne Ultimatum)	19%	62%	69%
Art cinema (e.g. Amelie)	19%	19%	25%
Comedy (e.g. Austin Powers, Four Weddings and a Funeral)	17%	63%	83%
Thriller (e.g. What Lies Beneath, Rendition)	16%	56%	48%
Drama (e.g. Pride and Prejudice, Out of Africa)	12%	47%	45%
Average	14%		

Table 4-8 Relationship between file sharing and game genre preference

	% file sharing the genre	% of internet population preferring the genre	% of 15-24 age bracket preferring the genre
Simulation	28%	24%	44%
Action	27%	34%	49%
Adventure	24%	34%	47%
Role play	24%	18%	30%
Strategy	22%	42%	48%
Tactical	21%	42%	64%
Educational	17%	23%	11%
Average	18%		

4.4 A closer look at file sharing

Promotional sites account for a proportion of free downloads. These sites primarily aim to increase product or artist awareness or promote other products, using creative content to tempt potential buyers. Among *file sharers* of music, 18% have downloaded from promotional sites on one or more occasions, with this percentage at 7% for *all respondents that reported listening to music*. For films these percentages are 6% for file sharers and less than 1% for mere film viewers; 17% for game downloaders and 3% for gamers in general. It would appear that, without exception, promotional site users also download in other ways, and that these sites do not substitute other types of free downloading for any of the respondents. Please note that other types of file sharing are not always classifiable as unlawful distribution. Formats may be free of rights and shared via P2P networks, Usenet and/or other channels.

Table 4-9 shows the downloading methods that file sharers use. P2P is at the top of the league in all categories, although film downloading also often involves newsgroups and Usenet. Strikingly, a large number of people have no idea of the method they use for downloading, particularly in games and music. Women and the over-35s among file sharers are least in the know about downloading methods.

Table 4-9 File-sharing methods (usage as a % of file sharers)

	Music downloaders*)	Film downloaders*)	Game downloaders*)
Promotional site	18%	6%	17%
P2P	38%	45%	26%
Newsgroup	12%	28%	7%
FTP	6%	10%	2%
Usenet	8%	19%	12%
Shared directory	5%	2%	<1%
Doesn't know	48%	34%	74%

*) More than one answer could be given.

A notable finding is also that most file sharers state that they only download and do not upload. This would seem improbable, as much of the software does this without the user's intervention or permission.[126] It could well be that a proportion are unaware of automatic uploads. One in twenty file sharers at most admits to adding new uploads themselves, e.g. recently bought music, films or games.

Table 4-10 Uploading, downloading and adding uploads

	Music downloaders	Film downloaders	Game downloaders
Downloading only	71%	64%	62%
Downloading and uploading	25%	35%	33%
Downloading, uploading and adding new uploads	4%	<1%	5%

[126] As this chapter will find, not one of the survey's respondents downloaded *exclusively* from promotional sites.

Many file sharers may not be aware of the precise technical details, but most of them do claim to know which sites they use for downloading (see Box 4.2).[127]

Box 4.2 Sites and programs used for downloading

Box 4.2 shows which sites are best known and most used by file sharers, with Kazaa claiming greatest brand awareness in all categories but LimeWire taking the 'most used' category. The differences in brand awareness and usage between the two sites/programs – which we will shorten to channels here – are not major, with these being followed, at some distance, by Emule and Bittorrent. These four sites make up the Top Four file-sharing spots for all music, films and games. Friends and acquaintances are cited as the most common way to get to know downloading channels, with the internet/Google coming second. Game downloaders identify internet/Google as their key resource.

Table 4-11 Awareness and use of music-sharing sites

Site	Known (%)	Site	Used (%)*
www.kazaa.com	67%	www.limewire.nl	31%
www.limewire.nl	60%	www.kazaa.com	21%
www.bittorrent.com	29%	www.emule.com	9%
www.emule.com	25%	www.bittorrent.com	8%
www.torrentspy.nl	17%	www.thepiratebay.org	6%

Table 4-12 Awareness and use of film-sharing sites

Site	Known (%)	Site	Used (%)
www.kazaa.com	63%	www.limewire.nl	11%
www.limewire.nl	56%	www.kazaa.com	9%
www.bittorrent.com	27%	www.bittorrent.com	5%
www.emule.com	24%	www.emule.com	5%
www.torrentspy.nl	15%	www.mininova.com	4%

Table 4-13 Awareness and use of game-sharing sites

Site	Known (%)	Site	Used (%)
www.kazaa.com	67%	www.limewire.nl	9%
www.limewire.nl	59%	www.kazaa.com	7%
www.bittorrent.com	31%	www.emule.com	4%
www.emule.com	29%	www.bittorrent.com	4%
www.torrentspy.nl	19%	www.torrentsspy	3%

[127] The Tables in Box 4.2 present the outcomes of self-reported download behaviour. The options in our survey were formulated after interviews with fervent downloaders. Nevertheless, it was pointed out to us that a number of the 'download sites' presented are in fact commercial sites, spyware sites or have been closed down. The high self-reported percentages of users underline the fact that many consumers are not very conscious of the technology or sites they use.

Respondents – and particularly the file sharers among them – feel that free downloading possibilities have a positive effect on the accessibility and diversity of music, films and games (Table 4-14). Conversely, both file sharers and non-file sharers believe that artists, actors, game designers, record companies and film and game producers are negatively affected by file sharing. The effect on the quality of the supply is rated as neutral, particularly by file sharers.[128]

Table 4-14 The effects of file sharing

Effect on:	File sharers' views	Non-file sharers' views
Accessibility of music, films and games*	3.59	3.12
Diversity of music, films and games*	3.52	3.14
Quality of music, films and games*	2.96	2.74
Artists, actors and game designers	2.49	2.42
Record companies and film and game producers	2.34	2.28

1= very negative, 2=negative, 3=neutral, 4=positive, 5=very positive

* file sharers are significantly more positive than non-file sharers

4.5 Paying for downloading

As Section 4.2 noted, not many people pay for downloads. In the Netherlands, a mere 2.5% of the internet population have *paid* to download music, films or games in the past 12 months, and 60% of those paying to download are also into file sharing. The most frequently paid-for sites are iTunes and Amazon for music and films, and zylon.com and a Dutch site called *spellenweb* for games (see Table 4-15).

Table 4-15 Sites used for paid-for downloads (% of internet population listening to music, watching films and gaming)

Music (N=1464)		Films (N=1405)		Games (N=778)	
Site	%				
www.itunes.com	6.5%	www.amazon.com	1.2%	www.nl.zylom.com	5.4%
www.amazon.com	2.9%	www.videoland.nl	1.0%	www.spellenweb.nl	2.8%
www.planetmusic.nl	2.3%	www.movienova.nl	< 1%	www.steampowered.com/v/index.php	1.3%
music.msn.com	1.2%	www.moviemax.nl	< 1%	www.gamersnet.nl/demos	1.2%
www.legaldownload.nl/musiclover	< 1%	www.zune.net	< 1%	www.amazon.com	1.2%
www.mp3sparks.com	< 1%	www.directmovie.nl	< 1%	www.pcgamedownload.nl	< 1%
www.freedigital.nl	< 1%	www.zml.com	< 1%	cultkanaal.gamesdownloaden.com/site	0%
www.surf2music.com	< 1%	downloadwinkels.dvddownload.nl/site	< 1%	file sharingcenter.com	0%
www.zune.net	< 1%	www.jaman.com/a/home	0%	www.gametap.com/home	0%
www.jaman.com/a /home	< 1%	www.freedigital.nl	0%		
www.zml.com	< 1%				
www.glandigomusic.com	0%				
www.HearMyMusic.nl	0%				

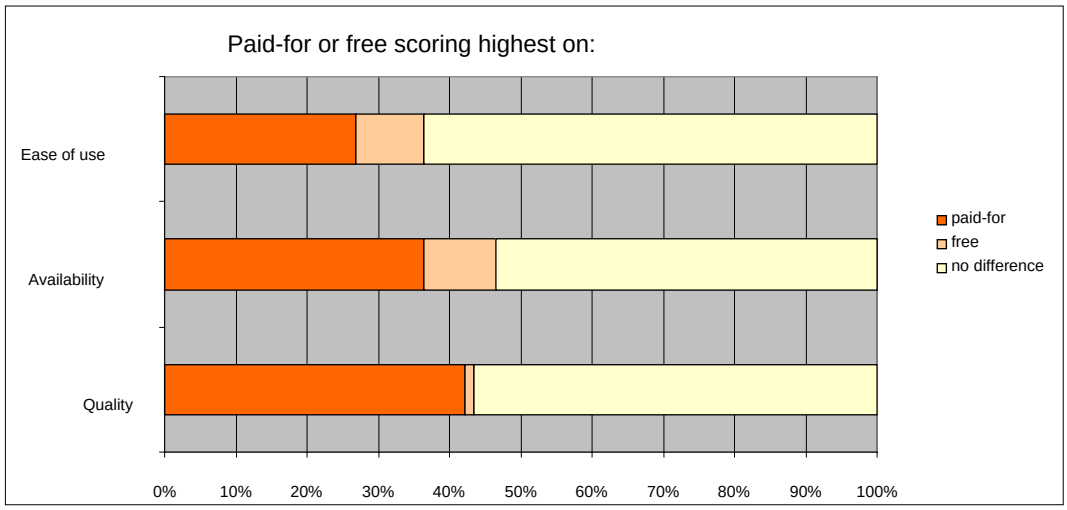
Note that the percentage of the internet population that paid for downloading at some point in the past is significantly higher than the percentage of respondents who have done so in the previous 12 months. iTunes, for instance, has been used by 6.5% on one or more occasions, but only 2.3%

[128] Quality may mean different things to different respondents: artistic quality, the quality of the recording or of the file (e.g. the sampling rate). Unfortunately, the question does not distinguish between these types of quality.

paid to download music in the past 12 months. And 5.4% of the internet population report downloading a game via zylom at some point or other, but only 1.4% have downloaded games in the past 12 months. A substantial group of file sharers, then, report having paid for downloads at some time or other but not in the past year – a striking finding, particularly in view of the rising turnover in paid-for downloads that Chapter 2 identified.

For a more detailed view, Figure 4-4 shows perceptions of licensed vs unlicensed downloads. Most consumers see no difference between paying or not paying for downloads in terms of ease of use (57%), availability (54%) and quality (60%). Those who do see a difference rate paying for downloads as the better option. And even those who pay for their downloads see no difference in ease of use and quality between paid-for and free downloads; over half these respondents do find that availability is better at sites they have to pay for. Websites that charge for their products are rated highest on quality, although the majority of respondents see no difference. Virtually no-one thinks file-sharing sites offer better quality.[129]

Figure 4-4 Perceptions of paid-for vs free downloading (N=1500)



4.6 Downloading and buying: scale and proportion

Respondents are classified as buyers if, in the 12 months leading up to the survey, they bought music, films or games for money, in physical formats at shops or via the internet, or by paying for a download. This section seeks to ascertain the scale of these purchases for the different groups and identify the proportion of buying as against free downloading.

Section 4.2 has already noted that file sharers buy music, films or games roughly as often as do non-file sharers. As Table 4-16 shows, file sharers of films and games buy more, on average, than do non-file sharers. A film-buying file sharer typically bought nearly 12 DVDs in the previous year, compared with an average of over 7 purchased by consumers not into file sharing. Cinema visits showed no difference, while the average game sharer bought over four games, against less than three for people who do not download games. In music there is no difference in buying between file sharers and non-file sharers.

[129] This analysis was also carried out on respondents who only share files and those who only pay for downloads. These subpopulations did not throw up any significant deviations from the overall picture.

Table 4-16 Purchasing behaviour in the previous 12 months, file sharers vs non-file sharers

	Music	Films		Games
	Number of albums	Number of DVDs	Number of cinema visits	Number of games
Non-file sharers	5.69	7.29	1.30	2.69
File sharers	5.49	11.97	1.28	4.21
Average	*5.61*	*7.97*	*1.30*	*3.04*

As the youngest age bracket downloads more often than the average, we have performed the same analysis on this group only (Table 4-17). The pattern is similar: no difference in cinema visits between file sharers and non-file sharers, but the former buy significantly larger numbers of DVDs and games. Music consumption does show a difference: young music downloaders buy more music than do non-file sharers (while there was no difference for the internet population at large).

Table 4-17 Purchasing behaviour in the previous 12 months, 15-24 age bracket

	Music	Films		Games
	Number of albums	Number of films	Number of cinema visits	Number of games
Non-file sharers	3.90	6.93	1.33	2.85
File sharers	5.90	15.36	1.43	5.02
Average	5.14	8.70	1.34	3.62

The survey included questions about merchandise buying (posters, T-shirts, etc.) for music and games, adding a question on concert visits under music. The outcomes feature in Table 4-18. As it turns out, music sharers buy more merchandise than do non-file sharers. Only 7.5% of gamers buy merchandise – a modest phenomenon, with no measurable difference between file sharers and non-file sharers. As for concerts, file sharers go quite a bit more often than non-file sharers: an average of 3.8 times compared with 1.6 times a year, file sharers buying merchandise 0.36 times compared with 0.23 times for non-file sharers.

Table 4-18 Purchasing of related products in the previous 12 months

	Music: Merchandise		Music: Concerts		Games: Merchandise	
Number of times a year	Non-file sharers	File sharers	Non-file sharers	File sharers	Non-file sharers	File sharers
None	88%	86%	49%	44%	94%	92%
1-2 times	10%	12%	33%	38%	5%	6%
3-6 times	2%	1%	16%	13%	1%	1%
>6 times	<1%	1%	2%	5%	<1%	<1%

Table 4.19 summarises the purchasing behaviour of file sharers and non-file sharers. The most important thing to note here is that *no causal relationships* have been uncovered. As a matter of fact, our analysis shows that file sharing and buying are not mutually exclusive, but go hand in hand. Of course, this is not to say that an increase in file sharing will boost buying.

The survey also asked file sharers to indicate the amount of downloaded music, films or games they had stored on their computers or on other storage devices, giving them a choice of stating the number of titles – aimed at the light downloaders – or in MBs or GBs if they were heavy users.

This question turned out to be highly problematic for many respondents, who found it difficult to put a figure on their downloading activity. The question did not therefore return any usable data.

Table 4-19 Summary of the differences in purchasing behaviour between file sharers and non-file sharers

	Music	Films	Games
Buyers in the past 12 months: Yes/No	No difference	No difference	File sharers buy more often (61% vs 57%)
If a buyer in previous 12 months: number	No difference	File sharers buy more (12.0 vs 8.0 films)	File sharers buy more (4.2 vs 2.7 games)
Related products	File sharers typically visit concerts more often and buy more merchandise	No difference in cinema visits	No difference in buying merchandise
Total	No differences in buying music, but file sharers typically visit concerts more often and buy more merchandise	File sharers buy more DVDs	File sharers buy more games

4.7 Relationship between file sharing and buying

Three possible relationships between unlicensed downloading and buying emerge from the analyses and findings of the previous sections: 1) downloading as a complement to buying, 2) downloading as an alternative to buying, and 3) downloading to get to know a product.

Downloading and buying as complementary activities

Downloading need not be a threat to purchases of physical formats: it would seem that for Dutch consumers these go together. To a degree this may be due to the fact that the market for downloading meets a different demand than does the buying market, making for two partially independent markets that are not in each other's way. In part, file sharing fulfils a demand that is driven by lack of purchasing power and file-sharing sites meet other consumer needs. What is more, file sharing may drive additional consumption in other markets, such as concerts and merchandising. It is sometimes argued that file sharing shifts music consumption from physical formats to live performances. Our consumer survey provides more insight into these phenomena, while Section 5.2 also reviews the possible relationships between file sharing and the sale of physical formats.

File sharing driven by lack of purchasing power

Downloading does not always happen at the expense of a purchase: in some cases the file sharers would have never bought the music, film or game. This is particularly true for younger age brackets that have limited spending power. Over a quarter of file sharers are students in secondary school or higher education.

The survey asked file sharers what they felt to be a reasonable price for a music, film or game download. The youngest group cited significantly lower figures than the other age brackets (see Table 4-20).

Table 4-20 Amount considered reasonable for the most recently downloaded album, film or game

Average amount	Album	Film	Game
Under-25s	€9.97	€8.21	€13.54
Over-25s	€10.40	€8.90	€18.78

Few people think that their purchases would benefit if file sharing were made impossible, with most file sharers saying this would not change their purchasing behaviour. Of the two remaining groups, one group said they would buy more and the other they would buy less – and in terms of numbers these groups are quite evenly balanced:

– As for music downloaders, 19% of respondents say they would buy more CDs if file sharing became impossible, while 27% indicate they would buy fewer.
– Among film sharers, 10% claim they would buy more DVDs and 29% would go to the cinema more often, while another 24% would buy fewer DVDs and 5% believe they would go to the cinema less.
– Out of game sharers, 19% feel they would buy more, with 10% believing the opposite.

The sheer variety of the replies suggests that there are many reasons and drivers for file sharing, not just tying in with product categories but probably also with consumers' different situations and focus.

Some respondents' assertion that they would buy less probably reflects the fact that it would become less easy to sample music – and films and games – by first sharing before perhaps buying. Such sampling is a well-known practice in the market for experience goods (see Chapter 2).

Judging by the survey data, we could provisionally conclude that the majority of respondents would not buy more – or less – if file sharing were impossible. The two exceptions to the rule are cinema visits and game sales – markets that would appear to be suffering from free downloading. By contrast, the survey suggests that music and DVD sales probably benefit from file sharing, and in this respect the under-25s do not prove significantly different from other age brackets except in terms of cinema visits – where more than half those surveyed report they would go to the cinema *more* if unable to file share.

Table 4-21 Buying more or less if downloading were no longer possible

	Music	Film		Games
		DVDs	Cinema	
More	19%	10%	28%	19%
Same	54%	66%	67%	71%
Less	27%	24%	5%	10%
Total	100%	100%	100%	100%

Other functions of file-sharing sites

File-sharing sites would seem to be more than an alternative to buying. For one thing, file sharing offers an easy way to sample new genres, bands/artists, actors and games (Table 4-22). Many consumers download music, films or games that they would never have bought because of unfamiliarity. Such sampling does not detract from physical format sales and might in fact create extra demand if consumers decide they wish to own music, a film or game after sampling it. In cases such as these, file sharing websites might in fact increase the diversity of supply – or at the very least the perceived supply or the diversity of the supply these consumers have access to. As we have noted, free downloading might benefit the perceived diversity of supply and stimulate a wider-ranging demand (average 3.52 on a 5-point scale, see Table 4-14).

Also, file-sharing sites have a social function for over 10% of file sharers, a unique feature of this channel that is not shared by physical formats – nor by websites where one pays for downloads (Table 4-22).

Table 4-22 Functions of file-sharing sites: percentages of file sharers listing function

	Music File sharers	Film File sharers	Games File sharers
Discovering new genres	69%	61%	67%
Discovering new bands, artists, actors, games	69%	56%	85%
Making social contacts	13%	13%	14%

File sharing as a trigger for additional consumption (merchandise, concerts, etc.)
As Section 4.6 found, music sharers typically go to concerts more often and buy more merchandise than non-file sharers. By contrast, there was no link between file sharing and cinema visits or games merchandise.

File sharing as an alternative to buying
Free downloading considered equal choice
Most consumers see file sharing as an equal alternative to paying for downloads. File sharers see free downloading as equally good or even better in terms of user-friendliness (73%), availability (64%) and quality (58%). The remainder of those surveyed think licensed downloads are better.

As there would seem to be little to choose between paid-for and free downloads on these points, this implies that for a large group of file sharers downloading is a fully-fledged alternative to buying downloads or physical formats. Whether this actually leads to crowding out or substitution – i.e. file sharing instead of buying – is another story altogether – and the subject of further investigation in Chapter 5.

Willingness to pay
The survey asked file sharers what they would consider a reasonable price for a CD, film or game they would really like to own. Please note that this is more than what they would be willing to pay on average for the products they are downloading and that this provides a better indication of the turnover producers might be missing out on due to file sharing. Figure 4-5, 5-6 and 5-7 reveal what percentage of file sharers consider particular prices to be reasonable. Three-quarters of music sharers consider €8 for a CD, €5 for a DVD and €7 for a game they would really like to own a reasonable price (see Table 4-23). The average ‘reasonable price’ for music is a little higher than for DVDs, with game sharers willing to pay the most and displaying the widest distribution: 25% of file sharers mention €24 or more, significantly more than the top quartile in music and films. This discrepancy might be due to the massive difference in price between PC games and console games, with players of the latter citing higher prices. However, survey outcomes do not distinguish between these two groups.

Figure 4-5 What music sharers find a reasonable price for a much-wanted CD

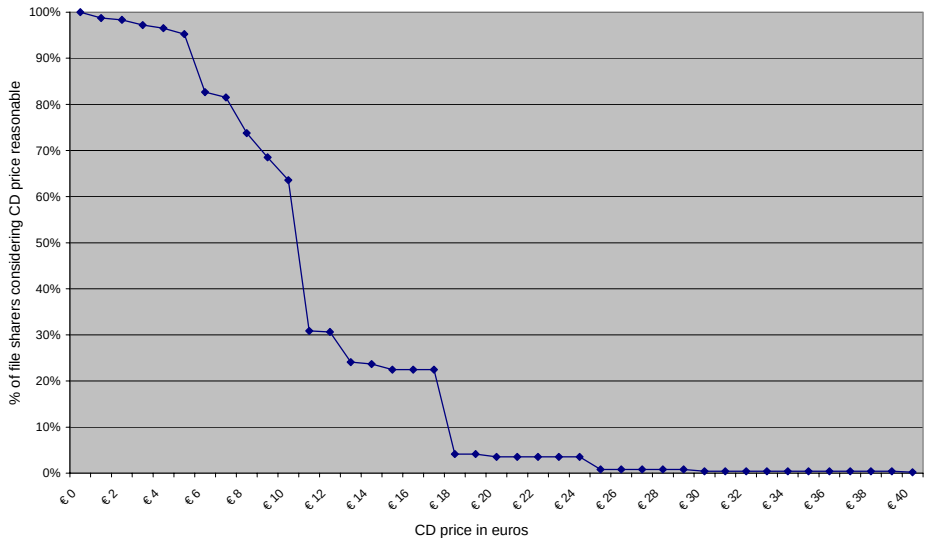


Figure 4-6 What film sharers find a reasonable price for a much-wanted DVD

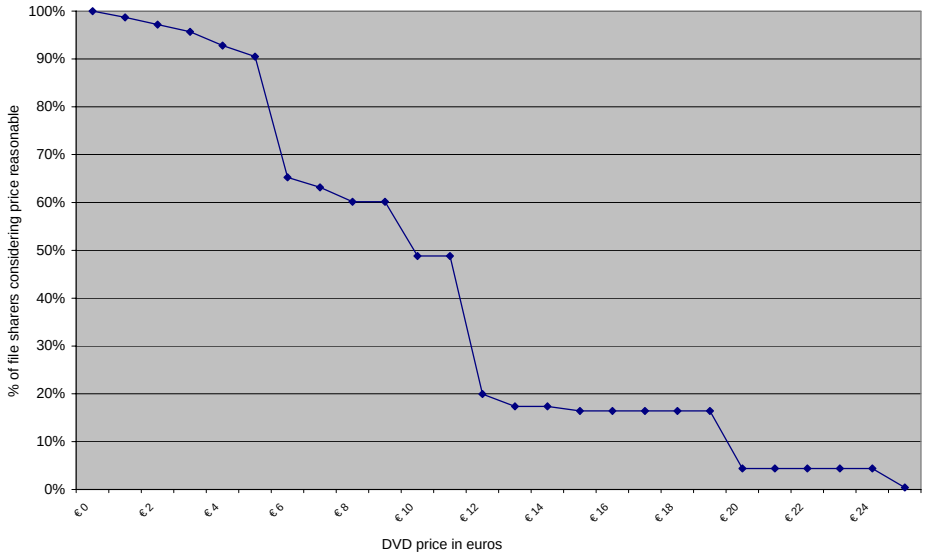


Figure 4-7 What game sharers find a reasonable price for a much-wanted game

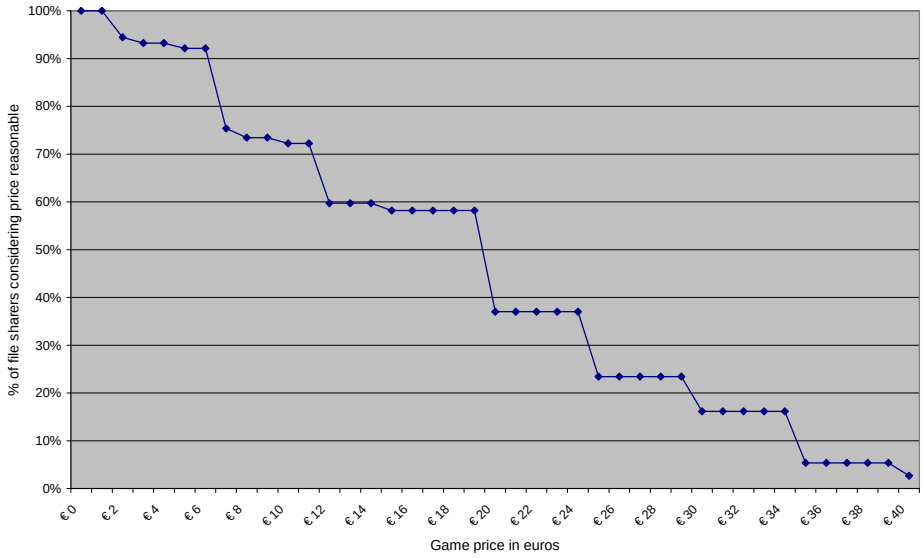


Table 4-23 Reasonable price according to file sharers

	Music	Films	Games
75 percentile	€8	€5	€7
Median	€9	€9	€19
Top quartile	€12	€11	€24

If willingness to pay is defined by the highest average price mentioned, CDs prove the most appreciated and DVDs the least, a rather remarkable outcome in view of the current pricing structure in the market. If we look at the outcomes as presented in Table 4-23, another picture emerges: prices for CDs are fairly consistent and the differences between the top quartile and the 75 percentile relatively small – a result of little price differentiation in the market. Films are a rather different story, and the gap is extreme for games. These various perceptions would seem to reflect market differentiation as it currently exists. The games market breaks down into two categories – PC games and console games – that are known for their wide range in prices. This explains the large differences in the games category shown in Table 4-23.

Discovering music, films and games

File sharing enables consumers to download only a few tracks of a CD or easily sample a song, film or DVD. Our consumer survey suggests that a large number of file sharers will at some point or other go to the shops to buy the files they first downloaded (Table 4-24).

Among file sharers, 63% of music downloaders might yet buy the music they first got for free online. Their main reasons for buying are loving the music – a key motive for over 80% – or wishing to support the artist (over 50%). Owning the CD sleeve and booklet are mentioned by a third of eventual buyers, as well as the higher quality of the CD.

Forty-eight per cent of film sharers will buy a previously downloaded film at a later date, citing such reasons as liking it a lot or wanting the extra features the DVD offers. Between 50% and 60% say they download to discover new genres and directors/actors.

Game sharers also report sometimes buying a previously downloaded game at a later date, or at least 63% of them do. Their main reasons include thinking it a really good game. Wanting to own the original box and game were also frequently mentioned.

All that said, buying after downloading is not a very frequent occurrence, with most file sharers getting the real thing only once or twice a year. This phenomenon is most prevalent in music.

Table 4-24 File sharers buying content after having previously downloaded (frequency and percentage)

Frequency (Number of times a year)	Music sharers	Film sharers	Game sharers
0	37%	52%	37%
1-2 times	30%	28%	39%
3-6 times	21%	10%	21%
6-12 times	7%	8%	2%
> 12 times	5%	2%	1%
Total	100%	100%	100%

4.8 Awareness of what is or is not permitted

Table 4-25 would seem to throw up contradictory findings: one-third of file sharers say they care about copyright but still download.

Table 4-25 Do file sharers care that they are downloading files protected by copyright?

Yes	36%
No	48%
Don't know exactly what copyright is	17%

The survey reveals that many respondents are not aware of what is and what is not permitted in terms of downloading (see Tables 4-26 and 4-27). In fact, the majority of both file sharers and non-file sharers have no idea what the law allows in terms of downloading, uploading and/or adding. Nine per cent of file sharers, for instance, believe it is illegal to download for one's own use, 16% think automatic uploading is permitted and 12% are convinced that adding uploads is not against the law. Non-file sharers are even slightly worse-informed.

Table 4-26 Knowledge of laws and regulations (file sharers)

	Permitted	Sometimes permitted	Not permitted	Doesn't know
Downloading without payment	15%	44%	9%	32%
Automatic uploading	16%		29%	55%
Adding uploads	12%		36%	52%

Table 4-27 Knowledge of laws and regulations (non-file sharers)

	Permitted	Sometimes permitted	Not permitted	Doesn't know
Downloading without payment	5%	27%	14%	54%
Automatic uploading	15%		11%	74%
Adding uploads	8%		17%	75%

4.9 Summary of key findings

File sharers
Free downloading or file sharing is a very common phenomenon across virtually all socio-demographic groups of the Dutch population. Forty-four per cent of those with internet access – i.e. the Dutch internet population over the age of 15 – admit to file sharing on one or more occasions in the previous 12 months, which works out at around 4.7 million people. Most Dutch file sharers download music (40% of those who have internet access), followed at some distance by films (13%) and games (9%). Extrapolated to the Dutch population over the age of 15 we are talking an estimated:
– 4.3 million music sharers
– 1.4 million film sharers
– 1.0 million game sharers

The young are particularly keen file sharers, with the 15-24 year age bracket strongly over-represented. Over 60% of them download music, around 20% films and games. File sharers are also relatively often male, particularly when it comes to films (74%) and games (61%) – a difference that is not explained by differences in film and game consumption. Regional differences are negligible and differences in education levels tend to be age-related, implying that respondents have not yet finished their studies.

A notable finding is that a large number of file sharers are unable to say what method or technology they use for downloading, e.g. P2P, Usenet, newsgroups, FTP address. Women and the over-35s often have no idea of the methods they themselves are using. Eighteen per cent of music sharers sometimes download promotional site offerings, while all users of promotional sites were found to download from other – unlawful – sources.

Most file sharers said they only engaged in downloading and did not upload. This would seem improbable as most P2P programs upload automatically; and no-one reported downloading from promotional sites only. It seems quite likely that many file sharers are simply unaware that they are uploading. A mere one in twenty file sharers admits to adding new uploads themselves, e.g. recently bought music, films or games.

The Dutch do much less paid-for downloading than they file share. Strikingly, the percentage of the population who have paid to download at some point in the past is significantly higher than the number of paying downloaders over the past 12 months. It would seem that paid-for downloads have not been attractive enough for people to keep doing it. Most consumers see no difference between paying or not paying for downloads in terms of ease of use (57%), availability (54%) or quality (60%). Those who do see a difference rate paying for downloads as the better option.

File sharing vs buying
Buyers still outnumber file sharers by a wide margin. This is true for music, films and games, with 84% of the Dutch population over the age of 15 having bought – or paid to download – a CD, DVD or game in the past year. In fact, buying and file sharing often go hand in hand.

Music sharers are no less or more likely to be buyers of music than other people: 68% of downloaders also purchase music. And file sharers who buy music do not buy any more or less of it than non-file sharers, although they buy more merchandise and go to concerts significantly more often.

As for films, file sharers turn out to buy DVDs no less or more often than anyone else: 61% of film sharers also buy DVDs. But *if* they buy, they buy significantly more DVDs than non-file sharers. On average, file sharers and non-file sharers go to the cinema equally often.

Game sharers also buy games, and significantly more frequently too: 67% of file sharers are buyers as well. And if they buy, they buy significantly more games than non-file sharers.

The fact that file sharing and buying are not mutually exclusive is an interesting finding, but does not resolve all cause-and-effect issues: after all, aficionados of music, games or films will typically buy more, get into related products more but also download more. And so this finding does not give the definitive answer to what consumers would do if file sharing did not exist or became impossible.

When asked point blank, the majority of consumers say they would *not* change their purchasing habits. Respondents claiming they would buy more and those saying they would buy less are roughly balanced, even if a slightly larger group feel they would buy *less music and fewer DVDs*, while the sale of *games* and visits to the *cinema* would go *up* according to the response of a slightly larger group. One possible explanation could be that discovering new music, films and games is a key driving force behind file sharing, as is meeting demand driven by lack of purchasing power.

Perceived effects
Respondents feel that the possibility of free downloading has a *positive effect on the accessibility* and diversity of music, films and games. File sharers, in particular, rate the positive effect highly. File sharers and non-file sharers alike agree that free downloading is *negative* for *music artists, actors and game designers as well as record companies and film and game producers*. The effect on the *quality* of supply is *neutral*, especially according to file sharers.

Buying and file sharing sometimes actually go together. Sixty-three per cent of music sharers, for instance, will end up buying some of the products they once downloaded, with the equivalent percentages at 48% for film sharers and 63% for game sharers.

Consumers display a robust willingness to pay for a product they would really like to own. Three-quarters of respondents feel it is reasonable to pay at least €8 for a CD, €5 for a DVD and €7 for a game they would like to have, if such files were not downloadable. The *average* and median willingness to pay is significantly higher for games than for music and films, probably because of the sharp price difference between PC and console games.

5 International comparison and a study of literature

This chapter places the findings of the Dutch consumer survey presented in the previous chapter in a broader – international – perspective in an effort to obtain a more complete picture. This exercise will, at the same time, enable us to better gauge the economic effects of file sharing described in the next chapter. Based on the international scientific literature, this chapter reviews the findings of research into the relationship between downloading and buying music, films and games, focusing primarily on studies conducted independently of any direct stakeholders and whose publication was subject to editorial peer review.

The most important findings are:

- Downloading from unauthorised sources is a widespread and growing global phenomenon. The number of downloaders of music, films or games is substantial in the Netherlands – due in part to high broadband penetration – yet well in line with findings in the United Kingdom and the United States. Internationally, music downloading appears to be by far the most common form of file sharing, followed by films and games.

- Whereas estimates of the volumes of unauthorised download traffic differ greatly, it is clear that file sharing accounts for many billions of files per year, which together constitute a large share of international internet traffic.

- The literature describes various mechanisms through which file sharing results in an increase or, conversely, a decrease in digital media sales, or has no impact on sales whatsoever.

- The findings of empirical studies into the causal or other relationships between downloading and buying music vary widely, ranging from positive to neutral to negative.

- All in all, file sharing seems to have only a moderate effect on physical audio format sales. This is in line with the observed global decline in turnover. That said, there does not appear to be a direct relationship between the downturn in sales and file sharing. The state of play in the film industry has been less researched to date, but available findings unanimously suggest a negative relationship. In the games industry download volumes are low and implications unknown.

- Due to the empirical subtlety of the relationship between file sharing and sales and the diverse underlying mechanisms, it is very difficult to determine the relationship on a title by title basis. Measuring the possible harmful effect of a specific uploader's content is even more difficult, if not downright impossible.

5.1 Introduction

The practice of file sharing, as described in the previous chapter, contrasts sharply with the picture that arises from the in-depth interviews held for this study with highly active up- and downloaders. The interviews served a number of purposes, including use as a pre-test for the questionnaires in the consumer survey. These active file sharers belong to a subculture of users who are not prepared to pay, or rarely pay for music, films and games. Heavy users know the internet inside out and have several gigabytes of material ready to be uploaded 24 hours a day. They tend to find the quality and variety of content that is made freely available via newsgroups and P2P better than that of content provided by commercial parties. File sharing seems to be the

main activity these users engage in, and more important to them than the actual experience of gaming, watching films or listening to music.

These findings contrast with those of a representative survey held among the Dutch internet population showing that 90% of respondents said paid-for content was comparable to or better in terms of ease of use, availability and quality than content that was not paid for. A substantial proportion of internet users who occasionally download music, films or games without paying do not know exactly which technology they are using (P2P, Usenet, etc). Neither do they know exactly what is and what is not permitted in the Netherlands. Downloaders were found to buy music and DVDs just as frequently as non-downloaders, and game sharers were even found to be significantly more avid buyers than non-downloaders. People who download films and games also buy more films and games. Music sharers do not buy significantly more music – with the exception of young downloaders – but they do visit concerts significantly more frequently and buy more merchandise. More than half these downloaders had in the past twelve months bought music, films or games they had previously downloaded, in particular if they found the material very good.

These differences show that the highly active file sharers who gave their opinions in the in-depth interviews are not representative of the 4.7 million people in the Netherlands who had occasionally downloaded music, films or games in the year leading up to the survey. The first alarming reports that file sharing would be the deathblow for the music industry have recently been swept aside by a greater diversity of opinions from the same quarters. The one-sided focus on the world of heavy users, where buying and downloading are two mutually exclusive phenomena and where physical formats are no longer found to be in any way superior to MP3 or Avi files, has made way for a greater diversity of views. In April this year, EMI executive Glen Merrill said cautiously that file sharing is "*not necessarily bad*" for the industry (Gibson 3-4-2008): "*There is evidence that people we think are not buying music are buying music. They're just not buying it in formats we can measure*". The notion that every download means one less album sold is losing ground, and new business models that are better suited to the digital experience of music, films and games have appeared on the scene.

Before moving on to the implications of file sharing for society in Chapter 6, this chapter will place the findings of the consumer survey in a broader – international – context. This puts the findings presented in the previous chapter in perspective, allowing us to identify the missing links needed to gauge the economic effects of file sharing. Section 5.2 presents estimates of the total number of files downloaded from unauthorised sources every year. Based on a critical review of the international scientific literature, Section 5.3 examines the findings of research into the effect of file sharing on the purchase of music, films and games, focusing primarily on studies conducted independently of any direct stakeholders and whose publication was subject to editorial peer review.

5.2 Downloaders and downloads

5.2.1 *Dutch file sharers in an international perspective*

The consumer survey discussed in Chapter 4 showed that about 35% of the Dutch population aged 15 and upwards had downloaded music, films or games on occasion in the past year. Music downloading was most common, followed at some distance by films and games. These percentages are presented in Table 5-1 (see also Table 4.2). For the sake of comparability with

other sources, the number of downloaders has also been presented as a percentage of the number of internet users.

Table 5-1 Percentage of total population and internet population that had downloaded without paying in the previous year

	Downloaders as a % of the Dutch population aged 15-plus	Downloaders as a % of the internet population aged 15-plus
Music	32%	40%
Film	10%	13%
Games	7%	9%
Total	35%*)	44%*)

*) totals are lower than the sum of individual percentages as activities are not mutually exclusive.

When interpreting these figures, note that downloads that have not been paid for are not necessarily from unauthorised sources. Free downloading from promotional sites may take place with the consent of the copyright holder, and non-copyrighted material can be downloaded from P2P networks. That said, whereas 18% of the music sharers said they occasionally downloaded music from a promotional site (films 6% and games 17%) no-one in the panel said they *only* downloaded without paying from promotional sites. The percentages in Table 4-1 are therefore considered to accurately reflect the percentage of file sharers from unauthorised sources.

The international findings confirm, for example, that downloading from paid sites such as iTunes and from promotional sites is much less common than file sharing through P2P networks and newsgroups. A more tricky question, however, is which percentage of P2P traffic *is* authorised. A study carried out by Stichting Brein – a party engaged in combating 'piracy' on behalf of authors, producers and distributors – has shown that 93.8% of the content of torrent sites 'could be classified as illegal'.[130] The question remains, however, which percentage relates to actual P2P traffic. The studies discussed in the next section implicitly assume that all downloaded files are unauthorised, which in reality is not the case. The share of unauthorised music, film and games exchanged through P2P and newsgroups is expected to be approximately 95%.

The percentage of music sharers given above is somewhat higher than the figure recently published by the *International Federation of the Phonographic Industry* (IFPI), which puts the share of music downloaders in the Netherlands at 28% of total internet users in the country, and the proportion in Europe as a whole at around 18 % (IFPI 2008).

At first glance, research carried by Synovate/Interview NSS on behalf of Stichting Brein came up with a substantially higher figure for the number of non-paying downloaders: 71% of the Dutch download music from the internet, and no more than 14% were found to always pay for downloads (Stichting Brein 17-8-2007; Synovate / Interview NSS 2007). Upon closer inspection, however, we see that the survey was conducted among 322 young people aged 15 to 35 (one-third of whom were aged 15 to 24 and two-thirds were between 25 and 35 years old). In this perspective, the research findings *do* tally with the results of the consumer survey discussed in Chapter 4, which showed that 62% of internet users aged 15 to 24 years and 42% in the 25-42 age group occasionally download music – in particular bearing in mind that in the 71% referred to, the percentage of the population who do not have access to the internet has not been adjusted for (see Table 4.8).

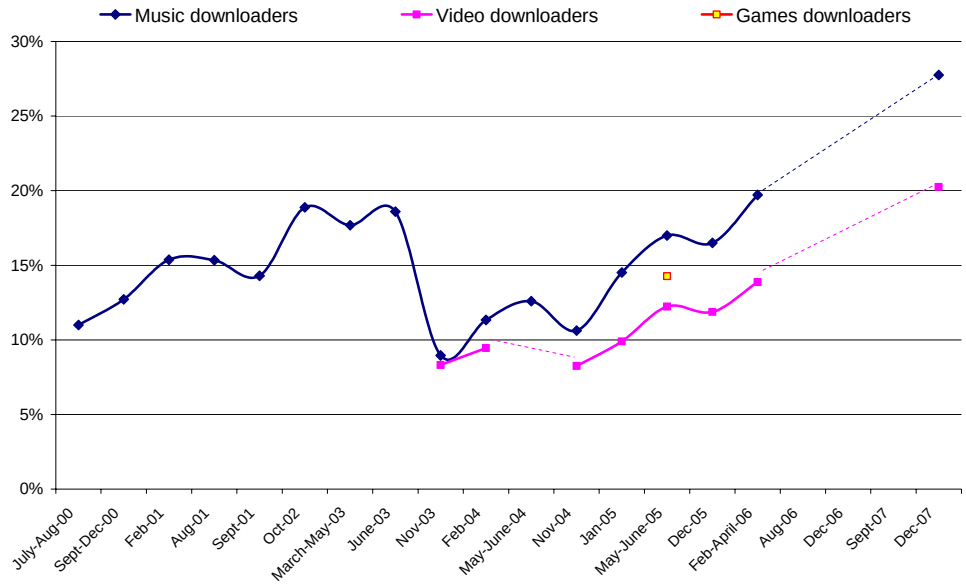
A recent study conducted by the University of Hertfordshire in collaboration with British Music Rights produced very similar findings. The survey showed that 63% of young respondents

[130] http://webwereld.nl/ref/rss/47007

interviewed download music. Broken down further, music was downloaded by 55% of respondents aged 14-17, 69% by the 18 to 24 age group, and 40% by those aged over 25 (University of Hertfordshire 2008).

Figure 5-1 shows the number of downloaders of music, films and games in the United States over time. In the Internet Project 'Usage over time' panels were asked to complete a long list of questions about their internet usage at regular intervals. The list included the question: "*Did you ever download music files onto your computer so you can play them at any time you want*". At a later date, the same question was included – at less frequent intervals – about downloading video files and games.

Figure 5-1 Downloaders of music, video and games in the United States over time



Source: SEO Economic research based on the data set PEW Internet Project 'Usage over time' (PEW 2008). The first court cases against downloaders took place in mid-2003. This is expected to have influenced both actual downloading behaviour and the willingness to report on this issue in surveys. Note that the time between the survey measurements on the horizontal axis differs.

The number of music downloaders in the Netherlands is slightly higher than the number most recently found in the United States (32% compared with 28%). This difference could be explained in part by the larger percentage of people with broadband access in the Netherlands. Fast access to the internet is, of course, a prerequisite for file sharing . The Netherlands ranks second in the OECD in terms of internet access, with around 33 internet connections per 100 inhabitants (OECD 2008), and the average broadband speed was 8.8 megabit per second (mbps) in 2007 compared with 4.8 mbps in the United States according to the Information Technology and Innovation Foundation, ITIF.

Whereas the percentage of film sharers in the United States was more or less the same as in the Netherlands between late 2003 and early 2006, the most recent figures show that the percentage is

now substantially higher in the US. The only known figures for the US show that the percentage of game downloaders is also much higher than in the Netherlands.[131]

The American study asked respondents whether they had downloaded music or film files 'yesterday'. In December 2007, 7% of American internet users said they had downloaded music the day before, and 5% had downloaded films. It would be reasonable to expect the ratio 'ever'/'yesterday' to increase over time: some people experiment with file sharing only once, or they do so during a particular phase in their lives, but quit the practice for various reasons. Whereas all these respondents will have answered that they have 'ever' downloaded, but did not download 'yesterday', there was no evidence of a gradual decline. The ratio of the answer categories 'ever' and 'yesterday' fluctuates between 5 and 9 for music and between 5 and 7 for films. This implies that the average music sharer downloads music once a week and the average film sharer downloads once every 5 to 7 days.[132]

Despite the fact that the number of file sharers fluctuates over time and has not been established with certainty, the following statements seem justified:
- Music downloading is most common, followed by films and games
- The percentage of people in the Netherlands who download music, films and games is about the same as in the United States. This percentage is higher than the European average and is strongly related to the high penetration of broadband internet in the Netherlands. Young people in the United Kingdom download more or less as frequently as in the Netherlands.

5.2.2 *Download volumes: music*

Estimates of the total number of *downloads* per year and of the number of files downloaded worldwide per year vary considerably. The Dutch consumer survey described in Chapter 4 also showed that consumers have trouble estimating how much music, films and games they have downloaded onto their own computers. The answers to these questions could therefore not be used. The following is a compilation of existing international figures for download volumes, which we will compare with each other and with the situation in the Netherlands.

The trade organisation IFPI speaks of several billion music files downloaded per year (IFPI 2008). The number of downloads per month was estimated at no fewer than 3.6 billion as early as 2002, 60-70% of which were music files (Zentner 2006). This would amount to 43 billion per year, or 25-30 billion music files. In a recent article, however, The Economist reports a much lower figure of 7.5 billion downloads in 2007 (The Economist 17-7-2008).

Based on 1.46 billion internet users worldwide[133], these 7.5 to 30 billion music downloads per year would correspond to between 5 and 20 music downloads per internet user per year. Assuming that the Netherlands accounts for a proportionate share, this would correspond to 50 to 200 million downloads per year for the Dutch internet population aged 15 and upwards. Note that the upper limit of 200 million is based on Zentner's estimate in 2002 and that the lower limit is based on the figure reported by The Economist in 2008, contrary to the expectation that the number of downloads has strongly increased during this period. Clearly, this is a very broad bandwidth and the actual figure may lie well beyond it. Based on the figure of 4.3 million people in the Netherlands who are said to have occasionally downloaded without paying in the past twelve

[131] Note that methodological differences exist between the US survey and our survey. The PEW survey asked respondents whether they had ever downloaded; our survey asked whether they had downloaded in the previous year. Additionally, the question did not underline that downloads were not paid for. Another difference is that the PEW survey spoke of videos, which is a much broader term than films. This could explain the much higher share of video downloaders.
[132] Respondents were not asked whether they had downloaded games the day before.
[133] www.internetworldstats.com

months (see Chapter 4), this would still amount to an average of 10 to 50 files per music sharer per year.

This bandwidth is nowhere near the much-cited yet hard-to-prove statement by both The Economist and IFPI that for every track sold 20 were downloaded in 2007[134]: CD sales in the Netherlands totalled €282 million in 2007, which roughly corresponds to just as many tracks sold (a CD generally contains 15 odd tracks; the average price of a CD was €12.31 in 2007). Based on 200 million music downloads, the download to purchase ratio would be lower than 1:1.

The American survey results referred to above also suggest that 5 to 20 music downloads per internet user is a conservative estimate: at the end of 2007 about 7% of internet users, or about 5% of the population, said they had downloaded music the previous day, which corresponds to about 20 download sessions per person per year. Note, however, that users tend to download several tracks or even several albums per session, which would suggest that the number of music files downloaded could easily be 10 times higher, or more, than the 5 to 20 per year mentioned above.

Another source that can be used to substantiate these figures is a study carried out by the University of Hertfordshire (see Table 5-2).[135] The findings of this study are very much in line with those of the Dutch consumer survey in terms of the number of downloaders and their age distribution (cf. Table 5-2). The British research presents fairly robust figures for download volumes. Applying these figures to the Dutch market by assuming that downloaders aged 15 to 25 download an average of 56 to 73 tracks, as they do in the United Kingdom, and that downloaders aged 25-plus download an average of at most 27 tracks, gives 1.5-2 billion music downloads per year in the Netherlands. This would amount to about 7.5 downloads for each track sold in the Netherlands (tracks on physical formats counted separately).[136]

The findings of the University of Hertfordshire show clearly that getting to know new music (sampling) is an important motive for file sharing. On average, the MP3 collections of young respondents numbered just under 1,800 tracks, with some collections being well above that number. An average of 52% – about half – of these tracks had been paid for by the respondents, either by buying the CD or by downloading the track from an online music shop. Whereas teens aged 14 to 17 had downloaded more than half their MP3 tracks, this was a mere 13% among the 25-plus (University of Hertfordshire 2008). This reveals a discrepancy between download volumes (estimated at 1:7.5) and MP3 collections (1:1) and is indicative of a sampling effect: consumers download many more tracks than only the tracks they like enough to keep (see also the next section). Comparing the percentages of downloaded music in the music collections with the number of tracks downloaded per month by this age group shows that young people have an average download collection built up over 8 to 16 months. That said, it is fair to assume that many of the less appreciated downloads are removed immediately and that download collections are built up over a considerably longer period of time.

[134] This estimate was provided by research agency BigChampagne. According to some sources the ratio was about 1:1 in 2001 and 1:4 in 2003. Other sources, however, report a ratio of 3:1 Liebowitz, S. J. (2006). "File sharing: Creative destruction or just plain destruction." Journal of Law and Economics **XLIX**(April 2006): 1-27.

[135] Note that the number of reported sessions per month is much higher than the estimate of 'once a week' for the US based on the PEW survey.

[136] This is much lower than the oft-cited figure of 1 in 20, but higher than the rough estimate of 200 million.

Table 5-2 File sharing and copying music by young people in Britain

Age	Downloaders	Downloaded tracks per month	Number of times per month	Percentage of MP3 collection downloaded without paying	CD copies per month
14-17	55%	73	20	61%	3.6
18-24	69%	56	11	50%	5.1
25+	40%	27	7	13%	2.4
Average	63%	53		48%	

Source: based on (University of Hertfordshire 2008)

5.2.3 *Download volumes: films and games*

There is general agreement that downloading of films is much less common than music downloading, but estimates of the ratio between films and music differ considerably. Sources dating from 2003 and 2004 vary from 1:100 to 1:10 or 1:2 (Liebowitz 2006). According to a study carried out by the Solutions Research Group, one in five Americans have downloaded at least one 'illegal' film onto their computers. The number of film downloads in the US in 2004 has been estimated at around 130,000 per day, which would amount to just under 50 million a year, or one film a year for every three internet users. Four of the five people who download films, says IFPI, do so only through P2P sites and not through paid channels (IFPI 2008). Details of *games* downloading are not known to date.

Some estimates put total file sharing through P2P networks in 2008 at 80% of internet traffic (IFPI 2008), compared with 60% in 2003 (Liebowitz 2006). This shows that P2P is a highly intensive, fast-growing internet application. Note also that P2P is used for a whole host of bona fide purposes as well, such as sharing of non-copyrighted material or internet telephony and video telephony. It is therefore not warranted to say that 80% of internet traffic consists of unauthorised file sharing.

5.3 How file sharing relates to sales

The previous section shed some light on the number of downloaders and downloads of music, films and games, but also showed that there is still much to be learnt about download volumes. The fact that researchers and consumers alike have trouble giving reliable estimates may be related to the question addressed in this section: How does file sharing relate to sales of music, films and games, as well as to cinema visits, concert attendance and merchandise sales?

Section 4.7 presented a number of mechanisms that could play a part in the implications of free downloading for the purchase of primary and related products. File sharing does not necessarily replace buying, but may, for example, meet demand driven by a lack of purchasing power (in which case sales are not affected). File sharing may also be engaged in to get to know new music, films or games and could even boost demand for related products. The positive relationship found in the consumer survey between file sharing and purchasing frequency and the substantial number of people who said they sometimes buy material they have previously downloaded also suggest that there are positive implications in addition to the negative effects.

The scientific literature also describes various mechanisms that could influence the relationship between buying and file sharing, as shown in Table 5-3. In some cases, these mechanisms have contrary effects, which makes the causal relationship between downloading and sales an empirical

matter.[137] The findings of the consumer survey in Chapter 4 showed a positive correlation between file sharing and sales for games and DVDs and a lack of correlation for CDs. We underlined, however, that any correlations found should not be interpreted as implying causality. The studies discussed in this section *do* seek to draw (scientifically valid) conclusions about causal relationships.

Table 5-3 Possible effects of file sharing on the purchase of CDs, films, games and related products

Positive	1.	File sharing introduces consumers to music, films and games (and to artists and genres), thus creating demand. This is known as the sampling effect (Shapiro and Varian 1999; Liebowitz 2006)
+	2.	File sharing allows consumers to pool their demand, resulting in increased demand.[138]
	3.	File sharing enhances willingness to pay and demand for concerts and related products (complementary demand).
	4.	File sharing enhances the popularity of products, boosting demand driven by a lack of purchasing power (network effect).[139]
Neutral	5.	File sharing meets the demand of consumers who are not, or not sufficiently willing to pay and subsequently are not served by the manufacturer.
=	6.	File sharing meets a demand for products that are not offered by manufacturers (e.g. film files for iPods).
Negative	7.	File sharing substitutes for the purchase of music, DVDs or games or cinema visits (substitution).
–	8.	File sharing results in the deferred purchase of music, DVDs or games, at a lower price than the price at launch.
	9.	Sampling results in sales displacement as a result of fewer bad buys.[140]

The next subsections discuss recent empirical research into how file sharing relates to the purchase of music, films and games. The main focus will be on recent scientific studies that have been deemed to be sufficiently valid after extensive peer review.

A study of the literature immediately shows that the relationship between file sharing and sales is a subtle one. The research is methodologically complex and the outcomes are ambiguous. Another complicating factor is that the impact differs for music, films and games, which is hardly surprising given the substantial differences in the way they are experienced and in the quality of the products and their downloads (the differences in experience were briefly addressed in Section 2.2). Additionally, the effects change with time as consumers' media behaviour and attitudes change. The box provides a succinct account of how music, film and game downloads relate to the original works. The summary should help to better understand the differences and the empirical literature.

[137] See also: Towse, R., C. Handke, et al. (2008). "The Economics of copyright law: a stocktake of the literature." Review of Economic Research on Copyright Issues **5**(1): 1-22.

[138] This applies in particular to the exchange of media with friends rather than to the anonymous exchange through P2P networks.

[139] This applies in particular to the use of software for which network effects are clear. A (modest) network effect may also be found for lifestyle products such as music, films and games. Unauthorised use can also, under certain circumstances, have a positive effect on profits and investments without network effects as it can weaken competition between products. See: Jain, S. (2008). "Digital Piracy: A Competitive Analysis." Marketing Science: 1-17.

[140] Rob and Waldfogel show that on average people's appreciation of music is lower after it has been bought or downloaded than prior to the purchase. See: Rob, R. and J. Waldfogel (2006). "Piracy on the high C's: Music downloading, sales displacement, and social welfare in a sample of college students." Journal of Law and Economics **XLIX** (April 2006): 29-62.

RELATIONSHIP BETWEEN DOWNLOAD AND ORIGINAL IN THE CASE OF MUSIC, FILMS AND GAMES

Music: In principle, an MP3 file downloaded through a P2P site is identical to an MP3 download from iTunes. This would imply that the utility value is more or less equal and that the potential for substitution is high (Table 5.3, effect 7). Conversely, music downloading is relatively easy and fast and music is consumed repeatedly. The sampling effect (Table 5.3, effect 1) could therefore be substantial. The utility value of a downloaded, burned CD and a music CD purchased in a shop differs in that a physical CD comes in a case with album art and an insert containing information and/or the lyrics.[141] That said, the added value for users of a physical CD is fast diminishing as MP3 players and media centres are becoming the predominant format for listening to music. Note, however, that the British research referred to earlier shows that young consumers still value physical CDs that come with sleeve covers and artwork higher than MP3 files (University of Hertfordshire 2008).

Films: The quality of film files differs considerably. As this depends on the degree of compression, which can vary substantially, the quality of strongly compressed files viewed on larger screens may be inferior, in particular in comparison with the new Blu-ray standard. Other factors that could diminish the appeal of downloads compared with DVDs are that appropriate subtitles and other extra features are typically missing. These drawbacks were also mentioned during the interviews with users. The quality of footage shot with cameras in cinemas is even poorer, of course, as people may accidentally walk on camera and background sounds are audible. Downloading and viewing films is also trickier from a technical point of view due to the use of different file formats and so-called codecs as well as the fact that the file sizes are much larger, which makes downloading more time-consuming. While these technicalities are likely to discourage the downloading of films, in particular in comparison with music sharing, they may encourage experienced downloaders to serve a circle of friends and acquaintances by providing them with copies of downloaded films burned on CDs. Another point in this regard is that watching a film requires people's undivided attention (Waldfogel 2008) and that many consumers are not likely to want to watch a film again or to buy a DVD once they have seen a downloaded film. And those who have gone to considerable trouble to download a film, and who have seen the film, will be little inclined to subsequently buy the DVD. This was also borne out by the consumer survey (Table 4.25). Another factor is that young people find films less important and that they play less of a role in defining their identity. Asked which three items they would take with them to a desert island, 73% of British youth said they would take along their music collections compared with 21% who would take their DVDs and 23% who said they would pack their games and console (University of Hertfordshire 2008).

Games: like films, games involve large-sized files and they are complex to download, but once downloaded, their user value tends to equal that of the original, except for the value users derive from owning the original packaging and the like. An effective way of enhancing the value of a purchased game compared with a download is offering updates to owners of the original game. Console games tend not to be downloadable because the games are linked to hardware (a chip). And whereas cracking is not impossible, it is technically far more complex and distribution is difficult. The market for console games and the accompanying hardware is developing rapidly.[142]

5.3.1 *Music*

This section discusses the most important and most recent scientific studies of the effect of file sharing on music sales. The technical nature of this discussion reflects the complexity of the underlying research and the ambiguity of the various research results. Note that the studies do not address the impact on related sources of income such as live concerts and merchandising.
Of the three categories – music, films and games – the effect of file sharing on the purchase of music has been most widely researched to date. This may presumably be explained by the fact that the music industry was the first sector that suffered a clear drop in turnover whereas sales of games and DVDs are still on the rise (see Chapter 2). The fact that the number of music sharers outnumbers downloaders of games and films is also believed to play a role.

As said, the findings of research into the relationship between music downloading and physical music sales are ambiguous. Table 5-5 (at the end of this section) provides an overview of the most important characteristics and outcomes of the research examined for this study. A complicating

[141] A few years ago, music retailers complained that stealing of empty cases from their shop shelves was rampant by people who had burned their CDs. These practices were found in particular in the rap and hiphop genres. In response to this, retailers replaced the inserts in the CD cases displayed on their shelves with copied inserts. The original inlays were kept behind the counters and provided only upon purchase.
[142] Cf. sectrion 2.3.5

factor in all studies is what is known as the endogeneity of downloading. Not only are popular albums sold in large numbers *and* downloaded in large numbers, but it may also well be that file sharers buy more (as shown by the survey discussed in Chapter 4) because they are greater music enthusiasts than non-downloaders. This means that analyses at album level and at individual level may show a correlation that cannot be interpreted as suggesting causality.

A similar problem may arise when examining which individual albums are being downloaded and which are being purchased. This is not necessarily a sign of substitution but could well be attributed to a difference in affinity with the albums, where more highly appreciated albums are bought and less appreciated albums are downloaded.

Methodological problems of this kind can be avoided by using variables that *are* related to downloading behaviour but are *not* related to the purchase of CDs. That said, finding these instruments is difficult and tends to yield unstable outcomes. The instrument used by **Rob and Waldfogel (2006)**, for example, is the speed of the panel's internet connection even though this instrument is also likely to be endogenous – people looking to download a lot will typically opt for a faster internet connection (Rob and Waldfogel 2006).

Based on a survey among 412 students in 2003 and 2004, Rob and Waldfogel found a negative relationship between music downloading and sales: people who download a lot, buy less (Rob and Waldfogel 2006). The stability of the relationship was weak, however, and many of the models they present did not show a significant correlation. Even the model that used the speed of the internet connection as an instrumental variable was not significant on the crucial variables. The authors argue away the problem of endogeneity by pointing out that this would more likely have the opposite effect. Note, however, that the file sharers in their panel may well have a weaker affinity for music, in which case downloading would not necessarily lead to *sales displacement*. Another shortcoming is that their research is based on a relatively small, select sample (of students). Note also that a representative sample of the Dutch population showed an opposite relationship: on average, downloaders buy as many CDs and more DVDs and games than people who do not download. Neither this positive correlation found for the Netherlands nor a negative relationship may be interpreted as a *causal* relationship.

Rob and Waldfogel conclude that every downloaded album reduces physical sales by 0.2 albums.[143] Based on the above arguments, this seems to indicate an upper limit of the possible impact of file sharing, yet further calculations of the coefficient yield interesting findings: in 2003 downloading resulted in a 10% downturn in sales in their panel. Per capita expenditures in the years 1998-2003 dropped from $126 to $101 and the consumer surplus (or consumer welfare) increased by $70. The estimated welfare effect for society as a whole was $45 per student (an increase of $70 per student and a decrease of $25 for the industry). The next chapter will address this issue in more detail.

Oberholzer-Gee and Strumpf (2007), on the other hand, did not find a significant relationship between file sharing and the purchase of music (Oberholzer-Gee and Strumpf 2007). Rather than using questionnaires, the authors examined the data of 1.75 million actual downloads in the US between September and December 2002, and compared them to sales of those same albums. In their models the impact of file sharing was 'statistically indistinguishable from zero', and so the hypothesis that file sharing costs the industry over 3% of sales per year (or one-third of the actual drop in sales in 2002) can be rejected. They do not reject the hypothesis that it has no effect.

[143] Their addition 'although possibly by much more' is based on the coefficients in the insignificant models with instrumental variables.

Oberholzer-Gee and Strumpf conclude that most file sharers would probably not have bought music in the first place.

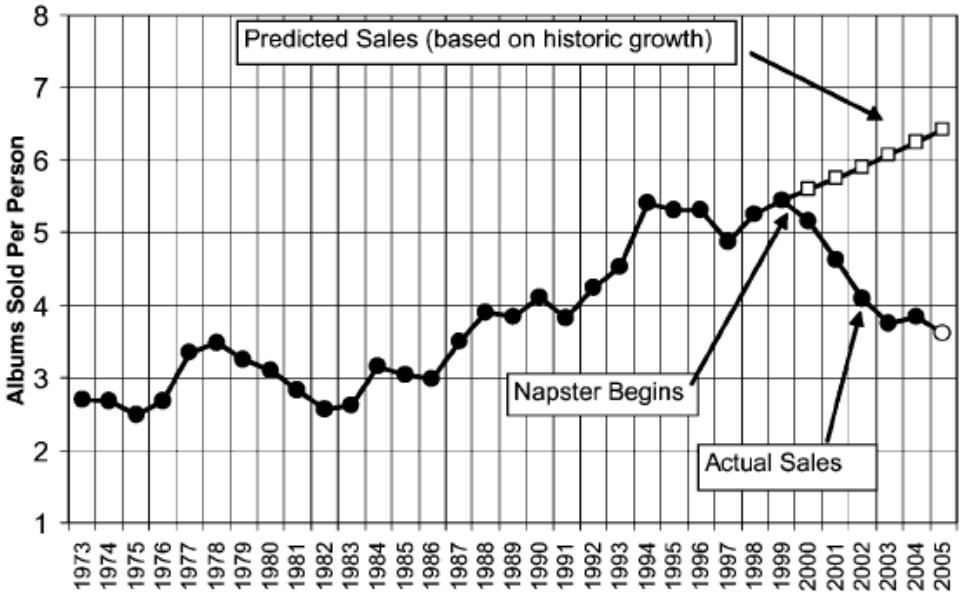
The authors validate their findings by referring to a number of sources, including the American Consumer Expenditure Survey (2004), which showed that households without computers – who therefore do not, or rarely engage in file sharing – also saw their expenditures on music drop by 42% between 1999 and 2004. In other words, music sales also plunged in households where substitution of the purchase of music by file sharing is highly unlikely, if not impossible.

In an effort to come up with alternative explanations for the manifest decline in CD sales, the authors pose that a shift in sales from specialised music shops to supermarkets (Wal-Mart) could have led to a smaller product range. A possible second explanation is that the decline marks the end of a period of exceptionally high sales as consumers replaced their LP and music cassette collections with CDs. And so by paying twice for the same repertoire the money went into the pockets of the same right holders who had had to invest considerably less in these sales than for an album with newly recorded material. Competition with other entertainment products could also be a factor: DVD and video sales increased by $5 billion between 1999 and 2003 compared with a decline in CD sales of $2.6 billion. During the same period expenditures on games rose by $3 billion and mobile phone spending among young people tripled.

Liebowitz (2006) addressed the same subject, but drew a different conclusion.[144] The author examines a number of possible explanations for the downturn in CD sales (see Figure 5-2). The number of albums sold between 1999 and 2003 dropped from 5.5 to 3.7 per person, which represents the strongest decline (by one-third of sales in four years' time) in the period examined. Liebowitz states that all possible explanations are unsatisfactory. CD prices remained roughly constant in real terms. Neither can the decline be sufficiently explained by fluctuations in the economic cycle. Liebowitz also points out that the rocketing sales of DVDs and games (and to a lesser extent cinema visits) – an explanation given above – do not offer an adequate explanation, in particular given the fact that these figures did not show a marked change in trend in 1999/2000. Based on this indirect proof, he points a blaming finger at file sharing (Liebowitz 2006).

[144] In his article, Liebowitz refers to an earlier version of the paper by Oberholzer-Gee and Strumpf discussed here.

Figure 5-2 Sales of music albums (CDs and LPs) per person (US based on RIAA data)



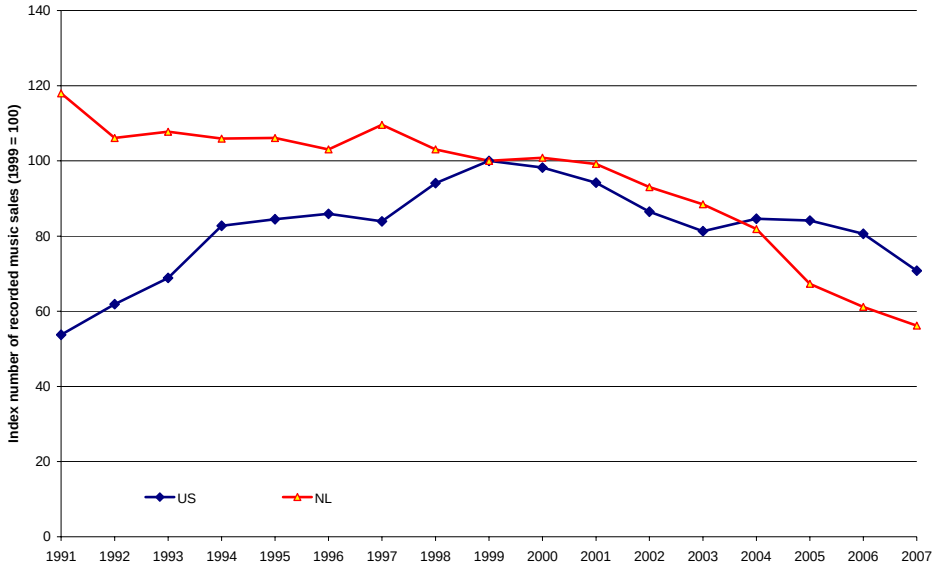
Source: Liebowitz (2006). The onset of the decline coincided with the launch of Napster, and the temporary upturn in 2004 with the dip in file-sharing activity reported in Figure 5.1. Classical music, jazz and country did not join the downward slide that began in 2000 and even showed an increase in sales in the US.

Two qualifications need to be made with respect to Figure 5-2. First of all, in relative terms the decline between 1999 and 2004 was barely sharper than that observed between 1978 and 1982. The introduction of the CD player at the end of 1982 (see also Table 5-4) provided a new impetus to music sales and to a temporary upturn in repeat purchases. Secondly, the number of albums sold per person was still higher in 2005 than in the entire period prior to 1987.

Figure 5-3 continues to follow this trend and compares it with developments in the Dutch music industry. Rather than showing the number of albums sold per person (as in Figure 5-2), the lines in the graph depict total turnover from music sales. Turnover trends are expressed as an index for both countries. The year in which Napster was launched – 1999 – is generally considered to mark the beginning of widespread file sharing and was taken as the base year. The turnover trend in the United States was very similar to the trend portrayed in Figure 5-2, albeit that the period 1991-2007 showed less pronounced growth and decline. As expected, 1999 was the best year for the US music industry, which has seen its turnover slip by about 30% since.

The trend was somewhat different in the Netherlands, where turnover did not rise sharply in the years prior to 1999, as it had done in the United States, but was already somewhat down. The decline gathered momentum after 2002 and outstripped that in the United States from 2004: turnover from music sales was cut by almost half between 2001 and 2007. Recent years have seen a somewhat slower drop in turnover in the Netherlands, however, compared with an accelerated decline in the US.

Figure 5-3 Trends in Dutch and American music sales: 'Party like it's 1999'



Source: SEO economic research based on figures provided by NVPI and RIAA

Table 5-4 presents a time line of a number of milestones in the media industry, in particular in relation to file sharing. The table shows how the demise of Napster was followed immediately by the launch of alternative P2P programs such as Kazaa and Bittorrent.

Table 5-4 Milestones in the media industry

Launch of ACC (Audio Compact Cassette)	July-63
Launch of VHS (recorder)	July-76
Launch of CD player	Oct-82
Launch of DVD player	July-96
Mass launch of digital audio player	July-97
Launch of Napster	June-99
Demise of Napster	Feb-01
Launch of Kazaa	March-01
Launch of Bittorrent	July-01
Launch of iPod	Nov-01
Launch of iTunes	April-03
Penetration DVD player 50%	July-04
Launch of YouTube	Feb-05
Demise of Kazaa	July-06
More DVD players than VHS recorders in NL	July-06

Zentner (2006) has looked into how music downloading impacts sales, based on a dataset of 15,000 respondents in seven European countries. The data were gathered in October 2001 and provide information, for each respondent, on their music purchases in the previous month and on whether they frequently download MP3s (Zentner 2006).

Zentner found a positive relationship between file sharing and the purchase of music. This corresponds to the findings of the consumer survey discussed in Chapter 4 (and is contrary to the relationship found by Rob and Waldfogel). The positive relationship appears to be the result of a stronger affinity with music, which stimulates both downloading and sales. In models in which file sharing is instrumented, Zentner found that file sharing has a negative effect on music sales: downloaders were 30% less likely to have bought music in the previous month than non-downloaders. In a highly tentative calculation of the impact on the music industry, Zentner estimates that turnover could have dropped by just under 8% in 2002 due to file sharing, which is roughly half the decline suffered by the industry between 1999 and 2002.

Contrary to the negative impact found by Rob and Waldfogel, Zentner and Liebowitz and the neutral effect found by Oberholzer-Gee and Strumpf, **Andersen and Frenz (2007)** state that music sharing through P2P networks has a *positive* effect on the purchase of music. They formulated hypotheses about a substitution effect and a sampling effect of file sharing (effects 1 and 7 in Table 5.3) and concluded – based on a representative survey among 2100 Canadians – that the sampling effect is dominant. The survey shows that for every 12 tracks downloaded through P2P networks, 0.42 extra CDs are bought. No correlation was found between file sharing and online music purchases. The two are presumably so similar in the eyes of consumers that the sampling effect is eliminated (Andersen and Frenz 2007).

Andersen and Frenz themselves underline that their analyses measure correlations rather than causalities. Whereas they found a positive relationship between file sharing and CD sales – as did the consumer survey in Chapter 4 – this does not necessarily mean that file sharing *triggers* the purchase of more CDs. The authors did, however, include a variable in their analyses reflecting reported interest in music (this is the 'hidden variable' Zentner sought to uncover with the aid of instrumental variables). A positive relationship was also found between download frequency and CD purchases among a group of respondents with *the same interest in music*. The endogeneity of download frequencies mentioned earlier could also play a role here. Anderson and Frenz did not attempt to address this problem in their analyses.

Table 5-5 Studies into the relationship between file sharing and the purchase of music

Study	Country	Time of measurement	Most important conclusions	Methodological drawbacks	Instrument
Rob & Waldfogel, 2006	US	2003-2004	• *People who download more buy less* • Each downloaded album (owned) reduces physical sales by 0.2 albums • Drop in music spending from $126 to $101 per student in the period 1999-2003. Increase in consumer surplus $70 per person: strong net welfare effect . • Ex-post valuations of music clearly lower than ex-ante and generally lower than the retail price. • Valuations of downloaded music one-third to half lower than those of purchased music ($10.66 vs $15.91).	• Many models are not significant, in particular models with instruments and models with hit albums • Panel consisting of students only • Possible selection effect: file sharers and buyers are two different types of people	Speed of internet connection
Oberholzer-Gee & Strumpf, 2007	US	Autumn 2002	• *No effect of downloads on sales found.* • Hypothesis that downloading has led to a sales decline of more than 3% rejected (one-third of actual drop in sales in 2002)	• Substitution generally measured on a weekly basis while substitution can also take place over a longer period of time	International school holidays (as a measure of faster internet because of less congestion)
Zentner, 2006	Europe (FR, GER, IT, NL, SP, SW, UK)	October 2001	• Downloaders are less likely to have recently bought music. • Positive relationship between P2P use and music sales due to a greater interest in music • In model with instrumental variables, music downloading results in 30% lower likelihood of music purchases in previous month • Highly tentative calculation suggests that in 2002 music sales would have been 7.8% higher if there had been no file sharing	• Broadband access as an instrumental variable most likely endogenous	Broadband access, internet skills
Andersen & Frenz, 2007	Canada	2006	• *Positive relationship between download frequency and CD sales* among downloaders: for every 12 downloads, 0.44 more CDs purchased. No relationship in total population • No relationship between file sharing and online sales of MP3 files • Spending on concerts, cinema visits and games relate positively to music sales. No signs of budget competition	• Correlation between P2P file sharing and CD purchases not necessarily indicative of causal relationship, despite adjustment for interest in music • Expected endogeneity of P2P downloads is not addressed	n.a.

In summary: Thorough examination of the findings of recent empirical scientific research into the impact of music downloading on the purchase of music, published since 2006, has not removed their ambiguity. The various theoretical relationships summarised in Table 5-5 generate research outcomes that are often contradictory.

The studies appear to be methodologically complex and some criticism can be raised about many of them. The literature published in earlier years has also produced a range of outcomes. Tanaka, for example, found no proof that file sharing has an impact on CD sales (Tanaka 2004). Blackburn, too, concluded that sales of 'average' albums were not affected by file sharing, but he did find that popular albums and artists suffer from substitution whereas lesser known artists benefit from the sampling effect (Blackburn 2004). He claimed that file sharing results in a shift of focus in the music industry, with well-known stars bearing the brunt and smaller artists benefiting. To this Blackburn added that the effect on investments in talent development deserves further study.[145] Peitz and Waelbroeck, on the other hand, found a negative relationship, in particular in the years 1999-2002. They say that whereas a 20% decline in global music sales could be attributed to file sharing, other factors are believed to be responsible for the downturn in 2003 (Peitz and Waelbroeck 2004).

Taking all the empirical data into consideration, the conclusion to be drawn from the international scientific literature is that a negative effect of file sharing on the purchase of CDs can be neither ruled out nor indisputably confirmed. The impact on related markets for live concerts and merchandising was not examined in these studies. The diverse possible effects of file sharing on purchasing behaviour (see also Table 5-3) have resulted in a whole host of outcomes of empirical research. For every study that finds a negative correlation, there is another that concludes that there is no impact, or in some cases even positive implications. Given the manifest downturn in global CD sales, a harmful effect would not seem implausible, yet no more than a fraction of downloads appear to result in fewer tracks sold. The 20% 'crowding out' of tracks sold by downloads referred to by Rob and Waldfogel would therefore appear to be an absolute upper limit. Similarly, the shrinking turnover of record companies – and even more so the decline in turnover plus the growth missed out on that would come from extrapolation, as suggested by Liebowitz – cannot be attributed entirely to file sharing (see Figure 5-2).[146]

An upper limit for the estimated substitution can also be calculated by assuming that the young people in Britain referred to in Table 5-2 have built up their downloaded MP3 collections during the same period as their paid-for MP3 collections. If that is approximately the case, maximum substitution would be 50 to 60% for young people under 25 years and 13% for the over-25s. As downloaded music tends to be of less value to music fans than purchased music (Rob and Waldfogel 2006) the actual effect is expected to be substantially smaller.

Given the empirical subtlety of the relationship between file sharing and sales and the range of underlying mechanisms, establishing this correlation for individual titles is a

[145] Figure 4.9 shows that whereas 60% of respondents download experimental/avant-garde music, only 4% say they actually have a preference for this genre. This could be indicative of a strong sampling effect for this genre.

[146] There is therefore still a pressing need for a satisfactory and well-reasoned explanation for the downturn in sales in the music industry. See also: Edström-Frejman, A. (2007). eCommerce Rhetoric and Reality in the Music Industry: Estimating the Real Impact of File-Sharing Activities on CD-Sales. Amsterdam, IOS Press.

tricky business: in line with Blackburn's observation, some titles may benefit from sampling and the network effects that come with greater exposure whereas others suffer from direct substitution. It is even more difficult, if not impossible, to establish the possible damage of content offered by specific uploaders. Not only is the impact per title ambiguous, but so is the relationship between the effect on the purchase of a title and the content offered by an uploader. This may be explained by the fact that many files in P2P networks – in particular popular tracks – have several versions and that each individual version often has several uploaders at one and the same time.

5.3.2 *Film*

Studies into the relationship between film sharing and DVD sales or cinema visits are few. At first glance, the sampling effect (Table 5-3, point 1) would seem to play a minor role as downloading and viewing (sampling) a film is too time-consuming. It would also seem unlikely for consumers to go to the cinema to see a film after, or because, they have first downloaded the film (Table 5-3, point 3). Nor is film sharing likely to have a positive impact through pooling of demand and network effects (points 2 and 4).

The neutral effects listed in Table 5-3 do apply to film sharing. At the beginning of this section, we noted that a film download is not as good a substitute in economic terms for cinema visits or DVDs as music downloads are for CDs. As a rule, consumers who download a film would not have gone to see the film in the cinema or purchased it on DVD in the first place, or they may have seen the film in this format and simply want to add it to their collection for free. Film downloaders may alternatively be consumers who want to view a film on their computers or iPods, in which case a DVD is not suitable.

Bounie, Bourreau and Waelbroeck (2006) examined the implications of file sharing for cinema visits and DVD rentals with the aid of information from a sample of 620 students and university staff. Regression analysis suggests that the negative impact of file sharing on cinema visits is limited. On balance, there *is* a negative effect on DVD rentals and sales (Bounie, Bourreau et al. 2006).

Hennig-Thurau, Henning and Sattler (2007) studied the impact of file sharing on the film industry in Germany. Based on a longitudinal study (among about 800 consumers at three different moments in 2006), they concluded that sharing and downloading film files constitutes a real threat to the industry. The authors found considerable cannibalisation of cinema visits, DVD rentals and DVD sales, resulting in annual losses of €300 million in the country as a whole (Hennig-Thurau, Henning et al. 2007).

On some points, however, their research is not methodologically sound. The significance of many of the relationships found was low, and major causality problems and selection effects are at issue. The authors state that consumers planning to download a film and/or those who actually do so will be less inclined to go to see the film in the cinema or to rent or buy the DVD. They fail to answer the question, however, as to whether this may be attributed to substitution or to the fact that the downloaders and wannabe downloaders value the specific film less highly or are generally less likely to go to the cinema or to rent or buy DVDs. The authors say DVD rentals are negatively affected only by the *intention* to download; actual downloading and watching a film does not affect DVD rentals. They even claim that downloading a film *without* watching it has a *positive* effect on DVD purchases. These results are difficult to interpret and raise many questions about the robustness of the analyses and causality issues.

A final comment is that in calculating total losses at €300 million, they assume that everyone behaves like consumers who do not download and do not want to download, which would generate a 10% increase in turnover from DVD rentals and a 15% increase from DVD sales. This ignores the selection effects relating to the expected willingness to buy that underlies the observed intention and would therefore seem to be an extreme upper limit for the actual impact.

Rob and Waldfogel (2007) also studied the impact of downloading and copying films. As they did for music, they used data from a survey held in 2005 among 500 students, and concluded that unpaid-for consumption almost always crowds out subsequent paid-for consumption. In other words: the more films people see first as a download or copy, the fewer films they are apt to see for the first time in the cinema, on a DVD or on TV. The authors conclude that watching downloads and copies – which accounted for 5.2% of films viewed in their sample – reduces paid-for consumption by about 3.5%. Compared with the findings for the music industry, the authors observed much less file sharing, but more displacement of paid-for by unpaid-for consumption. Rob and Waldfogel explain this difference by pointing out that downloading (or copying) films is far more time-consuming and requires a great deal more effort. You could say that the 'costs' of a download are higher. The authors speculate that as internet traffic is getting faster, film sharing will become more similar to music sharing, with bigger volumes and less substitution. Another reason given for the large degree of substitution is that films require the viewers' undivided attention and that the number of films people can consume tends to be less flexible (Rob and Waldfogel 2007).

The effect found by Rob and Waldfogel (3.5% among students) is considerably smaller than the impact reported by Hennig-Thurau *et al.* (10-15% for the entire German population). Whereas Rob and Waldfogel faced selection effects and causality problems too, they were better able to test for these factors and they encountered fewer methodological problems. The results found by Rob and Waldfogel would therefore seem to be more plausible than those of Hennig-Thurau *et al.*

A study carried out by LEK Consulting for the Motion Picture Association of America, known as the LEK report, also examined the effect of file sharing on the film industry.[147] Interestingly, the report calculated the impact per country and reported that in 2005 consumers in the Netherlands spent as much as $102 million less on cinema visits and DVDs as a result of film sharing.[148] This corresponds to a loss of $29 million for producers, which is equivalent to just under 10% of annual revenues. The report calculates the downturn in consumption in Germany at $289, which is fairly close to the computations of Hennig-Thurau et al. (2007).

A crucial step in the LEK-report calculations was measuring the degree of substitution, that is to say the number of paid-for films lost to file sharing. The figures for this substitution were derived from a consumer survey (direct questions) but were not documented in the LEK report. The report does state, however, that 14% of the interviewed consumers in the Netherlands had on occasion downloaded a film in the previous three months. This percentage is considerably higher than the 10% of the

[147] Contrary to the other studies discussed, this report was not *peer reviewed* and the precise method used was not documented.
[148] Note that the calculation refers to 2005, which was a bad year for the film industry, not only in the Netherlands but also in the United States.

population reported to have downloaded a film in the previous *year* in the consumer survey discussed in Chapter 4.[149]

5.3.3 *Games*

There is no known empirical research into the relationship between downloading and the purchase of games. In a theoretical study, Peitz and Waelbroeck (2007) note that the internet has had no noticeable effect on game sales. The global market for PC games is shrinking slightly, but the market for console games has rocketed in recent years. As reported in Chapter 2, a similar pattern can be seen in the Dutch market.[150] Peitz and Waelbroeck suggest that the slump in the market for PC games may be attributed to a shift from PCs to consoles rather than to file sharing. Additionally, console game piracy and the growing market for internet games (which account for about 15% of global sales) can be fairly successfully combated thanks to the requirements of internet connections and through updates.

5.4 Conclusions

This chapter has placed the findings of the consumer survey in a broader perspective by comparing them with other research conducted in the Netherlands and elsewhere. It has also presented estimates of the total number of files downloaded from unauthorised sources every year and critically discussed the international scientific literature about the impact of file sharing on the purchase of music, films and games, focusing primarily on recent studies (mainly 2006 and 2007) conducted independently of any direct stakeholders and whose publication was subject to editorial peer review.

Downloaders and downloads
Downloading from unauthorised sources is a widespread and growing global phenomenon. The number of people in the Netherlands who download music, films or games without paying is relatively large because of the high broadband penetration in the country, yet well in line with British and American figures. Across the board internationally, music downloading is by far the most common form of file sharing, followed at some distance by films and games.

Whereas estimates of the volume of unauthorised download traffic vary strongly, it is clear that it accounts for many billions of files per year worldwide and makes up a substantial share of international internet traffic. Based on a compilation of various sources, estimates for the Dutch market have been put at 1.5-2 billion music downloads per year, or 7.5 downloads for each track sold in the Netherlands. Note, however, that these are highly tentative calculations based on several – at times contradictory – sources.

[149] The report may have been based on a younger sample, on average, and/or on a sample consisting only of broadband users. The report came under fire earlier this year when it was brought to light that – due to a calculation error – the estimated damage attributed to students was three times too high (44% of the 'damage' in the US rather than 15%). It is not clear whether the total amounts and other figures given in the report also need to be adjusted (www.webwereld.nl, 23-1-2008: MPAA overdreef piraterijschade (MPAA exaggerated the damage done by piracy)).
[150] See Sections 2.3.4 and 2.3.5

How file sharing relates to sales

The literature describes various mechanisms through which file sharing results in an increase or, conversely, a decrease in digital media sales, or has no impact on sales whatsoever. The most prominent positive effect is the sampling effect: consumers are introduced to new music and this creates new demand. When downloading serves consumers whose demand is driven by a lack of purchasing power, the effect on sales is neutral. File sharing has a negative impact on buying when it replaces paid-for consumption. The specific characteristics of music, films and games explain both the relationship between file sharing and buying and why download volumes differ greatly between these products.

The findings of empirical studies into the causal or other relationships between downloading and buying music vary widely, ranging from positive to neutral to negative. The studies are methodologically complex and some criticism can be raised about many of them. All in all, files sharing seems to have only a moderate effect on physical audio format sales. This is in line with the observed global downturn in sales. That said, there does not appear to be a direct relationship between the decline in sales and file sharing. The state of play in the film industry has been less researched to date, but available findings unanimously suggest a negative relationship. In the games industry download volumes are low and the implications unknown.

Due to the empirical subtlety of the relationship between file sharing and sales and the diverse underlying mechanisms, it is very difficult to determine the relationship on a title by title basis. Measuring the possible harmful effect of a specific uploader's content is even more difficult, if not downright impossible.

6 Impact on society

This chapter seeks to present a balanced view of the impact of file sharing on society: what are its economic and cultural effects, its costs and benefits? Who are the winners and who the losers? In order to answer these questions, this chapter elaborates on the findings of the consumer survey discussed in Chapter 4 and the study of literature in Chapter 5 in order to gauge the impact on sales, profits and the consumer surplus as well as the expected indirect effects and implications in the long term. The issue is placed in a welfare economic framework and a distinction is made between the direct, short-term impact of file sharing and the dynamic, indirect effects, taking into account behavioural changes and adjustments to business models. The chapter also highlights the distribution of welfare effects between the various parties.[151]

The short-term net welfare effects of file sharing are strongly positive given that it is practised by consumers whose demand is driven by a lack of purchasing power. To the extent that file sharing results in a decline in sales, we see a transfer of welfare from operators/producers to consumers, with no net welfare effect.

The market for CDs and the market for DVD/VHS rentals are the only sectors of the entertainment industry that are suffering from a slump in sales. Whereas this may be attributed in part to file-sharing activity, file sharing is not solely to blame for the decline. The markets for DVDs and console games continued grow impressively after P2P services were introduced, and the cinema market showed sustained growth between 1999 and 2007. The total entertainment market has remained more or less constant, suggesting budget competition among the various products.

As long as the markets for games and films are on the rise or remain stable, there is little reason for concern
that the diversity and accessibility of content is at stake. File sharing has significantly enhanced access to a wide and diverse range of products, albeit that access tends not to have the approval of the copyright holders.

6.1 Direct effects of file sharing: a static analysis

One clear conclusion that can be drawn from the deliberations in Chapter 5 is that every file downloaded does not result in one less CD, DVD or game sold. The degree of substitution is difficult to determine and controversial, yet we can state with certainty that there is *no* one-on-one correlation between file sharing and sales.

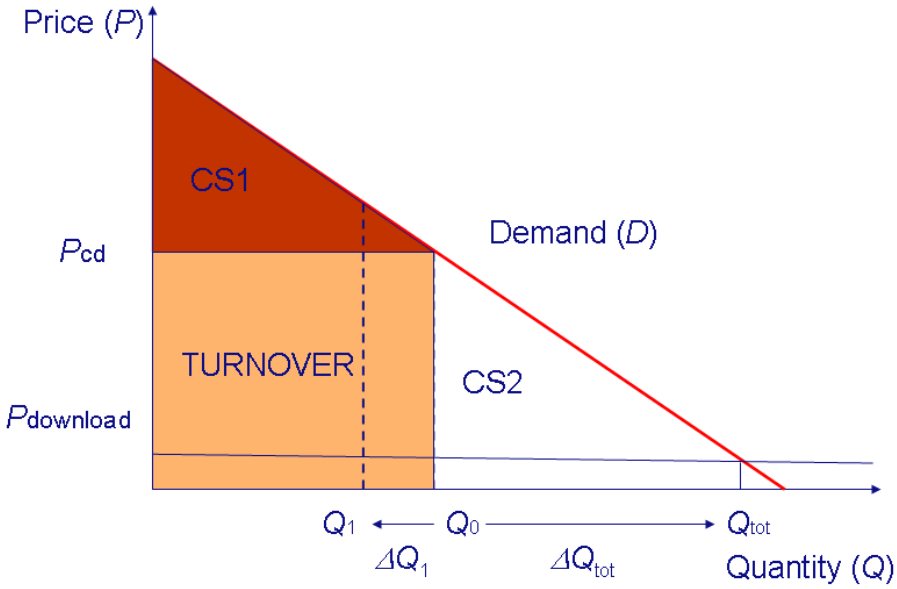
6.1.1 *Analytical framework*

This section seeks to describe the economic scope of file sharing and its short-term effects. The analytical framework used is a welfare-theoretical approach (in line with the method used in social cost benefit analyses). Rob and Waldfogel (2006) used a similar approach to calculate the welfare gains and losses for the music industry based on the relationship found between downloading and purchasing music.

[151] This approach is in line with the analytical framework of social cost benefit analyses (SCBAs). The essence of the application of this method in the Netherlands has been set down in guidelines known as the *OEI-leidraad* (Eigenraam, C., C. Koopmans, et al. (2000). Evaluatie van infrastructuurprojecten; leidraad voor kosten-batenanalyse, Deel I: Hoofdrapport & Deel II: Capita Selecta).

The premises of this approach are illustrated in the stylised Figure 6.1, where the diagonal line represents the demand (D) for CDs in relation to price. In a situation where there is no file-sharing activity, a Q_0 number of CDs will be sold at price P_{cd} , resulting in a turnover of $P_{cd} \times Q_0$ (the lightly shaded rectangle 'TURNOVER'). Given the high fixed costs and the low marginal costs that are so characteristic of the entertainment industry (see Chapter 2), in this particular case the gains for the producer – the producer surplus – roughly equal turnover.[152] Consumers may also benefit in that some would have been prepared to pay a higher price for a CD than they actually paid. Taken together, these amounts constitute the consumer surplus, represented by the darkly shaded triangle (CS1) in the graph. The creation of welfare in the economy is defined as the consumer surplus plus the producer surplus.[153]

Figure 6-1 Media demand and welfare effects of file sharing



Now assume that consumers have the opportunity of downloading the product. The horizontal line $P_{download}$
represents the costs (in terms of effort and time) of file sharing. Far more consumers (Q_{tot}) are interested in the CD at this lower price and consumption of the CD increases by ΔQ_{tot} because consumers who initially were not prepared to pay the higher price now buy the product (Table 5-3, effect 5). At the same time, however, some of the consumers who used to buy the CD may now download the music, resulting in a reduction in demand for the CD by ΔQ_1 (substitution: Table 5-3, effect 7). In this stylised example this would amount to a total of $\Delta Q_1 + \Delta Q_{tot}$ consumers downloading the CD, resulting in turn in lost revenues for producers (in this case this is equated with a lower producer surplus) of $\Delta Q_1 \times P_{cd}$. This welfare is not lost but goes directly into the pockets of consumers who choose to download rather than to buy, thus creating additional consumer surplus. More importantly, additional consumer surplus is created

[152] To be more precise: the marginal costs are low, but the fixed recording costs (or costs of developing a game) have already been incurred and are 'sunk' In order to determine the absolute producer surplus, the fixed costs need to be subtracted from total revenues. The current approach suffices for an estimation of relative differences.
[153] In some policy areas, such as the supervision of mergers, the producer surplus is not included, assuming that companies are able to look after themselves and that government's primary responsibility is towards consumers/ citizens.

and represented in the graph as the triangle between demand D, the initial vertical line Q_0 and the download costs $P_{download}$. This is a new surplus compared with the initial situation and constitutes welfare gains to society.

In summary, we saw that in this stylised static analysis substitution resulted in a redistribution of welfare (producer surplus becoming consumer surplus) without a net effect. Meeting demand that is not driven by purchasing power creates welfare gains for society. The positive impact of file sharing on sales, mainly attributable to sampling, results in a lower degree of substitution.[154] If the sampling effect or other positive effects were to dominate, demand would even increase on balance and both the consumer and the producer surplus would rise.

6.1.2 *Estimating the static effects: music*

The above effects can be quantified with the aid of:

- the number of downloads of music, films and games ($\Delta Q_1 + \Delta Q_{tot}$)
- the number of file sharers who would buy music if downloading were not possible (ΔQ_1)
- file sharers' (average) valuations or willingness to pay

Chapter 5 underlined the diversity and controversiality of the estimated effects. Figures for the number of downloads per day showed considerable variation and consumers themselves found it hard to reliably quantify the amount of material they had downloaded. Based on the available material, section 5.2.2 put the number of music downloads in the Netherlands ($\Delta Q_1 + \Delta Q_{tot}$) at **1.5-2 billion per year.** The market value for all these downloads amounts to the same volume in euros. Note, however, that this may not be equated with lost revenues.

The next step is to determine the extent of substitution. Based on the number of downloads given above, a substitution ratio of 20%, as used by Rob and Waldfogel, would seem unrealistically high as this would imply that 300-400 million fewer tracks are sold as a result of file sharing, which is equivalent to one-and-a-half to twice the downturn in sales reported for the Dutch music industry since 1999. Taking Peitz and Waelbroek's (2004) estimate as an upper limit, namely that a 20% decline in total sales may be attributed to file sharing, which is still relatively high, this would result in lost revenues of at most €100 million in the Netherlands. This in turn is equivalent to a **substitution ratio of at most 5-7%**, or one track less sold for every 15 to 20 downloads.

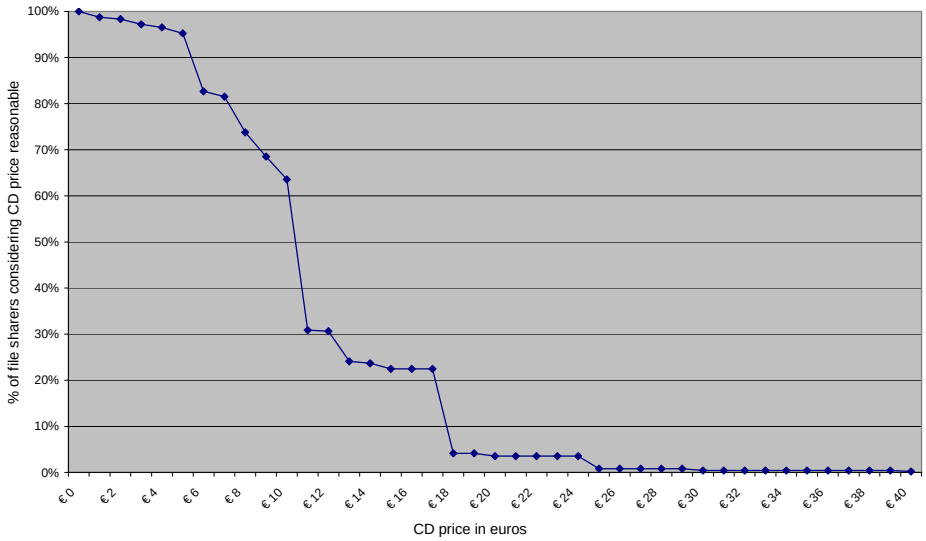
The third step is to determine the value of downloads that do not result in substitution, known as the additional consumer surplus. We have pointed out that every file downloaded may not be assumed to lead to one less track sold; similarly, it would not be correct to assume that the value of free downloads – the additional consumer surplus – equals the retail value of the downloads. This is expressed in the stylised Figure 6.1: in addition to substitution, the real rise in demand as a result of file sharing may be attributed to demand that is driven by a lack of purchasing power. As shown in the graph, the welfare gains would be more or less equal to half the retail value of the downloads. Rob and Waldfogel (2006) found that on average, students' valuation of downloaded music was one-third to half lower than that for purchased music (see Figure 6.1).

[154] In Rob and Waldfogel's calculation, the transfer amounted to $25 per student in the period 1999-2003. The welfare gains for society stood at $70 per student, almost three times the transfer.

The additional consumer surplus can be estimated using data about file sharers' willingness to pay. These data were collected in the consumer survey (Figure 6-2). The survey asked file sharers what they felt to be a reasonable price for a CD they would like to own but which they could not download (note that this does not include samplers and collectors). The concept of willingness to pay was briefly addressed in Chapter 5, but deserves further analysis. The area under the curve is equal to the weighted average 'reasonable price' given by the file sharers, namely €10.67 for a CD. Multiplying this reasonable price by the 69% of respondents who said they would 'probably' or 'most probably' buy the CD for this price, puts the average actual **willingness to pay for a much-wanted downloaded CD** at **€7.36**. This is **40% lower** than the **average price** of a CD sold in 2007 (€12.31) and is well in line with the 33-50% lower valuation found by Rob and Waldfogel and the estimate of half the price that can be derived from Figure 6.1.[155]

Figure 6-2 also shows that about one quarter of file sharers felt that a price that was higher than the average retail price of €12.31 would still be reasonable. Again, adjusting this for the likelihood that consumers will actually buy the CD for that price, means that roughly 17% of all file sharers would be willing to buy the CD for the retail price if downloading were not possible. This percentage is slightly lower than the 20% found by Rob and Waldfogel, but much higher than the 5-7% derived from the estimates made by Peitz and Waelbroeck. An important difference, however, is that this substitution ratio does not relate to all downloads, but to highly valued downloads only.[156]

Figure 6-2 Music sharers' willingness to pay (copy Figure 4.5)



In order to calculate the additional consumer surplus, one cannot simply multiply the willingness to pay for *highly valued music* by the total download volume of 1.5 to 2 billion tracks a year. Much-wanted downloads tend to be the downloads that file sharers keep. As mentioned in Section 5.1, young people keep the equivalent of an average of

[155] Figure 6.5 also shows at which price maximum turnover from downloading would be achieved - namely €10. Demand drops steeply at higher prices (such as the current average of €12.31).

[156] Note also that this is only one side of the coin – namely substitution. A positive contribution of the sampling effect could explain why actual impact on turnover is lower

8-16 months of downloaded material on their computers or players. Based on this calculation, the consumer surplus represented by file sharers' built-up download collections amounts to about 60% of the retail value.

The music collections of young people under the age of 25 equals about 1000 MP3s, suggesting an additional consumer surplus of around €600. For the 25-plus age bracket, the average download collection totalled 200 MP3s per person, which is equivalent to a surplus of around €120. Downloaded music files for all music sharers taken together represent a value of €1-1.5 billion.

This value has been built up over a period of several years, in some cases even from as early as the launch of Napster in 1999. The **consumer surplus** created by music sharing in the Netherlands would then amount to an estimated minimum of **€200 million per year**. Based on the above assumptions, this is a conservative estimate (collections have been estimated to have been built up over a long period of time, namely an average of 5 to 8 years, and the surplus for deleted downloads has been set at zero). At most half this amount is generated at the expense of the producer surplus and therefore constitutes a transfer of welfare. The remainder constitutes welfare gains.

Needless to say, these calculations are necessarily based on assumptions and contain many uncertainties. Many of the underlying data are not precisely known. That said, it is clear that the direction and magnitude of the amounts calculated are plausible. An annual surplus of €200 million for 1.5 to 2 billion downloaded tracks gives an average value of 10-13 cents per track, about one-eighth to one-tenth of the cost of tracks (€0.99) on iTunes and other sites.

6.1.3 *Estimating the static effects: films and games*

When it comes to games and films, it is more difficult to follow the steps described above as relevant data are in even shorter supply. This section will therefore make some indicative observations only.

Figures 4.6 and 4.7 show the willingness to pay for DVDs and games, namely an average of €18 for a game and €9.80 for a DVD. Bearing in mind the likelihood that consumers are actually prepared to buy a DVD or game for this price (54% for DVDs, 58% for games), this would imply an average willingness to pay of €10.52 for a game and €5.29 for a much-wanted DVD. These amounts are less than half the average retail price of €10.80 for a DVD and €26.83 for a game in 2007.

Rob and Waldfogel assumed that the substitution effect would be bigger given that downloading films and games is a more complex exercise (and more time-consuming). As sampling is less common, watching downloads, which accounts for 5.2% of films watched, cuts paid consumption by 3.5%. In the Netherlands, this percentage is equivalent to €17-20 million per year based on the annual turnover from cinema visits, DVD sales and DVD rentals. The high substitution rate found by Rob and Waldfogel (3.5% of 5.2%, about two-thirds), however, is not in line with the low willingness to pay for DVDs reported by downloaders. The percentage reporting a reasonable price that was equal to or higher than the average retail price was just under 50%. Adjusting for the probability that downloaders would be willing to buy the DVD for this price leaves 25%. In other words, about one in four film sharers could be a consumer with

purchasing power who would have bought the DVD if it were impossible to download it, in which case the actual effect on turnover would be considerably lower.

A low willingness to pay in relation to the retail price was also found for games, suggesting that substitution would take place only among a relatively small group. If file sharing were not possible, 19% of game sharers would buy more games; 10% of game sharers said they would buy less. The percentage of game sharers who gave a price that was higher than the average retail price of a game (23%), adjusted for the probability that they would in actual fact buy the game (58%), results in a possible substitution among 13% of game downloaders. In other words, demand among a large majority of game sharers is barely backed by purchasing power, implying that their file-sharing activity tends to raise welfare by increasing the consumer surplus.

6.2 Dynamic and indirect effects

The previous section described the static effects of music, film and game sharing. Despite the fact that many pieces of the puzzle are missing and that the exercise did not show a clear pattern, two important observations can be made:

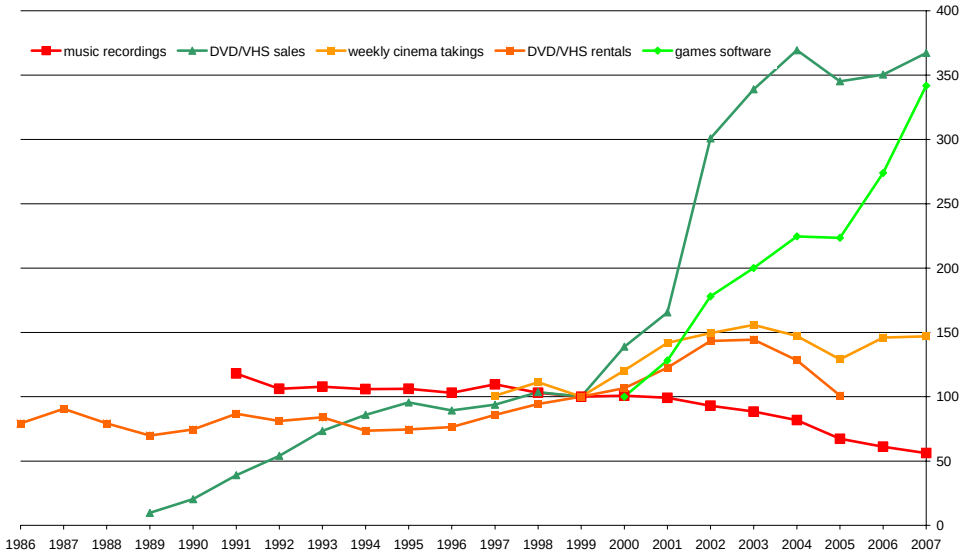
- to the extent that file sharing has a negative impact on the purchase of music, films and games – an impact which, as shown in Section 5.2, was relatively small and disputed – it concerns a transfer from producers to consumers with a zero net welfare effect;
- to the extent that file sharing does *not* happen at the expense of a purchase, additional consumer surplus is created, which in turn results in welfare gains that are expected to exceed any isolated effect on the sector in all instances. In other words: the gains enjoyed by consumers are more than twice as large as the losses suffered by producers.

This section addresses the issue from a broader perspective and looks at the possible long-term effects.

6.2.1 *Turnover and price trends*

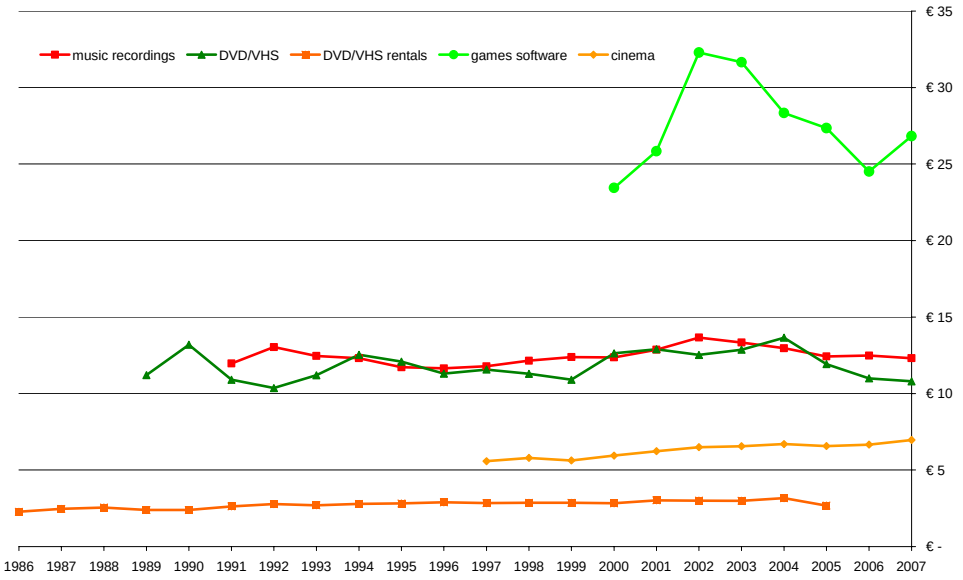
The starting point for this section are the turnover trends in the various market segments depicted in Figure 6-3. This figure was also presented as part of the review of market developments in Chapter 2. For the sake of comparison, the turnover figures have been indexed relative to base year 1999. Figure 6-4 shows price trends for an average CD, DVD, game or cinema visit.

Figure 6-3 Turnover in market segments of the entertainment industry, indexed (1999 = 100)



Please note that 2003 interruption in music recording and DVD measurements have been repaired on the basis of growth rates. Cinema visit index figures based on weekly takings to correct for extra weeks in 2000 and 2006. Figures for games software: 2000 = 100, as there were no figures available for 1999 and before.

Figure 6-4 Nominal price trends in market segments of the entertainment industry



Music

As discussed, turnover from sales of music recordings has plummeted. As average nominal prices have remained more or less stable, average prices have dropped in real terms.

The consumer survey referred to earlier showed that not all music genres are equally popular among file sharers. Whereas classical music is downloaded relatively infrequently, file sharing of genres such as soul/urban, experimental, rock, dance and

pop is all the more frequent. This is in line with the fact that the younger age brackets are fervent file sharers. Sales of these popular youth genres are therefore likely to be more heavily impacted by file sharing. That said, a one-on-one relationship has not been found. The consumer survey revealed that experimental and avant-garde music are frequently downloaded even though few respondents actually stated a preference for these genres. In this light it is worth taking a closer look at Blackburn's findings, which showed that while popular music artists are negatively impacted by file sharing, lesser known artists benefit. In principle, this development favourably affects the diversity of supply, yet a decline in income from popular artists can put pressure on investments in talent development.

Contrary to Zentner's (2006) observation that international repertoire is more popular among young, frequent file sharers, and that national repertoire, which tends to be more readily appreciated by older generations, suffers less from file sharing, there is no evidence for the Netherlands showing that Dutch music is downloaded any less, or more, than other music genres. Conversely, according to figures provided by the Dutch association for producers and importers of image and sound carriers (NVPI), the market share of classical CD sales has dropped from a stable 10% up until 2002, to 5% in 2005.

These examples underline once again that the relationship between the drop in CD sales and file sharing is an ambiguous one: the frequency of downloading does not always correspond to the popularity of a particular music genre, and the shift in sales figures and market shares of different genres cannot be directly related to download frequency.

Films

As shown in the figure, DVD/VHS sales have risen remarkably during the entire period and, whereas growth has stabilised in recent years, there has so far been no downturn in sales. With the exception of 2005, which was a poor year for the film industry, cinema box offices saw their turnover grow steadily: weekly cinema takings have increased by almost half since 1999. DVD/VHS rentals were up until 2002, but suffered considerable losses in the years that followed. In nominal terms, turnover returned to the 1999 level in 2005. Turnover figures for the years after 2005 are not available. Data are available about the number of video shops and their employees: between 1998 and 2008 the number of shops in the Netherlands dipped from 1100 to 550, most of this drop taking place between 2004 and 2008. The decline in employment was much smaller, from around 2000 jobs in 1998 to about 1800 at the end of 2007, with 2003 even showing peak employment of 2600 jobs (www.cbs.nl, web magazine 17 November 2008). Statistics Netherlands (CBS) attributes the shrinking number of video shops to the availability of films on the internet, rising DVD sales and the growing range of films broadcast on television.[157]

Turnover of the three segments taken together (cinemas, DVD/VHS rentals and sales) taken together has risen from around €306 million in 1999 to €571 million in 2005 (even reaching €642 million in 2004). No figures are available for DVD rentals for the years after 2005, but the upturn in cinema takings and DVD sales following the dip in 2005 is expected to have positively impacted DVD rentals as well.

[157] Ironically, a fair number of video shops have begun filling ink cartridges for inkjet printers as a sideline, an activity that producers of ink cartridges tend to view with the same suspicion as file sharing is viewed by video shop owners. At the same time, video shops are diversifying into food products. These activities may explain why turnover from DVD rental has dropped more precipitously than employment.

Note that the temporary slump in cinema turnover reported in 2005 was matched by market trends in the United States. Parks Associates wrote: '*Many movie critics would argue that 2005 was a less-than-stellar year in the U.S. theatrical movie quality and that consumers simply "voted with their wallets" and chose not to visit theaters to watch inferior films.*' (Parks Associates, 2007) . This statement was qualified by pointing out that the decline had presumably already set in a year earlier – in 2004 – but the fact remains that the tides turned yet again in 2006.

In the Netherlands, prices of purchased and rented DVDs/VHSs have remained virtually stable over the years. This means that prices have fallen in real terms. The price of cinema tickets has risen in line with general inflation (which averaged 2.2% per year).

From the above we can conclude that a possible slump in sales resulting from file sharing has not led to a net decline in the film industry. The drop in turnover in the rental segment *could* be related to file sharing, but at the aggregate level of the film industry as a whole, this loss is more than compensated for. It is therefore highly unlikely that both the diversity of content and the business case for producing new Dutch films have deteriorated compared with the end of the last millennium.

Games

As said, turnover has shown explosive growth in the games industry. Sales trends since 1999 are similar to those reported for DVDs, but with the important difference that growth in games is still gaining momentum. The average price of games has fluctuated strongly over time, presumably in part as a result of the large price difference between PC games and console games. These figures do not provide evidence for a shift of sales towards consoles. Apart from the material presented in Chapter 4, which showed that downloading and buying games are not mutually exclusive (on average file sharers buy more games, but causality between the two cannot be established), there are no empirical data about the effect of file sharing on this market segment. Almost three-quarters of the respondents said they would continue to buy just as many games if downloading were impossible. Given this observation and the turbulent growth of the games industry, serious losses due to file sharing in terms of the accessibility and diversity of content would seem purely hypothetical.

6.2.2 *Indirect effects*

The only market segment that has suffered a clear drop in turnover is that of physical audio formats, yet the degree to which this decline may be attributed to file sharing is under discussion. Section 2.2.5 dealt at length with developments relating to new business models in the entertainment industry. It presented a number of explanations for the fact that the music industry was the first to suffer the effects of the rise and workings of file sharing. Whereas the music industry long failed to respond to the changing needs of consumers, file sharing has succeeded in meeting these needs. Online and mobile music sales are showing impressive growth, yet have so far failed to make good the losses suffered by the record industry. The consumer survey also showed that many consumers who have on occasion downloaded from paid-for sites have stopped doing so, suggesting that the initial content offered did not meet their expectations. A disappointed customer is not likely to come back.

The film industry has long opposed the call for new propositions for consumers, but recently began offering some films online, realising that it needed to cut its coat

according to its cloth so as not to lose ground to other market segments as the music business had done. It remains to be seen whether this will enable the film industry to ward off a decline in sales.

Chapter 2 pointed out that digitised music is eroding the exclusivity of consumption by buyers. As music is steadily acquiring the characteristics of a public good, the industry is now focusing on other sources of income that derive value from music's broad accessibility. Live concerts constitute an ever-growing source of income. In line with this, the industry is increasingly focusing on sponsorship contracts, 360-degree contracts and merchandising.

Ticket prices for live concerts have shot up in recent years. This development – and its acceptance by consumers – should be seen in conjunction with the growing commoditisation of music. The interviews with active file sharers showed that the sharp increase in the price of live concerts is being used by consumers to justify their file sharing activities. This development would seem to be irreversible, or at least difficult to reverse.

At the same time we see that artists, in particular beginning artists, are gaining access to new, accessible channels to market their wares, such as MySpace and YouTube. New market concepts such as Sellaband are also successfully responding to the democratisation of talent development. For established artists, marketing and income-generating models are being developed where income is generated not so much directly by music recordings, but increasingly by live concerts, merchandising and sponsorship. Determining the extent to which these sources of income make good the losses in the market for physical audio formats is difficult on the basis of the information publicly available. That said, the new models still cater for music recordings, but show that in the future the industry is not likely to be able to survive profitably on music recordings alone.

In addition to the growing importance of live concerts, sponsorship and merchandising, recent developments in the area of value creation include such initiatives as alliances between the mobile phone and music industries. At the same time we see that file sharing impacts the rest of the economy through spin-off revenues. The current demand and willingness to pay for fast broadband connections, for example, is most probably generated by file sharing. In economic terms, consumers pass on part of the surplus they derive from file sharing in the form of increased demand and a greater willingness to pay for fast internet connections. The role of Internet Service Providers (ISPs) was addressed in the discussion about file sharing in Chapter 3. In view of the above arguments, it is clear why ISPs are inclined to play a backbench role when it comes to combating file sharing. Rather than being each other's natural enemies, ISPs and copyright holders could equally well become each other's allies if they succeed in clinching innovative deals, such as jointly offering internet connections in combination with access to content.

Another market set to benefit from file sharing is that for MP3 and MP4 players and media centres as well as the markets for recording formats (CDs and DVDs) and DVD burners. In all these cases, however, the benefits in terms of welfare are spin-offs that cannot be simply added to the estimated consumer surplus created by music sharing referred to earlier in this chapter.

As a final remark on this, we shall briefly address the spin-off benefits in the Dutch film industry. Unlike Hollywood productions, the costs of films made in the Netherlands are only very rarely recouped through cinema takings, DVD sales and rentals and television rights. Chapter 2 showed that the Dutch film industry would not survive without government subsidies (accounting for about 40% of total funding), which are granted with a view to promoting cultural diversity and protecting the country's national heritage. More widespread consumption of this heritage – even if achieved through file sharing – not only generates welfare gains but is also in line with the arguments for government funding. In this respect the Dutch film industry differs from the music and games industries, which are not subsidised.

6.3 Conclusions

This chapter has sought to present a balanced picture of the impact of file sharing on society at large: what are the economic and cultural effects, the costs and the benefits? Who are the losers and who the winners? In order to answer these questions, this chapter has elaborated on the findings of the consumer survey discussed in Chapter 4 and the study of literature in Chapter 5 in order to gauge the impact on sales, profits and the consumer surplus as well as the expected indirect effects and implications in the long term. The issue is placed in a welfare economic framework and a distinction is made between the direct, short-term impact of file sharing and the dynamic, indirect effects, taking into account behavioural changes and adjustments to business models.

Direct welfare effects

An analysis of the welfare effects consists of three steps: how many file sharers are there? What is their average valuation of the products downloaded? To what extent are potential sales substituted by downloads? The answers to these questions shed light on the short-term welfare effects of downloading. The effects were found to be strongly positive across the board due to file sharing by consumers whose demand is driven by a lack of purchasing power. To the extent that downloading results in a decline in sales, we see a transfer of welfare from operators/producers to consumers without a net welfare effect. A conservative estimate for the Dutch market for audio formats puts the net welfare effect at a minimum of €100 million per year, based on welfare gains for consumers of around €200 million per year, and a loss in turnover for the industry of at most €100 million per year. The short-term welfare effects for films and games were largely positive on the strength of a rapidly growing consumer surplus.

Dynamic effects

The markets for CDs and DVD/VHS rental are the only sectors of the entertainment industry that are suffering from a slump in sales. Whereas this may be attributed in part to file-sharing activity, file sharing is not solely to blame for the decline. The markets for DVDs and console games continued grow impressively after P2P services were introduced, and the cinema market showed sustained growth between 1999 and 2007. The total entertainment industry has remained more or less constant, suggesting budget competition among the various products: if music can be purchased more cheaply, there is more money to spend on cinemas or games. As nominal prices have remained virtually stable over the years, prices have dropped in real terms. The price of an average cinema ticket has risen in line with inflation, which is indicative of a healthy market.

As long as the markets for games and films are on the rise or remain stable there is little reason for concern that the diversity and accessibility of content is at stake. Downloading has significantly enhanced access to a wide and diverse range of products, albeit that this tends not to have the approval of the copyright holders. Record companies are faced with a dramatic decline in sales, which could harm the release of new albums and the marketing of new bands. Yet whereas well-known artists are worst hit by the substitution effect of file sharing, unknown artists are benefiting from the sampling effect.

This enhances the diversity of content, the flip side of which, however, is that the industry has less scope for investment in talent development. Additionally, unknown artists have a multitude of platforms to choose from, such as MySpace and YouTube, where the role of intermediaries is much more limited and contact with consumers more direct. New market concepts such as Sellaband are also successfully responding to the democratisation of talent development. For established artists, marketing and income-generating models are being developed where income is generated not so much directly by music recordings, but increasingly by live concerts, merchandising and sponsorship. Determining the extent to which these sources of income make good the losses in the market for physical audio formats is difficult on the basis of the information publicly available. That said, the new models still cater for music recordings but show that in the future the industry is not likely to be able to survive profitably on music recordings alone.

7 Conclusions and recommendations

The main aim of this study was to identify the short- and long-term economic and cultural effects of file sharing on music, films and games. File sharing is the catch-all term for uploading and downloading and uses a range of technologies, applications and services.

The short-term implications we have examined include the direct costs and benefits to society at large. In order to determine the long-term impact, we analysed changes in the industry's business models as well as in the accessibility and diversity of culture, using a variety of methods and instruments.

This study has drawn on existing sources of information to describe the structure and operation of the entertainment industry, in particular film, games and music, and discussed the most important changes in their business models. Digitisation, including the rise of file sharing, has played a decisive role in this process.

These trends and developments were subsequently analysed from a legal perspective, with a primary focus on copyright aspects. We pointed out that uploading copyright-protected material without the consent of the right holder is not permitted. Such unauthorised uploading may result in both civil and criminal liability. Whereas downloading for one's own use is permitted by law in the Netherlands in the case of music and films, game sharing is unlawful.

The empirical reality of file sharing was then described using data collected during interviews with heavy file sharers as well as data from a representative survey of 1,500 internet users in the Netherlands. For the sake of scientific reliability and validity, this survey focused on downloading without paying. In order to fathom the empirical reality, interviews were held with people working in each of the three entertainment industries and, where none were available, with industry representatives. Note that this part of the study was by no means a consultation of all parties concerned.

The research findings were subsequently placed in a broader perspective using comparable scientific studies carried out in other parts of the world. This enabled us to fill in the missing pieces and to take a closer look at the impact of file sharing on the paid consumption of music, films and games. Given the multitude of dimensions to the relationship between free downloading and sales, an undisputed, unambiguously positive or negative impact cannot be identified. The findings of the Dutch survey were compared with the results of other, similar studies in an effort to present a balanced picture of the situation in the Netherlands. Based on this analysis, conclusions were drawn about possible correlations in the less-researched sectors of the entertainment industry: film and games. And lastly, we examined the long-term implications of file sharing for the economic viability of the industry, for related industries and markets, and for the realm of culture.

The problem statement was addressed with the aid of a number of sub-questions.

- What are the key characteristics of and trends in the three industries – film, games and music – and their respective markets? To what extent are identified trends

attributable to file sharing? What are the most important developments in the business models of the sectors of the entertainment industry investigated?

- What is the legal framework of file sharing in the cases of film, music and games? What are the relevant developments in national (Dutch) and European legislation, regulations and legal policy in this field?

- What are people's key motives and considerations in file sharing? Are there any differences in file sharing between films, games and music? How much file sharing can be estimated to go on in the Netherlands? What are the possible implications of file sharing for consumer behaviour in other markets?

- What are the most important welfare effects in the short and longer terms? How are these created and what, to date, have been the roles of the content industry, distribution network operators, the government and consumers? What are the estimated economic effects on each of the three industries? What is the expected impact on cultural diversity? How does file sharing affect the accessibility of culture? Is short- and long-term government action in this field desirable?

Industry sectors, markets and business models

Traditional business models used by distributors in each of these sectors and most other actors upstream in the value chain (producers and creators) are based on the controlled access to the products created, in this case films, games and music (recordings). Copyright gives them control over the use and marketing of their products, for which they may charge consumers. Despite the fair number of characteristics they have in common, the three sectors of the entertainment industry display their own specific trends.

The music industry finds itself up against a shrinking market for its primary products (music recordings) and the widespread problem of file sharing. It may well be that at least part of turnover loss is attributable to the sharing of digital music files. Yet we now know that the music industry's initial defensive strategy of legal measures and DRM protection has not succeeded in stemming the swelling tide of music sharing and that the industry has failed to come up with an early answer to today's new digital reality. And so it has seen other players, such as Apple, claim key market positions in marketing and delivering digital music files. Charging for digital downloads, too, has so far not provided a definitive solution to the slide in sales. As the new market is now unable to make good the industry's decline, business model reinvention is more urgent than ever for the music business. This industry is now making an all-out effort to tap new sources of income and the fact that the total turnover for CDs (and downloads) in the Netherlands is shrinking at a faster rate than Dutch record companies' total turnover suggests that the record labels have succeeded in finding new sources of revenue.

A different picture emerges for the film industry, which is still enjoying growth in a number of markets: cinema visits and DVD sales. By contrast, DVD rentals have slumped in recent years. This favourable trend compared with the record industry may reflect the fact that film sharing has not taken off on as large a scale as music sharing. If this is indeed the reason, increasing broadband penetration might eventually also cause this industry to record less growth or even to contract. The urgency the music industry feels to reinvent its business model might then also take hold in the film industry, which has the added disadvantage that it is not in the nature of film consumption for viewers to quickly want to see the same film again. Free downloading is therefore more likely to

result in substitution here than in the music industry. And as the role of file sharing to get to know a product, which downloaders may subsequently buy, is less applicable to films, the industry should not allow itself to be lulled into a sense of complacency by still-increasing turnovers.

The games industry is a different story yet again. This business is showing exuberant growth, particularly at the console games and related hardware end, and the spectre of file sharing looms much less large than in PC games, where turnover is now flat. The specific platform-restricted hardware-software-content marriage makes the official game release so attractive – compared with a downloaded version – that this industry might well be able to better prevent or sidestep the file sharing that besets the music business. The hardware-software-content combine also gives large producers and distributors in the industry more scope to ensure profitable operations. These opportunities are sorely lacking in the music and film industries, the combination of iPod and iTunes being notable exceptions. Another advantage of the games industry is that concept design and product innovation are much more embedded in the industry culture than in the music and film industries, in particular now that it is increasingly capitalising on the opportunities offered by the Web. From this vantage point it is less complex for the games industry to innovate, if need be by joining forces with the music industry as it is now doing in music games. Boasting such a strategic advantage, it should not come as a surprise if the games industry ends up the winner in the battle for young consumers' spending money. This would seem to lie ahead given current trends in the joint film, music and games markets. Whereas the size of the entertainment market as a whole is relatively constant, the share of music is declining gradually and the share of games is showing explosive growth.

Legal framework

Downloading copyrighted content from file-sharing networks, websites and other sources for one's own use is permitted by law in the Netherlands. Games – being computer programs – are an exception as they enjoy wider protection. It is not relevant whether or not music and film content come from an 'illegal source'. Nor is payment – or non-payment – for downloads a factor in determining whether content comes from an unauthorised source. Whereas consumers may be required to pay for downloads from authorised sources, such as iTunes, legitimate content may also be free of charge, as in the case of promotional campaigns or if copyright has expired. Conversely, consumers may be charged for access to illegal content.

In the case of peer-to-peer (P2P) networks, content is not only often downloaded by users but also made available again to others, usually automatically, in which case the user is both consumer and supplier. This file sharing is a more or less intrinsic element of P2P networks. The uploading of files, whether automated or otherwise, without the prior consent of the right holder is a copyright infringement and may result in both civil and criminal liability. For the purposes of enforcement, intentionally infringing copyright in the course of a business or occupation is an aggravating circumstance.

Measures to combat the variety of practices encompassed by the term 'file sharing' in the Netherlands and Europe focus primarily on the uploading side. The law provides right holders with a range of means of enforcement under civil law. Civil enforcement against individual end users involves principles of proportionality and lawfulness. A balance must specifically be struck between the (economic and non-economic) interests

of right holders and the interests of users (right to privacy, freedom of expression, acquisition of knowledge, etc.).

Recent policy developments indicate that criminal enforcement measures focus in particular on uploading on a commercial and/or large scale. There is reluctance among policymakers at not only national but also European level to 'criminalise' individual end users. Aspects of public interest are at issue in this connection (promoting legal delivery, proportionality, expediency, legal certainty, etc.). The possible role of intermediaries, both individuals and organisations, such as Internet Service Providers, hosting providers and (other) parties involved in P2P traffic, is increasingly a topic of debate. They could play a part in identifying and combating the unauthorised delivery of content.

File sharing in the Netherlands: volumes, motives and trends

The number of music downloaders in the Netherlands is estimated at 4.3 million, film sharers at 1.4 million and game sharers at 1 million, which works out at 4.7 million Dutch people over the age of 15 who had, on one or more occasions, downloaded one of these products from the internet without paying in the twelve months leading up to a consumer survey. The fact that they did not pay for their downloads does not necessarily mean that the content was provided without the consent of the right holders. Promotional sites, for example, account for a proportion of such legitimate downloads – but this is only a fraction of total file sharing traffic. Among file sharers of music, 18% had downloaded from promotional sites on one or more occasions. It would appear, however, that without exception promotional site users also download from unlawful sources.

Estimates of the extent of global unauthorised file sharing vary greatly and are difficult to make, but the signs are that this involves many billions of files per year, constituting a substantial share of international internet traffic. The number of file sharers in the Netherlands is relatively high, which can be explained by the early introduction of broadband in the country and its high penetration. Music is by far the most frequently downloaded product, both in the Netherlands and worldwide. Based on a compilation of different sources, the number of music downloads in the Netherlands can be estimated at between 1.5 and 2 billion per year, which would amount to 7.5 downloads for each track sold.

Whereas file sharing is a common phenomenon across all socio-demographic groups of the Dutch population, the 15-24 year age bracket is strongly overrepresented. Over 60% of them download music, around 20% films and games. File sharers are also relatively often male, particularly when it comes to films (74%) and games (61%).

Paying for downloads is much less common than free downloading. In fact, a substantial proportion of file sharers said they had on occasion paid for a download but had not done so in the previous twelve months. Note, however, that many consumers do not see much difference between paid-for and free downloads – apart from the money aspect – in terms of ease of use, availability and quality. Those who do rate them differently tend to be more positive about paid-for file sharing than free file sharing.

Whereas unlicensed downloading is widespread, the percentage of people who buy music, films and games in the Netherlands (84%) still far exceeds the percentage of file sharers (35 %). Note in this context that file sharing and buying are not mutually

exclusive. In fact, the opposite is true: the percentage of buyers among music sharers does not differ significantly from the percentage of buyers among non-downloaders. And those music sharers who also go to the shops to buy music do not buy any more or less than do non-downloaders. What is more, people who download music also tend to go to concerts more often and buy more merchandise. For films, too, there are roughly as many buyers among downloaders as among non-downloaders, but those film sharers who also go to the shops, buy more. Film sharers and non-film sharers go to the cinema equally often. In the area of games, we see that the percentage of buyers is higher among game sharers than among those who do not download and that game sharers who are also buyers, buy more games than gamers who never download.

These findings suggest that the degree to which and intensity with which people are involved in a particular expression of culture (music, games or film) explain many activities: file sharing, buying and spending time and money on related products and services such as concerts, cinemas and merchandise. This also explains why different activities exist side by side and do not exclude each other. Needless to say, this may lead to a degree of substitution of paid purchases by free downloading. The same can be said about the practice that file sharers who get to know a product through downloading may subsequently buy it, for example as a physical format. The finding that a majority of file sharers would *not* change their buying habits if downloading were no longer possible should be seen against this light. Those who say they would buy more and those saying they would buy less are roughly balanced, even if a slightly larger group feel they would buy less music and fewer DVDs. The sale of games and visits to the cinema would go up according to the response of a slightly larger group.

One possible explanation for the fact that major shifts are not expected in the hypothetical situation that downloading would no longer be possible, could be that discovering new music, films and games – resulting at times in a purchase – is a key driving force behind file sharing. In this case the internet is used to explore new content and facilitate choice. That said, a degree of substitution cannot be ruled out and the finding that major shifts would not occur if file sharing were no longer possible could be attributed to demand driven by a distinct lack of purchasing power. This form of demand surfaces when free downloading is an option, but would never generate revenues if products had to be paid for simply because consumers cannot afford them or because they have other budgetary priorities.

In line with this, the respondents in the Dutch consumer survey felt that free downloading possibilities had a favourable effect on the accessibility and diversity of music, films and games, file sharers themselves being particularly positive on this count. Both file sharers and non-file sharers among the respondents believed that musicians, actors, game designers, record companies and film and game producers are negatively affected by file sharing. The effect on the quality of content was rated as neutral.

Welfare effects, industry sectors and cultural diversity

Scientific research into the impact of file sharing has focused primarily on the implications for music recordings and the music industry. This may be explained by the fact that this phenomenon was first seen in the world of music and is still most widespread here, combined with the fact that the traditional market for music recordings – the CD market – has suffered a decline in turnover.

The findings of scientific and empirical studies into the relationships between downloading and buying music vary widely, ranging from positive to neutral to negative. As these studies are methodologically complex, some criticism can be raised about many of them. When collating and weighing the findings of the various studies, a moderately negative effect on CD sales would seem plausible. This is in line with the observed global downturn in sales. That said, there does not appear to be a direct relationship between the decline in turnover and file sharing. The state of play in the film industry has been less researched to date, but available findings unanimously suggest a negative relationship. Note, however, that so far the volumes involved – and therefore also the effects – are smaller. In the games industry, download volumes are low and scientific studies into the relationship between game sharing and purchasing behaviour are in short supply.

This report presented a balanced view of the economic and cultural effects of file sharing, its costs and benefits, also specifying who are the winners and who the losers, based on a comprehensive analysis addressing (1) the extent of file sharing, (2) file sharers' valuation of the products they download (3) estimates of the degree of substitution of demand driven by purchasing power by unlicensed downloads, and (4) how file sharing could boost sales. In doing so, we were able to make a distinction between the direct, short-term impact of file sharing and the dynamic, indirect effects, taking into account behavioural changes and adjustments to business models.

The analysis showed that the short-term and long-term net welfare effects of file sharing are strongly positive given that it is practised by consumers who lack purchasing power. To the extent that file sharing results in a decline in sales (*substitution*), we see a transfer of welfare from operators/producers to consumers (*demand driven by a lack of purchasing power*), with no net welfare effect.

A conservative estimate for the Dutch market for audio formats puts the net welfare effect at a minimum of €100 million per year, based on welfare gains for consumers of around €200 million per year and a loss in turnover for the industry of at most €100 million per year. These calculations are necessarily based on several assumptions and contain uncertainties as many of the underlying data are not precisely known. The short-term welfare effects for films and games were largely positive on the strength of rapidly increasing welfare for consumers: the consumer surplus.

The markets for CDs and DVD/VHS rental are the only sectors of the entertainment industry that are now suffering from a slump in sales. Whereas this may be attributed in part to file-sharing activity, file sharing is not solely to blame for the decline. The markets for DVDs and console games continued to grow impressively after P2P services were introduced, and the cinema market showed sustained growth between 1999 and 2007. The total entertainment industry has remained more or less constant, suggesting budget competition among the various products: as less money goes into music, there is more to spend on cinemas or games. As nominal prices have remained virtually stable over the years, prices have dropped in real terms. The price of an average cinema ticket has risen in line with inflation, which is indicative of a healthy market. Now that the markets for games and films are on the rise or remain stable, there is little reason for concern that the diversity and accessibility of content is at stake. In the music industry, various parties are affected by file sharing and the slide in turnover.

Producers of music recordings – the record companies – are faced with a marked decline in sales. This means that the industry has less scope for investment, which could harm

the release of new albums and the marketing of new bands. Worst hit by file sharing are well-known artists, who are suffering from the substitution effect. Unknown artists are the winners as they benefit from the sampling effect. They have become more visible and can be more easily discovered by the general public. Additionally, unknown artists now have many platforms to access an audience, including MySpace and YouTube.

New market concepts such as Sellaband are successfully responding to the democratisation of talent development via the internet. For established artists, marketing and income-generating models are being developed where income is generated not so much directly by music recordings, but increasingly by live concerts, merchandising and sponsorship, some of which is secured by the industry through 360-degree contracts.

Determining the extent to which these sources of income make good the losses in the market for physical audio formats is difficult on the basis of the information publicly available. That said, the new models still cater for music recordings but show that in the future the industry is not likely to be able to survive profitably on music recordings alone.

File sharing has significantly enhanced access to a wide and diverse range of products, albeit that access often tends not to have the approval of their right holders.

Recommendations

Innovation in the music industry
The music industry is suffering from a decline in sales. It is therefore tempting to point the blame at file sharing as the main or sole cause. Yet the challenge is to capitalise on the dynamics of the digital age by responding to the new reality created by users and by reinventing business models. The survey held among Dutch internet users has shown that file sharing is here to stay and that people who download are at the same time important customers of the music industry. The point of no return has been reached and it is highly unlikely that the industry will be able to turn the tide. What is more, there is no guarantee that a situation will ever arise in which a majority of digital downloads will come from an authorised source. Whatever the future brings, the time that will pass between now and a ‘clean’ future is too long for the industry to sit back and wait, without making an effort to innovate. And so the music business will have to work actively towards innovation on all fronts. New models worth developing, for example, are those that seek to achieve commercial diversification or that match supply and end-user needs more closely.

The advance of 360-degree contracts is a step towards greater diversification of sources of income and underlines the clear connection that exists between various revenue sources in different music markets. Innovation in the music business should step outside the box of the traditional value chain and venture into a host of other markets related to the entertainment industry and beyond, for example through the creation of value networks. It should not be restricted to new distribution or marketing channels – forging new alliances and combines for newly developed products and services seems to be the only way to successfully tackle the implications of file sharing for the industry, at least for the time being. A strategy that focuses solely on law suits and DRM is not the best response, in particular as it remains to be seen whether a fully authorised, paid-for downloading market would generate sufficient revenues to revive the music industry. Even in a hypothetical future without file sharing, a hybrid business model would appear to be the only solution.

It is up to government, as part of its cultural policy and its policy to strengthen the country's innovative power and competitive edge, to consider identifying the promotion of innovation in the music industry – in combination perhaps with the film industry – as a key priority. The industries studied here are now necessarily in a phase of transition, given the nature of the business and its products, which could pave the way for similar processes in other domains of the economy. A complicating factor could be that the operations of large multinationals based in the Netherlands have limited authority to anticipate future international policy. At the end of the day this could mean that scale has turned into a straightjacket, eroding the economies of scale often enjoyed by these companies in the past. This might lead big companies to allow greater local variation in their innovation strategies, while at the same time creating opportunities for smaller players in these industries to beat the competition through innovation.

Position of the film and games industries
Most of the conclusions drawn in this study relate to the music industry, which is hardly surprising bearing in mind that the rise and development of file sharing in the music business has been most extensively documented. Of the two, the film industry has most to learn from the music industry's experience as buying films may – given their nature and the experience of film watching – increasingly be substituted by file sharing. The film market is still developing favourably, in particular in terms of DVD sales and cinema visits, yet it would be advisable for the industry to go in search of strategic answers for the future while there is still room for manoeuvre. Whereas the games industry relies on continuous innovation and reinvention, ideally positioning it to successfully meet the new challenges, the market for PC games, for example, is not immune to the effects of file sharing. That said, the 'digitally native' games industry appears to be far more flexible than the two other entertainment sectors, which are struggling to respond to the digital challenge. The extent to which the film and music industries can learn from the games industry is an interesting question.

Don't 'criminalise' individual end users - educate them
File sharing and P2P networks have become generally accepted practices and important drivers for innovation. It would therefore be ill advisable to criminalise file sharing by end users on the grounds that the content is from an illegal source or because of the uploading aspects of P2P traffic. Experience outside the Netherlands has shown that the effect of enforcement tends to be temporary. Enforcement can be undertaken either by the industry itself (civil actions, rules of liability), or by public enforcement authorities (criminal enforcement).

Recent policies at not only national but also European level are in favour of civil enforcement by the industry itself, in which case the various interests of the industry as a whole and of individual end users should be carefully weighed. A survey conducted among the internet population in the Netherlands showed that file sharers are the industry's biggest clients, indicating that downloading and buying go hand in hand here. The fact that file sharers in the United States buy fewer products may be related to their harsher treatment in that country. An additional problem is that it was very difficult to establish a direct relationship between file sharing and purchasing behaviour, which meant that it is virtually impossible to measure the damage caused by the uploading activities of individuals. That said, the provision of information and education is still vital, if only because research has shown that there is still much uncertainty among both users and suppliers about what is – and is not – permitted. We also saw that many consumers are ill-informed about the techniques used and unaware of the fact that they

are often downloading and uploading at the same time. A better awareness of what is and is not lawful is also important in relation to the acceptance of new business models. There is a role to play here for government – and for the industry itself.

Enforcement
The law provides right holders with a range of enforcement measures, in particular with respect to unauthorised uploading on a commercial and large scale – preferably in line with, or after new business models have been developed, thus creating real alternatives. In the case of civil enforcement against large-scale uploaders, right holders and other parties in the distribution chain could join forces. This should not, however, be undertaken at the expense of the basic principles of justice such as proportionality, legal certainty and the protection of fundamental rights and procedural justice. Criminal enforcement should serve only as an ultimate remedy – which is in keeping with current government policy in the Netherlands.

Monitoring and research
This is one of the first studies to focus on the broader implications for society of file sharing of various forms of content. As this is an industry in flux, developments need to be monitored on an ongoing basis. An important question in this respect is whether file sharing is likely to have a major impact on the DVD market in the foreseeable future. It also remains to be seen how the games market will develop in light of the growing broadband penetration in consumers' homes. Another uncertain factor is which business models will work best in the music industry. Will the delivery of official downloads be the most appropriate response to declining sales, or are more radical changes needed? Nor do we know what shape the growing availability of broadband internet access and the further development of bandwidth will take and what the effect will be in other sectors in the entertainment industry. Will the broadcasting industry feel the pinch of file sharing, and how are book publishers set to fare in the future in light of the advent of e-books?

This study has also shown that information about certain major sectors of the industries researched here, such as the live music sector, is in short supply. It is often claimed – this report being no exception – that live concerts are growing at the expense of CD sales, but much remains uncertain about the magnitude of the assumed growth and the degree to which it could make good the loss in CD sales. The industries concerned and the Dutch government would do well to gain a better insight into this issue through systematic data collection, in particular if government intends to keep close tabs on the development of file sharing. Monitoring of the film and games industries will also be needed as long as the implications of file sharing for these industries remain relatively unknown.

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