

# The Internet's Upending of Cultural Industries: The Good, the Bad, and the Ugly\*

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I would like to extend my appreciation for being invited to give the talk here today and give my thanks Françoise and Kazuko for helping organize this conference and my being here. I'm going to discuss some work that I've done. My work that's probably most well known to this group would be on piracy. I will be talking about that but I was asked to discuss some issues as well, particularly the 'long tail' and so I will see how that goes.

Alright, let's see. I wrote a book in 2002 called 'Rethinking the Network Economy' and I pointed out that the Internet basically does one thing which turns out to be very important, which is that it allows the rapid transmission of information; the information we're talking about here consists of cultural entertainment oriented products that people consume. Almost everything that people consume in these big markets is digital. So, for example movies are all digital these days. Music is all digital; music has been digital on CDs since the early mid 1980s. Books are still somewhat incompletely digital; most books are still paperback and hard cover but more and more of them are being made available digitally and it's pretty clear that digital is the future, that it is more efficient, and digital is going to be a great improvement in many ways. But it's not all fun and games and not everything is going to be better, so there's going to be sort of dark side to this digitization. If you go back to the title of this talk, where I was obviously taking it from the "Spaghetti Westerns" of Sergio Leone, there's plenty of good with the Internet but there's also going to be some bad and I'm going to talk about both of them.

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Unfortunately, the main focus of my research has tended to be about the bad side (piracy). But I'm going to start out with the discussion of some of the positive aspects of the Internet, how it affects cultural industries. What we find is that people have access to everything now; what was once referred to as the celestial juke box for music, meaning that everything that anybody's ever composed or performed in terms of music will be available to any consumer anytime they want, is largely what's coming about. The same is going to be true for the written word (with the Google book project obviously helping with that) and the same thing with all the movies and television shows that have ever been produced. They'll all be available at one time and that should be great for the consumer and the traditional retailers are going to largely disappear. They always had very limited inventories because they had to carry physical products and it was costly to carry physical products in stores.

So, obviously consumers should be better off. They're going to have a much bigger choice, a much bigger selection of the products available to them. Anybody who goes to the iTunes website has much more access to music than was imagined by anybody 20 years ago, 25 years ago. Music consumers can get the music almost instantaneously and that's got to be an improvement to be able to say you hear piece of music and you can get it for permanent use okay, both legally and illegally, but instantaneously. It doesn't, however, affect all aspects of culture the same way. Live performances still exist and listeners have to be there in person if it's going to be live, but even those can be distributed much more easily than they could in the past because the internet allows you to essentially have unlimited channels as opposed to television which had a fixed number of channels or satellites which had a fixed number of transponders.

So, again, all these aspects are good for the consumer, so how could anybody have anything negative to say about the

Internet? The answer is that there are going to be instances where the Internet has broken property rights, and that is causing problems for many creators. There's a big debate in the U.S. right now that I sort of missed as I was travelling across the Pacific having to do with a woman from NPR who was talking about her large music collection and the fact that she had purchased almost none of it. Then a musician complained to her about how her behavior was ruining his livelihood. The discussion went somewhat viral.

The first question I want to discuss is whether or not there's going to be greater consumption of these products when the internet makes them so much more available. That I think has been something that has been assumed to be true but in fact we know very little about this and I don't think we have an answer. I don't plan to have a definitive answer to the question of whether or not there's going to be greater consumption when choices increase. Theoretically it's unclear. It's often been thought, when I speak to mainly other economists, that when you give people greater choice that they should be buying more of their product, because the product that they end up getting is better. It is better because if you have more choice you can pick something closer to your taste. But if you think about this question, it turns out that greater choice can cut either way in terms of consumption.

Greater choice can either increase your consumption because the products are a better fit for your taste or decrease your consumption because the products are better fit for your taste. To maybe give you a little insight into why that latter, apparently contradictory, statement might be true, think about what happens if you make candy bars bigger so that each candy bar gives you more candy than it did before and you keep the price of candy bars the same. It's not clear whether or not the consumption of candy bars will go up or down even though each candy bar is better than it was before, because you get satiated more rapidly and need fewer candy bars to fill you up. That's true as well with the consumption of other goods and so it's not clear whether or not the greater choice is going to actually lead to greater consumption. People in these industries would like to know whether or not this greater choice is going to increase demand for their product and the answer is we don't know yet.

I'm not aware of hardly any examination of this issue. I wrote a paper recently with Alejandro Zentner where we try to determine whether or not greater television choice by cable and satellite operators increased viewing time of television viewers compared to when viewers only had over-the-air broadcasters, and our result was that there was no change in viewing caused by the greater choice. In conducting that study we encountered the fact that there was virtually no literature on this subject and so even though we know the consumers are better off and society's better off from the greater choice it is not clear whether consumption increases. The industry itself, the people who are actually creating the works shouldn't expect a gigantic increase and perhaps there may be no increase in terms of the actual amount of the products being consumed. So, that's a bit of disappointment for the creators if that turns out to be true, because I think that creators were hoping for an unleashing of a tidal wave of a new demand for their products and it's not clear that that's going to occur.

There is also some discussion about whether or not the composition of consumption is going to change (the long tail claim) and it does seem pretty clear that if you have access to a whole lot of old works that previously were virtually impossible to get, we would expect the demand for those works, the quantity consumed, and the quantity purchased to actually go up to some extent; that seems pretty clear. The question is how large that increase will be. Again, I don't think we know the answer to it yet. We haven't been involved in this particular experiment with the internet long enough to really know what's going to happen.

There were some studies done particularly the one paper by Brynjolfsson and Smith that takes a look at books. They received data from some online book seller to see whether or not the composition of books that were being consumed and purchased was different than what you will find in typical bookstores. They found that people were much more interested in the obscure books when the books were available and so that would imply that the composition, that consumption would change and it would do so in a way that books that otherwise might not even be purchased would now be purchased to a greater extent. That would also presumably hold true for movies and television programs and all sorts of other

products as well. But they were using data from a very early period, very shortly after Amazon started up and when book-selling on the internet was still really quite new. It is somewhat dangerous to actually use data that is so early in a transition and then to make long term conclusions about consumption in the industry.

So, I don't think that the Brynjolfsson and Smith article made the cases strongly as it could have because they just didn't have the information to. Let me show you one of the problems of using the early samples of data which is something I am more familiar with and have had access to (the Brynjolfsson and Smith data was confidential). One of the other changes that has supposedly occurred in the last few years is the shift from albums (CDs) to singles. This is very well known and the claim is made that consumers were really interested in singles and they were always interested in singles and the reason they were buying CDs and albums was largely because the recording industry wanted to sell them CDs. Certainly it's true that the recording industry was limiting the number of singles available to a great extent and seemed to prefer albums to CDs to the singles. But the question is do consumers really want singles and hardly any albums at all? I think that we're going to find out the answer is 'no'.

The reason for the claim that consumers really only wanted singles was due to the fact that when you looked at the data as to what was being bought on iTunes for the first few years of its existence, singles predominated. You hear this repeated even now because a lot of people aren't updating

themselves on the data but here's what you would see if you take a look. I have a Table giving the digital share of the market in terms of dollars and you can see in 2004, it is less than 2 percent of the market. In 2005 digital sales were 4.5 percent of the market. If you look at the ratio of money spent on singles to money spent on albums (in the digital world), you'll see its 3:1 in 2004 and almost 3:1 in 2005.

So from that result people concluded that consumers mainly wanted singles; some of them wanted albums yet the majority of them seemed to want singles and that's a belief that is still common. But if you take a look at the Table you'll see that the ratio of singles to albums in the digital realm has been changing a lot in the last few years. As digital sales became a larger share of the market you'll see every year the share of albums goes up relative to the share of singles as the market moves more and more towards digital distribution. By 2011, digital sales make up almost 50 percent of the overall market and we're getting pretty close to 1:1 in the digital market between albums and singles.

Okay, my point here is if you use the early data to try to draw conclusions and a lot of conclusions were drawn early on, you could wind up being really wrong. I would be willing to bet money that as this percentage of the market that's digital gets closer to a hundred that the shares in the market would be more albums than singles. So the point is that you have to take account of potential data problems when you're looking at this early on. There is, however, a more recent paper by Zentner and Smith that takes a look at this question. It updates Brynjolfsson and Smith, where Smith is the same guy in both papers and takes account of the problems of the early data and still reaches the conclusion that you are going to find that the long tail does have an effect and more obscure works are chosen. So, it's analogous to this singles versus albums story.

Other questions that people have wondered about was whether or not the Internet will cause small artists to benefit relative to the superstars. There's certainly been a feeling and claims that the Internet was going to democratize the sales of products and that small artists would benefit because it would be easier to distribute their products. The major companies, whether it's record companies or book publish-

Table 1: Digital Albums versus Digital Singles

	digital \$ share of mkt	ratio singles \$ to album \$
2004	1.49%	3.03
2005	4.43%	2.68
2006	8.62%	2.10
2007	15.89%	1.63
2008	26.05%	1.62
2009	34.81%	1.57
2010	43.70%	1.51
2011	49.36%	1.37

ers, would lose some of their power and therefore we would have these smaller artists having a larger share sold and the superstars being less super than they were before. We don't have much evidence on this.

The evidence I was just pointing to, saying that the obscure stuff does have a bigger share, does lend some support to this, but we don't really have much evidence. The one piece of evidence that I am sort of aware of are a couple of papers to take a look to see whether or not piracy helps large superstars or hurts superstars relative to unknowns. There was one paper by Blackburn where he claimed that piracy allowed small artists whose works were pirated to get publicity and become better known and that their sales increased. Certainly when you're up and coming you want to get your name out there whether or not people are paying for your work and his result was consistent with the fact that items that were getting pirated would allow obscure artists to sometimes become well known and that therefore Internet piracy helped the small producers relative to the large producers. A very new paper by a fellow named Hammond, however, has exactly the opposite result.

Using similar data, Hammond finds that piracy helps the established artists relative to the less established artists. In other words, his result was the Internet is magnifying the difference between the superstars and the smaller guy and making the superstars bigger and the small guys smaller. Using the analogy of a pie, he found that piracy caused the superstars get a bigger share than they did before even though the pie itself maybe getting smaller due to piracy which I'll talk about in a few minutes.

Then there's this question of self distribution, it's certainly easier to distribute your works over the Internet. The computer has made it much cheaper to create music and also video and so you can do at home what used to require professional studio with much less expenditure. You can then distribute it yourself. It's relatively easy to put your works out on iTunes. You pay a small amount of money to a company like TuneCore and your works are out there.

So, this self distribution was also naively claimed to help the small guy relative to the big guy. I use the word "naïve"

here because I think that this is again overly optimistic; it's not clear that the new distribution system is going to benefit the small guy and the evidence is not entirely consistent with a democratization of success. The problem that is left out in discussions of self distribution is that someone is going to be playing the role of what I'm calling here the "curator." The person who's helping to define the taste, telling consumers which artists they should in fact be checking out. The record companies have performed that task and the book publishers have performed that task and the movie production companies have performed that task. They have essentially played the role of deciding who they're going to sign, then they go and they help the artists produce their work, and then these curators publicize the work and try to get it brought in front of the eyes and ears of the public. It seems inevitable that someone is going to have to play that role: the public wants to be told where they should look; they don't have the time or energy to be able to look through hundreds of thousands of new works that come out every year. [Now that we have self distribution, say in albums, there are over hundred thousand new albums coming out each year.]

The way it has worked historically is that the people that bring the artists to the public have to get paid for their efforts and the way they were paid, historically, is they got a piece of the revenues that the artists generate. I don't think that curator function is going away, with or without the Internet. With or without traditional record companies, somebody is going to perform that function and what is often forgotten is that if someone is going to play that role they're going to get paid for it just as the record company's got paid and the book publisher's got paid. If someone is going to play that role, and I think someone has to play it, they're going to get paid.

If it is the case that curators are going to get paid and that they are going to get a piece of the revenue that the artists generate, this leads to some other results. Historically what we find is that curators, whether it's book publishers or record companies, predict success very imperfectly. It's not clear anybody can do better because if they could they should have done very well in the market. This means that there are many failures for each great success, and if a curator is trying to pick winners they will pick many losers instead and the failures usually outnumber the successes.

The problem with this is if you can't predict perfectly and you're going to have a lot of failures, you lose money on the failures. Further, it doesn't seem possible to have a system where you're not going to lose money on failures. If you're losing money on failures then the failures must be subsidized by those who are successful if the system is to earn a normal return. So the acts who then become the stars wind up subsidizing those many acts that were chosen incorrectly. That of course means that the winners are going to be unhappy about some of the deals they get because they will rightly say that they're not getting all the revenues they deserve. But that is the way the system has worked and it is not clear how an alternative system would work differently than this unless it is being subsidized by the government. Under the current system stars are never going to get the full amount that they generate and there will always be a certain amount of unhappiness on the part of successful artists for their subsidization of the less successful artists.

In a world where you don't have middlemen, or curators, the better garage bands will never get out of the garage because there's no one there to invest in the resources that it takes to get those garage bands in front of the public. The bands that will get out of the garage are those who can self finance. So, bands made up of members from wealthy families would end up being more successful relative to the unknowns and we would get some difference in terms of which performers are doing better than we do now but it's not clear it's a result that you would want. Now one alternative that might exist, although I am not sure exactly how, is that somehow the consumers pay the curators directly. Magazines, that were more of the literary type magazine, something like the New Yorker perhaps which publishes well-known authors and has a big readership, could try to curate the material. I do not think these magazines take a piece of the future earnings of the authors they were publishing. So, that was the case where the curators were getting directly paid by consumers. But this is somewhat unusual and I do not know how much effort these magazines put into finding new talent. My guess is that it is not very much.

There are T.V. programs that are very popular in many parts of the world where you have the contests to find the top singer or performer. Those companies that are putting on the

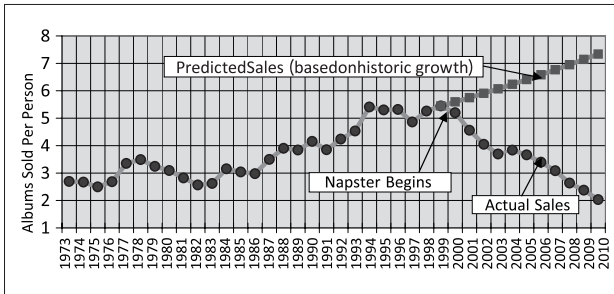
contest are getting advertising revenues from television. So, in a way the consumers or the viewers are paying for the curation being undertaken by the programs to find talent. But all of those programs require the contestants to sign recording contracts (if we're talking about music) giving a piece of their earnings for the next x number of years, to the creators of the television programs. So even though these programs are getting paid by the consumer directly, they still are taking a piece of the revenues, just like the record companies. I'm skeptical that the mechanism of having the artist share their revenues with their curators is going to be changed by the Internet.

Okay, so that's the good side of the Internet? What I view as a bad, and I think a lot of artists do as well, is that the Internet makes it easy to steal digital products. I am talking about piracy, of course. Everyone is familiar with it. Napster was the first famous instance of a program that allowed you to take songs that you weren't paying for. There was a debate then, and there still is something of a debate now, even though I think it is largely settled, on whether or not piracy was really causing harm to the record companies and therefore the artist. The fact is that what's not debatable is that the revenues in the sound recording market have been killed. I mean they've really been decimated and there's a question of whether this will happen to movies and books, particularly as books become digitized to a greater extent, and video games and other digitized products.

Here is a chart that I've been showing and updating for a long time. It goes through 2010. What you have on the vertical axis is the number of albums sold in the United States per consumer in the age group from 15 to 65. When you start out 1973, the year the data begin, sales go up and down and up and down but basically, on average goes up it goes from about two and half albums a person to about five and a half albums a person when you get into the mid 1990s. Napster begins in 1999 at exactly at the same time the industry starts a very large downward decline so that they're actually selling fewer albums per capita in 2010 than they were selling in 1973.

If you would just extrapolate it out the previous 25 years of growth going forward from 1999, you would have had an

Figure 1: US Album Sales (incl dig Singles)



increase in sales from 1999, not a decrease, and so the actual decline that occurred relative to what the past trend implies, is extremely large, and it's not just in the U.S. The next Table shows sales for the ten largest markets, up to 2009, and indicates the percentage declines in revenues for each country. The first chart was units which was essentially CDs, this table provides is revenues and you can see that the smallest fall is in Japan which is about 26 percent and the biggest declines are in Italy and Spain which are about 75 percent. I mean these are just enormous numbers. So that there has been, in every top market, just an enormous decline in sales. When the industry talks about their decline, it's real and in fact the decline that the industry talks about is smaller than the one that's actually occurred. They don't like to tell their shareholders how bad things are, so they keep throwing new numbers in, new sources of revenues to try to make the numbers look better than they actually are.

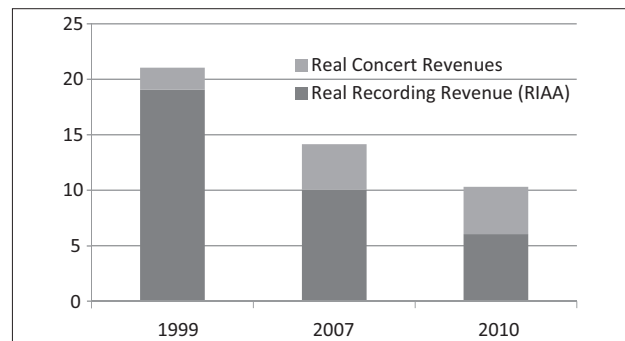
Table 2: Trade (Wholesale) Revenue Change, 1999-2009 (inc ringtn)

	1999 Revenues (inflation adjusted 2009\$)	Nominal 2009 Revenues	% Change
USA	10,826.22	4,562.30	-57.86%
Japan	499,209.03	370,979.74	-25.69%
UK	1,464.48	928.80	-36.58%
Germany	2,036.83	1,046.40	-48.63%
France	1,379.22	622.76	-54.85%
Canada	1,165.96	430.21	-63.10%
Australia	908.72	470.23	-48.25%
Italy	604.22	162.05	-73.18%
Spain	599.83	151.06	-74.82%
Netherlands	345.42	156.11	-54.81%
Switzerland	376.45	186.07	-50.57%

There's been a true claim that concerts can be monetized a lot better than record sales (because concerts cannot be pirated) and therefore there's been a shift away from record sales which are hard to monetize because of piracy, toward concerts. The claim has been made that the revenues from concerts have gone up by as much or more than the revenues from records have gone down and so the total revenues into

the industry have remained relatively constant. That's just not true, however. You might make an argument, although I haven't seen any statistics on this, that perhaps there's a higher percentage of the concert revenues going to the creators than was the case in records. But when you just take a look at revenues there's been a big decline in concerts plus sound recordings as seen in this chart which shows that the combined revenues were \$20 billion in the U.S. in 1999, and its less than \$10 billion now. So, again a very big decline even including concerts and if you want to include performing rights and ring tones which shouldn't be included, because they're really different things, you still get almost the same decline.

Figure 2: Total Revenue, Inflation Adjusted, US



Now we have seen the big decline, they are just numbers and facts, so it is not anything anybody can really object to. The question is how much is due to piracy, and there's obviously there's been a debate. As somebody who's been involved in the academic side of this debate, there has been a very different treatment of results by the media. If you have a result that says that piracy is not responsible for much of that decline, the media just eats it up and magnifies it to the public. If you have a result that says piracy has caused a large portion of the decline, it doesn't get any publicity at all. The result may show up in the academic journals but it doesn't get much publicity.

In 2011 I wrote a paper where I look at all the published academic articles, including those that find harm and those that don't. The large majority find harm. I calculated a metric which is what percentage of the decline that I just showed you was due to piracy, according to the results of the studies. These published studies use data from different years. Some are using European countries, some are using the U.S, some

are using worldwide data, so you get different results but if you take a look compared to the decline that's occurred and whatever the geographic area is that was being used in the study it turns out that almost all the studies have a result where, on average, a hundred percent of the decline is due to piracy, not ten percent or twenty percent, the latter being a figure that is sometimes bandied about. The twenty percent figure that has been bandied about has nothing to do with what percentage of the decline is due to piracy.

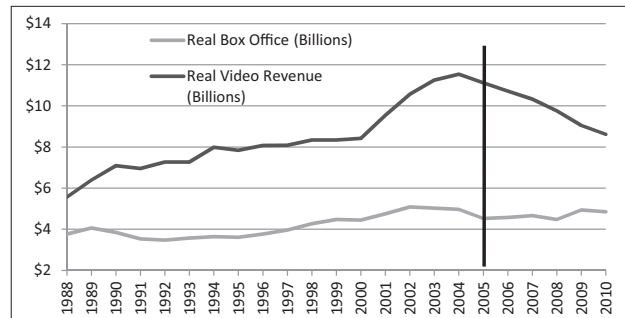
In fact if you take a look, the average result is a hundred percent of the decline is due to piracy. Some find more than a hundred percent which implies that there would have been a growth relative to the starting point, others find lesser than that, but except for two papers that find no result, the smallest result is something in the order of forty percent and the biggest result is something like a hundred and fifty and the average is a hundred, very close to a hundred.

I've also taken a look at the movie industry but I haven't done any direct examination myself, I've just taken a look at the published papers and there may be some papers that I've missed but all the studies I've found, find that piracy has caused harm to the movie industry. Sometimes they take a look at DVDs and sometimes they look at theatrical revenues but they claim their finding is that both of them are harmed and not all these papers are great but they're all finding a similar result.

I put together this chart that I thought would be useful because I haven't seen it put together by anyone else, which is not to say that it may not have been. On the bottom line is movie theatre revenue in constant dollars in the U.S. These are the exhibition revenues and they have gone up somewhat in the last ten years relative to the 1990s. The upper line is the revenue from DVDs or VHS sales. Obviously we're talking about VHS tapes in the 1980s and most of the 90s and then we're talking about DVDs when you get to about 2000 and blu-rays and DVDs now. If you go back to the early 1980s video recorders were just coming on the market. There was a big increase in pre-recorded movie sales and that increase continued through the 80s and 90s and then when the DVDs came out there was a big jump but that has all come to an end and there's been a decline in prerecorded

movie sales even though there's no decline in theatrical release.

Figure 3 : History Of U.S. Movie Revenues;  
Box Office and Video (billions \$1983)



It is possible to tell a general story based on this data which of course would never convince an economist but is at least suggestive. What you have to remember is that the pirated movies that are available are going to be close substitutes for DVDs, because you watch them at home on the television and they're on some physical disk or whatnot which is something like a DVD.

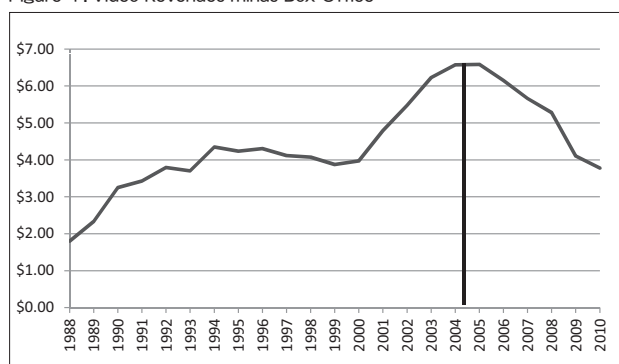
The theatrical experience is quite different. A pirated movie, even though it comes out perhaps at the same time as the theatrical exhibition is not a particularly good substitute for seeing it in theatres. The experience in the theatre is considerably different even though it can be less so now if people have big high definition televisions, although that is a relatively recent phenomena. So I would expect that if piracy was having an impact it would impact the DVDs considerably more than it would the theatrical exhibition and that seems to be what we're finding. That's what the studies are finding and that's also consistent with this what we're seeing here.

The question is whether this is going to be part of a big long decline that continues on for another 10 or 15 years and what kind of shape the movie industry will be in. Obviously the movie industry, seeing what has happened to the recording industry, are totally freaked out and they are trying to convince the legislators in various countries to try to adopt changes in legislation to make it hard for people to make pirated copies.

I was told in an email just before I arrived that there's a new law in Japan that is going to somehow punish pirates more severely than was the case before. In France, they've adopted a law and there's actually a research paper that has examined the impact of the law in France to see whether or not it was reducing music piracy. The claim from the paper on the French law is that it is reducing piracy and it is increasing sales but that's only one paper and it's not clear you can draw a general conclusion from that yet.

With movies the decline that has occurred is big but still not that big. I think we're taking a look at something in the order a decline from about \$6.50 to \$4 dollars per person in prerecorded movie sales.

Figure 4: Video Revenues minus Box Office



That would imply that if in fact DVD sales are showing us the future direction, and if this is due to piracy, it's starting to have a fairly big impact on the movie industry. Fortunately for them they do have other forms of distribution that are less prone to be impacted by piracy. So, selling rights to television for example or selling rights to pay television such as HBO is somewhat less likely to be impacted just as theatrical distribution should be somewhat less impacted. I should mention, however, that even though the theatrical distribution sales haven't gone down, the studies have looked at piracy in theatrical distribution do claim that theatrical distribution has been hurt which just means there would have a larger increase in exhibition revenues than has actually occurred.

So that takes us pretty close to the end and you know when I decided I should try "the good, the bad and the ugly" as a title, it was because I was really interested in the good and

bad, I wasn't sure if there was anything to say about the ugly. I wasn't sure whether piracy should be bad or ugly. I made it bad, but then I was left with the "ugly."

It turns out that there is one thing in literature that I can talk about which I think is ugly. I won't talk about it for very long because it's something that academics tend to find distasteful and don't want to discuss. Piracy research elicits very strong feelings among the academics who are engaged in the research and even more so among the public at large which is one of the reasons I think that certain results get magnified by the media a lot more than other results. You know that's you're going to find the same factors at work in macroeconomics since it is so closely tied to politics, and discussions about the distribution of income and the distribution of wealth. There are a lot of strong feelings involved in all of it but I'm familiar with the literature here. Even though there are strong feelings, I think it's important to try to still be straightforward with readers. In our academic papers we are supposed to be trying to get to the truth, even though we have prior beliefs. Nevertheless, I have concluded that some researchers in this area are not being in forthright, that they are altering their results, and presenting intentionally misleading results to reach conclusions that they like.

If you go and look at my papers, you will know who I'm talking about. I'm not going to talk about them right now but I actually think there's more than just one group of people. I think that there's been a little bit too much self interest, if you will, in some of these and so I just wanted to sort of end the talk by basically saying that even if we have strong feelings one way or the other, I think we should all try to fairly present the other side's position, the weaknesses of our evidence as well as the strength and just try to be somewhat fair. And it may not be that unusual for outright dishonesty to arise, but I was sort of a bit surprised when I was encountering it. So, that's the "ugly" and let's try to avoid that in our work.

That's my talk.