

# Copyright and the European Film Industry

## An Analysis of the small Potatoes

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Presented at SERCI congress 2005, Montreal

Working Paper

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## Introduction

Most articles dealing with copyright issues in connection with file sharing tackle explicitly or implicitly the question of the value of copyright. Does file sharing influence the exploitation of creative content or not. What is left out is that creative content is not all the same. I argue in this paper that neither a strong copyright regime nor public domain solves all related problems. Moreover I argue for the European film industry that copyright and hence a market mechanism serves some purposes but it is not a sufficient basis for every film industry. Consequently the existing copyright regime is much too strong for some parts of the branch and has to be restricted in time for the sake of public interests. I outline that the main problems are public claims in the case of public subsidies. At the end I introduce a hybrid mechanisms in order to balance public against private interests.

To outline the problems of the European film industry I will first sketch legal and illegal supply for European and US American movies and second describe the financing and the recoument waterfall for the European industry.

From the data on legal supply we can deduce whether these movies are available worldwide and how the market reacts on technological change. The copyright lasts for 70 years after the death of the author but only a few movies are available for this whole period and often are not properly preserved and/or provided. Losses come especially through technological change. Content that doesn't produce a reasonable cash flow will not be edited for the next technological standard. But for all that movies are not put into public domain if the reflux from copyright runs dry but they are either stored or burned up. Producers have no incentive to provide the content for free and consequently it is lost, which is not only producing dead weight loss but also hinders the preservation for the future.

By gaining primary data on quality and variety of feature films provided in P2P networks it should be possible to isolate the exact part of the film industry that might be vulnerable to illegal downloading. Assuming that downloading is not a threat to the whole film industry but only to a small range of titles, the possibility of distributing movies

through the Internet may well be an important step forward for small productions in order to reach their audience. The section highlights the borders of the actual battleground between P2P and copyright owners. It can be deduced from the experiment that the vast majority of feature films are not likely to be infringed. Bearing this in mind, the download series can give an impression of what can be done with current technologies.

Given that it is always difficult to write about new technologies or regional specifics as there are some readers familiar with these matters and others are not you will find two elucidations in the following article; one on file sharing and the other on the European film industry. Readers who are familiar with these matters can easily leapfrog these paragraphs. The paragraphs in question are highlighted in grey.

### **Excursus: European film industry<sup>1</sup>**

Initially the copyright was given to producers in order to reward their efforts and for taking the financial risk of a movie production. The copyright was their tool to exploit the movie and hence to remit the money to their creditors. In the past decades this setting changed dramatically. By EU law public funding bodies are given the opportunity to contribute a maximum of 50% of the overall budget of a movie production. In case of difficult and low budget films the sky is the limit whereas the definitions of these two expressions – difficult and low budget - are left to the public funding bodies themselves. Considering the budgets of public funding bodies and knowing that an average movie is subsidised by a ratio of a bit more than 90%<sup>2</sup> it is apparent that almost every European movie is defined as difficult and/or low budget. The situation in European countries is not identical but quite analogue so that I use Austria as an example from which I generalise. The differences across the continent source mainly in the size of the countries and the language area. Bigger countries have greater influence on an European mainstream and hence are more likely to breed commercially successful movies. Besides of this

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1 This Chapter is a revised version of a Chapter in *The Political Economy of Intellectual Property Rights*, Sturn and Stepan (2005)

2 For the time being this is an estimation drawn from conversations with insiders from public funding bodies. A systematic collection of data is projected. Even if this number will change for 10 or 15 percent the underlying problems will stay the same.

the Film Industry and the public funding bodies all over Europe are very much alike.

Considering the setting outlined above the question is, how is the money split and who owns the copyright? Answering the second question first, the producers have the copyright (in Austria even by a law known as Cessio Legis). The producers only contribute less than 10% to the actual costs but they gain 100% of the copyright. In case of TV productions in Austria the equity ratio vary between 4% and a maximum of 49,8%<sup>3</sup> (Castendyk, Keil and Pommer, 2005).

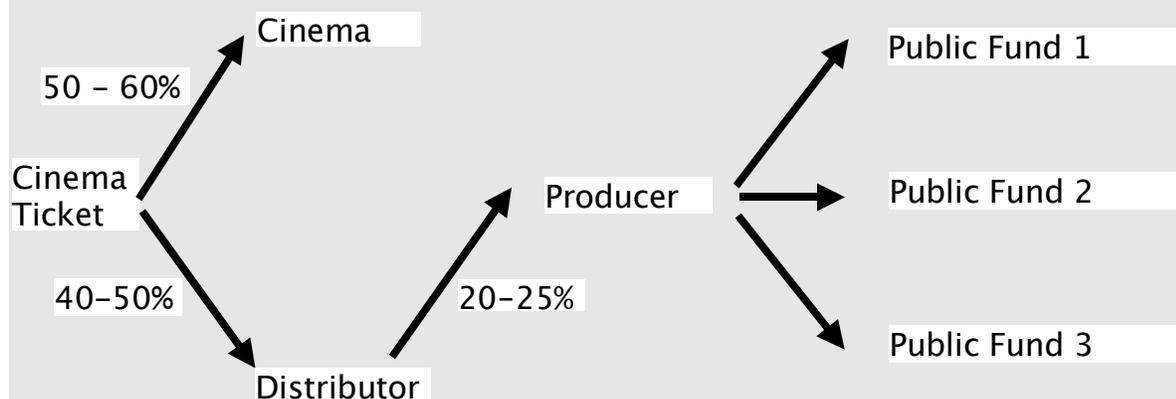
### **How is the money split? – The recoupment waterfall**

In order to understand the value of the copyright we have to look at what is called the recoupment waterfall (Fig. 1). What happens to the money that a visitor pays at the box office. Depending on the contracts between 50 to 60% remain in the cinema. 40 to 50% go to the distributor. The distributor keeps his share until she has covered her expenses for overheads, advertising and marketing. When these costs are fully covered the distributor has to split the share fifty-fifty with the producer, which generates a cash flow of 20 to 25% of the initial price of the cinema ticket to the producer. Than in turn the producer keeps his share until his expenses are covered, which means up to an average of less than 10% of the overall budget. When the expenses of the producer are covered the producer has to split his share with the other financiers, thus the public funding bodies. The split equals the rate that the financiers contributed to the budget and hence the producer keeps less than 10%.

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3 The public broadcasting cooperation might act as a co-producer.

Fig. 1



The Percentages picture the fraction of the price of one cinema ticket.

It does not come as a surprise that the incentives to exploit a movie to its limit are not sufficient. It is more rewarding for the producer to put his efforts into the next project instead of exploiting old ones. The problem that result is that producers of the vast majority of all movies produced in Europe concentrate on the first few weeks of theatrical box office returns and then lose the financial interest. In many cases the copyright doesn't even provide an incentive to bring out an existing movie on VHS or DVD because the actual costs are very likely to exceed the returns. Viz most European movies are locked in storages as soon as they return from the cinemas. Every there and then they are used for retrospectives but in general the movies are inaccessible.

Of course one could argue that the problem of the European film industry is not a structural one and as long as it works for Hollywood it could work everywhere in principle. This is partly true because it works for Hollywood as long as Hollywood covers a global market. In principle every national or regional film industry could replace Hollywood but there is only space for one (may be two or three) at the same time and if Iceland would take over the worldwide cultural hegemony than my following arguments would be true for Hollywood and the rest of the world but not for Iceland. At present the US film industry has this hegemonic power that their stories and codes are known in most parts of the world. Everyone has some connotation of the letters NYPD and which rights a suspect has when she gets arrested in the US. How many people have similar knowledge about Iceland?

## Legal and Illegal Supply for European Feature Films

For the experiment on legal and illegal supply I used two samples. The first sample is the worldwide box-office top 100 as published on the Internet Movie Database<sup>4</sup> (IMDB), the second one focuses on Europe and includes the all time top 10 of Austria<sup>5</sup>, Germany<sup>6</sup>, France<sup>7</sup> and the Netherlands<sup>8</sup>. These two samples are completely separate and have no overlap. As mentioned I used the IMDB as a source for the worldwide top 100 (which are all US productions or at least co-productions), for several reasons. Searching for sources I found a couple of organisations and policy making bodies providing this kind of information but all of them (including websites from the European Union) made references to the IMDB. Due to a number of problems these data are only partly reliable. First, the box-office amounts do not allow for revenues from VHS and DVD sales or rental or any other secondary use. Second the numbers are estimated, as there is no organisation monitoring these data day to day. It also might be that some of the movies were shown in theatres repeatedly and others are still of commercial use. Nevertheless, the data are a useful source in order to target the question of variety and availability.

The ranking of the films produced in European countries are based on attendance and not on box office. Despite a number of differences the quality of the data is sufficient. The data on Germany only go back to 1989, the year of the reunion. The data on the Netherlands to 1992 while those for Austria and France are not explicitly limited in time.

### Legal Supply

To look at the legal supply was much easier than collecting data for the illegal one. The collected data for the legal supply are based on Amazon as the biggest distributor in the web assuming that this is a good indicator for world wide availability. In order to search

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4 [www.imdb.com](http://www.imdb.com)

5 The Austrian Film Institute provided the data on the Austrian top 10 feature films.

6 The Filmförderungsanstalt (FFA) provided the data on the German top 10 feature films.

7 The Centre national de la cinématographie (CNC) provided the data on the French top 10 feature films.

8 The Nederlandse Federatie voor de Cinematografie provided the data on the Dutch top 10 feature films.

for US titles the search was carried out on [www.amazon.com](http://www.amazon.com), for French titles on [www.amazon.fr](http://www.amazon.fr), German titles on [www.amazon.de](http://www.amazon.de), Austrian titles on [www.amazon.at](http://www.amazon.at) and Dutch titles on [www.amazon.nl](http://www.amazon.nl) which switches automatically to [www.amazon.co.uk](http://www.amazon.co.uk). Therefore there are no data available for the Netherlands as not a single title of the Dutch top ten was found on [www.amazon.co.uk](http://www.amazon.co.uk).

Unfortunately there is no other way to find out whether these titles are actually available or not than ordering every single one of them, which was not possible within my research budget. Hence I have to rely on the search results.

All search results were checked for DVDs and VHS. This distinction was made because movies that are still available on VHS might not be released on DVD and consequently are only covering households equipped with both standards.

Fig. 1

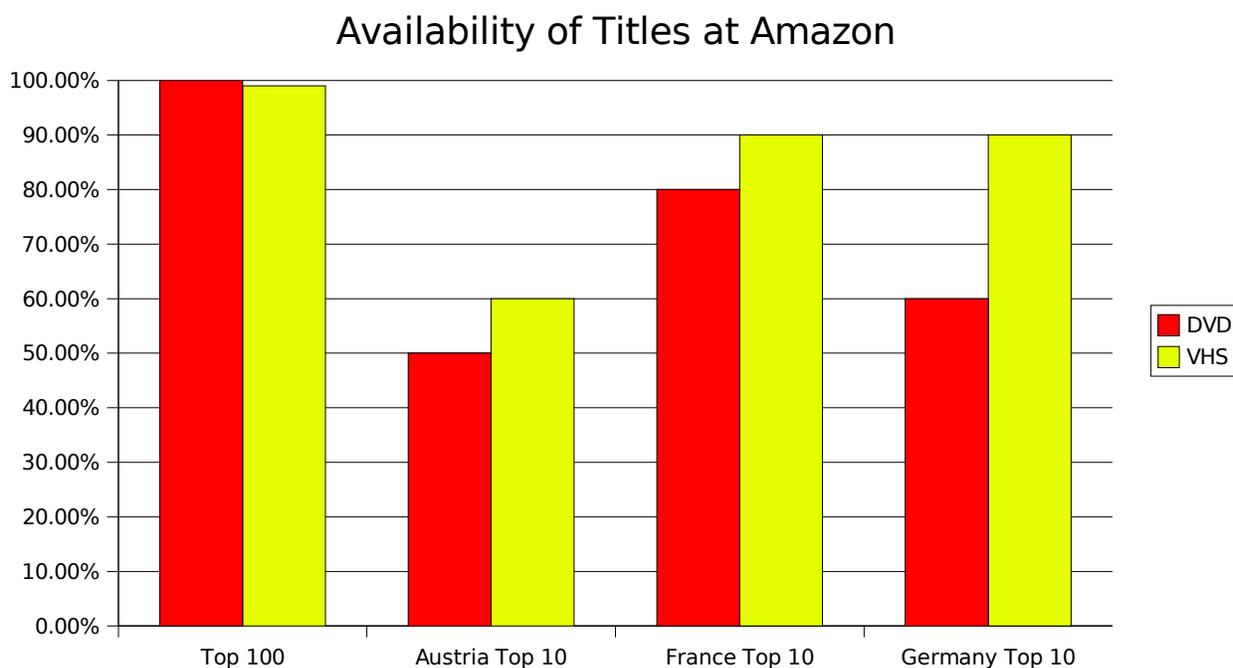


Figure 1 shows that the availability of feature films at Amazon is relatively high. Every single one of the Top 100 movies by box office was available on DVD and only one was

not available on VHS. From the Austrian top 10 titles by attendance only 50% were available on DVD and 60% on VHS. In France and Germany the numbers are a little better but still reveal a significant difference to the worldwide top 100. 80% of the French top ten are available on DVD and 90% on VHS while 60% of the German titles are available on DVD and 90% on VHS. As there are all top 100 movies available in the new standard (DVD) five out of ten of the top Austrian movies are not available any more. The same goes for two out of the top ten in France and four out of the top ten in Germany. It is worth noticing that for all European titles the availability in the old technological standard is higher than in the new one.

Just for illustration I went more into detail in the case of Austria and looked at the top 50 titles. Only 40% are available on VHS and 34% on DVD. 11 movies (22%) were solely available in the VHS standard, eight (16%) movies solely available as DVD and only 9 (i.e. 18% of the sample) were available in both standards.

### **Illegal Supply / File Sharing**

As stated above it was much more difficult to get data for illegal provision of feature films. When I was relying on search results at Amazon this wouldn't be a reasonable estimate for P2P downloads. Hence I carried out a download series covering the sample described above.

For the sake of clarity I want to give a short introduction on different ways of file sharing. Three types may be distinguished. First the most notorious one, which is used by P2P file sharing clients (KaZaa, Limewire, Bearshare, BitTorrent, E-Donky, ...) that are linked to networks (e.g. Gnutella or Fasttrack).

*On a fundamental level P2P means just what it says: any individual computer unit or peer (or node) is equal and therefore directly communicates without intermediaries. In the case of P2P file sharing applications, all peers are equal in the sense that they play the same role; no peer has special responsibility to control or supervise the P2P network behaviour. (Loban 2004)*

These networks are in principle open to everyone who has access to the Internet.

A second method is the use of FTP<sup>9</sup>-servers. These servers are permanently connected to the Internet but not open to everyone. FTP-servers are usually ordinary PCs linked to the Internet with a permanent connection. Only a small community has access to the content on the server, which is protected by usernames and passwords. Even so the owner of the server is not completely in control of the content as passwords and usernames can be passed on without limitation. Hence distribution via FTP-server can be called semi-public.

The third possibility for file sharing that I mention here, is equivalent to the traditional way of copying content from friends. This traditional exchange of content has improved through digitalisation. In so called LAN<sup>10</sup>-parties people meet face to face and connect their computers and notebooks to each other. By using LAN-connections very large files can be transferred much quicker than through the Internet. As stated above this equals more or less copying content from friends as is done with audio cassettes or CDs. In the following I will concentrate on the first sharing method, as it is the lag of control that makes it interesting. The two other methods are improvements or derivatives of existing practices and not entirely new as a problem for the content industries.

## Method

In order to collect data on illegal supply of feature films I carried out two download series. One for each sample. The experiment took place in Vienna, Austria, and Rotterdam, Netherlands. The Internet connection in both locations had a maximum download capacity of 80.000 kbps and the computers were not turned off during a download series.

Here a short remark on the different networks and download clients is appropriate. It was very difficult to make a decision for a certain network respectively for a certain client. I

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<sup>9</sup> FTP (file transfer protocol)

<sup>10</sup> LAN (local area network)

made several tests with Kazaa, Limewire, Bearshare, various Bittorrent clients, Edonkey and Overnet. The easiest decision was to rule out the Bittorrent technology because there was no sufficient search engine when I started the series. Hence the decision was mainly between the Fasttrack and the Gnutella network. After the test series in December 2004 where I downloaded the worldwide all time top 10 according to the Internet Movie Database, the Gnutella network came in first. In the Gnutella network every

*[...] point or peer links to any other, forming the overlay of the network itself, without a centralised gateway. Some of Gnutella's main ideologues claim it is the only pure P2P file sharing in existence. (Loban 2004)*

The decision in favour of Limewire<sup>11</sup> was a personal matter as I found the interface clearly arranged and easy to use. Here a note about the modus operandi. The titles were copied from the Internet Movie Database respectively from the other sources concerning the European sample and pasted into the search engine. I was only searching for movie files<sup>12</sup> exceeding a size of 500 Megabyte (MB) as the larger files tend to result in better quality. Smaller files were also taken into account as they were only a part of a feature film if all parts added up to over the minimum size of 500 MB. The searching took place at 5 p.m. when most people in Europe and the USA are awake and presumably the most computers were online and each search was repeated three times. I searched for ten movies at a time and downloaded them for 24 hours. After 24 hours I killed<sup>13</sup> all downloads that had less than 20% of the file transferred. The others remained for another 24 hours.

The successful downloads were reviewed on the following bases.

1. Number of files for a particular movie
2. Number of complete movies
3. Trailer
4. Resolution, sound and special features
5. Language

Except the last two criteria the values 0 and 1 can answer all the others. The language

<sup>11</sup> LimeWire version 4.8.0

<sup>12</sup> Files with the following file extensions: avi, mpeg, mpg and mov

<sup>13</sup> To kill a download is the expression LimeWire uses on its interface.

was added in short notes, as there are a few movies in translated versions. In order to measure the resolution, the sound and special features (different languages, subtitles, direct access, etc.) four benchmarks were introduced; excellent, good, fair and corrupt. `Excellent` means that the downloaded file is a perfect substitute to a purchased DVD including all special features and perfect resolution. `Good` means that the feature film regarding resolution and sound is close to the quality of a DVD but special features are not included. `Fair` is the benchmark for files that are worth watching but there is a big difference to a purchased DVD and it is not a substitute but a surrogate. As `corrupt` I marked files that are indeed elements of an offence in terms of copyright law but are not of any use. For example, the sound was lagging behind for seconds or the resolution was so bad that it was difficult to identify details on the screen.

## **Results**

Certainly there are much more titles in the internet that can be downloaded if the time frame of the experiment were extended and/or if the workload is increased. What this experiment shows is the extent, to which an average PC user with a fast connection can manage to download within three weeks of permanent connection.

### ***Quality***

Issues of quality were questioned in the experiment in order to relativise the results in comparison to the ones from legal supply. As demonstrated in Figure 2 the quality of feature films available in the Internet is different from legally purchased DVDs. The reason why the quality differs lies in the amount of information. Even if it were possible in principle to make an exact copy of digital information it hardly happens when it comes to movies in the Internet. I want to give a brief demonstration using numbers of the extent to which the information is shrunk when provided in the Internet. A recorded DVD has a potential capacity of 9.4 gigabyte (GB) while a blank DVD contains only 4,7 GB<sup>14</sup>. A CD has a capacity of 650 to 800 MB and thus less than a tenth of a recorded DVD. According

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<sup>14</sup> DVDs with a capacity of 9,4 GB are not taken into account, as they are still very expensive and the technology of compatible DVD burner is not widespread at the time.

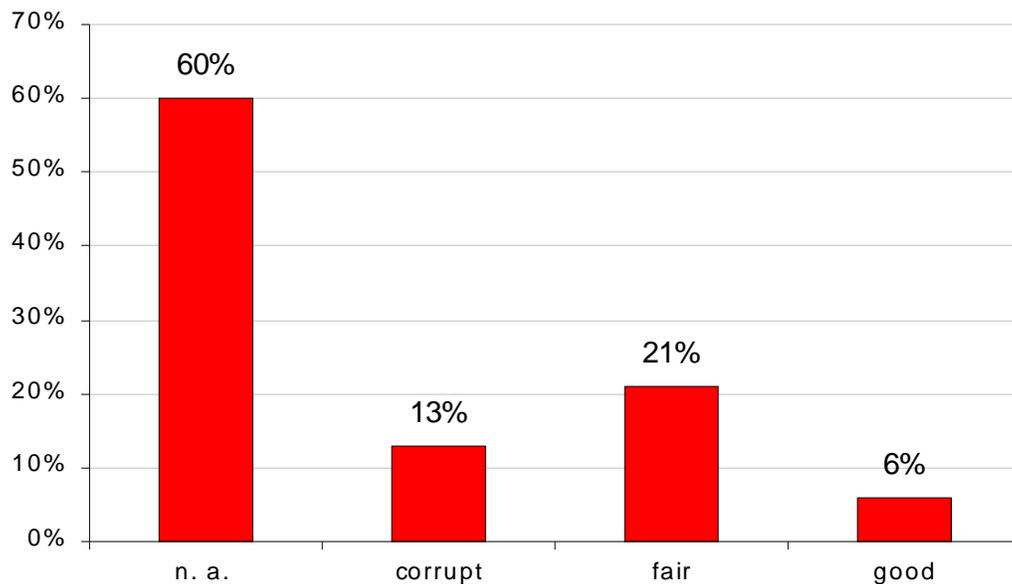
to the *Brennerstudie 2* (2003) 58,5% of all downloaded movie files were burned on CDs but only 7,4% on DVDs. The loss of information decreases the quality. Most files available in P2P networks are adjusted to the size of a CD in order to store them or show them on TV. Even though the file size is so much smaller than the original, files take between a few hours and days to download, depending on the upload capacity of the peer providing the file. Sometimes there was more than one file for one movie but from all the movies in my download series none exceeded 1.6 GB.

Figure 2 depicts the quality of the downloaded files. If a movie was downloaded more than once, only the file with the best quality was taken into account. The four columns add up to 100 so that every movie of the all-time worldwide top 100 is considered. According to the criteria mentioned above there was not a single movie that earned to be marked as excellent. Only six percent were marked as good, 21 percent as fair, 13 percent as corrupt and 60 percent were not available at all. As an aside I should mention that all the six movies marked with `good` are cartoons. There was no ordinary feature film that came close to the quality of a DVD.

These results are very close to those obtained by Mark Fetscherin (2005) who collected data between December 2002 and April 2003. Although he used a different setup, a different network, a different sample and a different technology. In both experiments only 6 respectively 7 percent of the downloaded movies are of good quality. This arouses the suspicion that movie piracy continues in the offline world. The large size of video files of movies combined with the lack of sufficient internet bandwidth has stemmed online movie piracy to a limit extent (Chellappa and Shivendu 2003). Also in the *Brennerstudie 3* (2004) the estimated downloads were decreasing between 2002 and 2003 and partly recovering between 2003 and 2004. The authors found a trend not towards downloading but in the opposite direction towards off-line copying original DVDs.

Figure 1

Availability of the all-time worldwide top 100



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### **Variety**

Concerning variety I want to focus on three ways of looking at the samples. First I want to look at the most successful movies by all-time worldwide box-office, secondly at the availability over time and thirdly at the availability of movies produced in Europe. After a closer look at the all-time worldwide top 100, it is noteworthy that there is not a single movie that is not at least partly produced in the USA. The highest ranked non-US film is *Sen to Chihiro no kamikakushi (Japan, 2001)* entering at place 169, followed by *The Full Monty (UK, 1997)* on place 171 and *Four Weddings and a Funeral (UK, 1994)* at place 187. To cope with this problem I started a second series downloading the all-time top 10 movies of two smaller and two big European countries, namely Austria, Germany, France and the Netherlands. So the three angles, which are imposed here, are a general point of view on the top 100 without limitation in time or region, a chronological point of view and a regional one.

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15 n.a. stands for not available within the series.

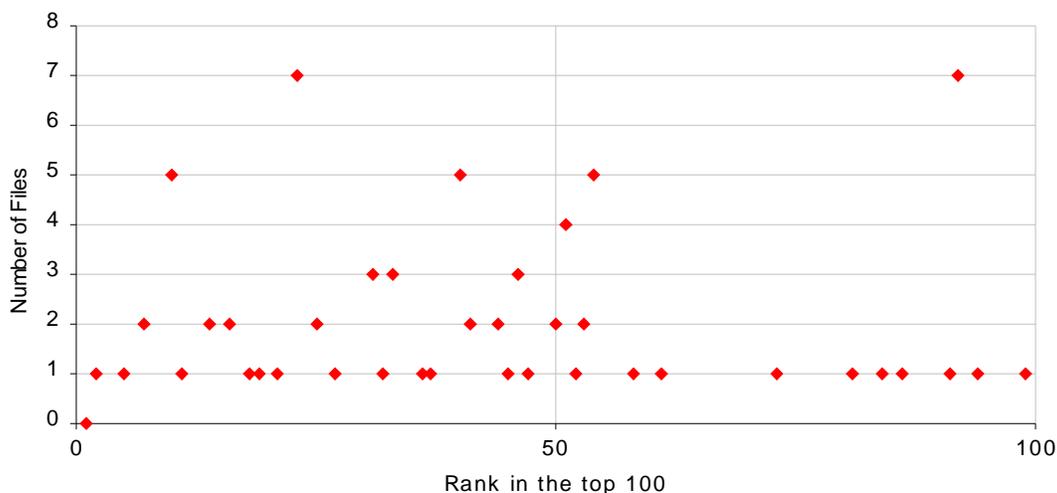
## Over all top 100

Under the specified setting it was possible to download 80 files containing 73 movies. 58 of these movies were complete and 54 were actually useable, meaning that they were marked as good, fair or corrupt as described above. 50 of these movies were the English original, 2 in a French translation, one in Danish and one in Italian. Some of these movies are multiple versions of the same title, so that there were only 40 different feature films at the bottom line. Hence only 40% of the all-time worldwide top 100 movies by box-office were available in the Internet within the setting of my series.

Concerning the distribution among the all-time worldwide top 100 as ranked by box-office the results show that in principle the higher a title is ranked, the higher is the probability that it can be downloaded. Dividing the sample into two equal parts, 65% of the files are attributable to a title between 1 and 50 and only 35% for titles between 51 and 100. The outlier coming in on place 95 is a film from 2004, which very likely has not reached its final position as it is still being shown in cinemas.

Figure 2

Number of Files available by rank of the all-time worldwide top 100 by box office



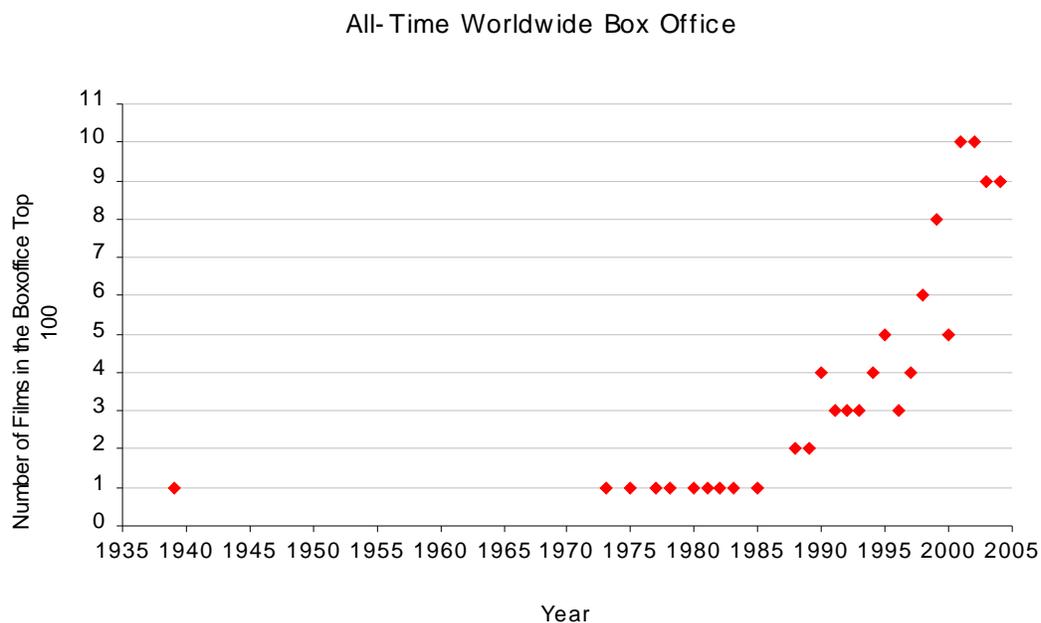
## Timeline

It is assumed that the number of accessible movies will decrease as we go back in time

and popularity. This might seem evident but the sample, chosen for the experiment consist of films that were blockbusters at their time and each and every one of them can be ordered from Amazon<sup>16</sup> in a digital version. To focus on the top sellers should make the limitations to the variety even more apparent.

As we go back in time the number of movies from a certain year is ebbing in this sample. One reason for this trend is that the data are not adjusted to inflation another might be the increasing hegemony of very view distribution and production companies. Figure 3 depicts the number of feature films listed in the all-time worldwide box-office top 100 for a certain year. All movies within this ranking, except the outlier from 1939 (Gone with the Wind – rank 69) are from 1973 or later. From 1988 on there are at least two movies each year within the top 100. More than 50% of all movies in this ranking are produced in 1999 or later and 73% are from the last ten years.

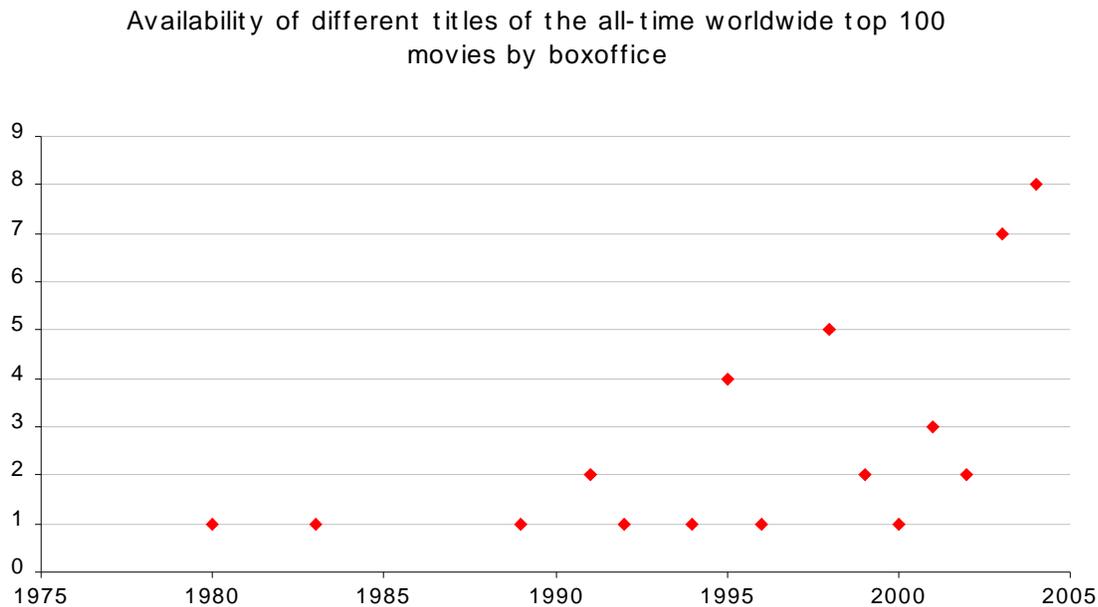
Figure 3



Looking at the availability the effects get stronger. 50% of all feature films, which I managed to download in the series, are from the last four years and 85% were produced within the last ten years.

<sup>16</sup> <http://www.amazon.com>

Figure 4



### ***European Film***

Concerning European film the information from the first experiment is limited as there is not a single exclusively European production among the top 100. To be exact there is not even an exclusively non-US production. To cope with this problem I started a second series exclusively on European films in order to generalise the findings. This series was carried out in the Netherlands and the results are not worth to be depicting in a chart. In the case of Austria not a single movie can be downloaded in full length. The search engine did not find a single file exceeding the required minimum of 500 MB, so that there was no download at all. In the case of Germany and France the search engine found several files coming up to the required size but not a single movie was downloaded successfully. In the case of the Netherlands one feature film was available in a quality that can be marked as fair according to the criteria above.

## Putting the pieces together

From the short introduction to the copyright in the European film industry we can see that the subsidy ratio for feature films is amazingly high but the copyright regime is the same as it were a competitive and commercial branch. Hence the producers work for their own interests with predominantly public money. Thereby the question comes up, who is the legitimate owner of the copyright? Doesn't public funds respectively the taxpayers have legitimate claims to dispose of the movies?

From the legal supply we can see that the world wide top 100 titles are almost completely available and that the availability of the top 10 movies of the four European countries is far less. Furthermore there is a number of European titles that are not edited for the new standard and thus are not available for new equipment.

From the illegal supply we can see that only the commercially most successful movies "make" it to on-line piracy. Hence fighting P2P networks can only be in the interests of a very few production companies in the US. It could be argued that the copyright for these companies and their movies is essential but what about all the others including all the movies in the US which are not ranked at top places by box-office. These movies are obviously not infringed by on-line piracy. Some of them are not even available on DVD or VHS. The value of the copyright of titles that are not available must be zero but there is still an audience for these movies and hence dead weight loss. Furthermore preservation is an issue that is costly for the production company that could be solved by putting certain titles into public domain.

In order to deal with this problem I tried to set up a hybrid model that anticipates the public contract that comes with public money.

## Hybrid Models<sup>17</sup>

As described above the fraction of public funds in the European film "industry" is very

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<sup>17</sup>This Chapter is a revised version of a Chapter in *The Political Economy of Intellectual Property Rights*, Sturn and Stepan (2005)

high. Furthermore it is not only the movie production that is subsidised but also the post production, the expenses to get movies started in cinemas, the process of copying movies, etc. In general we can say that movies are subsidised at every single point in the production and exploitation chain. If titles are not released on DVD/VHS they might be broadcast once but after that they are inaccessible and hence the value of the copyright is zero. This is exactly the point where the internet and the possibilities of distribution coming with it can make a difference. In the following I propose two solutions.

The first approach is a mechanism in the subsidy scheme that forces the applicants to declare whether they plan a commercial movie or not<sup>18</sup>. If it is a commercial project the subsidy has a proportional upper limit that should be far below 90% of the total investment. Applicants opting for this subsidy keep the full copyright. If it is a non commercial project the project is not subsidised but fully financed and the film will automatically be transferred into public domain.

The downside of this approach is that it intervenes directly into the decision making process of producers which movies they will promote. Applying for subsidies they have only two choices; high or low risk projects. Projected movies in between are very likely to be turned down by the funding bodies as they might be too commercial to qualify for a 100% funding. Hence there would only be high risk projects which are fully financed by public funding and very low risk projects that are likely to bring in at least the equity. One could think about a more differentiation and gradations of risk classes but this would make the mechanism very complicated to administer. As the outcome and the commercial success of movies is hardly predictable there is no feasible bases to attach a projected movie to a certain risk class. Consequently the approach to buy out the producers in advance has too many implications on the variety of the set of titles produced. The changes in the subsidies would reduce diversity compared to the status ex ante.

An other problem appears looking at the incentives of producers and distributors. Distributors wouldn't receive any money from the cinemas from the movies in public domain as outlined in the recoupment waterfall as there wouldn't be a way of

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<sup>18</sup> Pleas note that we do not make the distinction between commercial and artistic but only between commercial and non commercial.

contracting. On the producers side there wouldn't be any financial commitment and therefore no stimulus to keep costs down.

Seeing that we had to think of another approach that is much more complex. Thereby we will not intervene into the whole business until the cash flows are dried out. Therefore we will not change the subsidising scheme but introduce a possibility for the public funding bodies to get control over the copyright once it is worthless in a commercial sense. The fulcrum again are the production companies as they are the owners of the IP. Most movies don't even bring in the (calculatory) investment of the producers so that there is a gap between actual costs and income. The funding bodies reserve to themselves to buy the producers out after a certain period of time and transfer the copyright to them and consequently put the movie into public domain.

The suggested approach would not allow for all movies but only for those which do not bring in the equity invested by the producers. Hence we focus on movies that are commercially unsuccessful (even within the European setting) and therefore generate losses for the producers. The funds can make an offer to the production companies in order to reduce their losses and take over the commercially worthless copyright. Looking at the recoupment waterfall neither the cinemas nor the distributors would be worse off, the producers would be better off and the funding bodies have gained not a commercial but a cultural value. By putting the commercially exploited movie into public domain it is not only a provision for a still interested audience eliminating the dead weight loss but also a way of preserving digitised movies as a cultural heritage.

Even if this approach seems to be much more practicable there are still some weak points in it. First there is the question of the right point in time for the transaction. If the public funding bodies would automatically make an offer after a certain time period it would effect the value of the copyright before the transaction. Moral hazard would be another problem that appears if having a fixed procedure. Whenever a movie underachieves producers would relay on the funding bodies to lower their losses and hence apply themselves to other more rewarding projects. And last but not least a mechanism should be introduced in order to set an incentive for producers to exploit their movies as good as possible.

This can easily be done by a formula like the following:

$$\frac{1}{e-i+1}$$

e ... is the percentage of equity of the over all budget

i ... is income generated by the movie as a percentage of the over all budget

Hence, the bigger the gap between equity ratio and income is the bigger is the relative participation for the producer.

The two other problems mentioned above can be solved by not introducing a fixed procedure. The public funding bodies keep the right to make an offer at the earliest three years after the opening night but not at a certain point in time. The offer would be according to the formula above but the funding bodies are not obligated to make one at all. In this way the producers cannot rely on a mechanism that reduces their losses.

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