Copyright Enforcement in the Digital Age: Empirical Economic Evidence and Conclusions

Dr. Brett Danaher   *   Dr. Michael Smith   *   Dr. Rahul Telang
Primary Impacts of Digitization on Entertainment

- Lowered costs of production in media industries
- Created new opportunities for distribution and promotion
- Eroded the effective strength of copyright
  - Filesharing/piracy
Three Empirical Questions About Internet Piracy

▪ Has Internet filesharing displaced sales and revenues in the media industries?

▪ Do revenues lost to filesharing reduce incentives to create new artistic works?

▪ What strategies or policies are effective in mitigating the effect of filesharing on revenues?
Three Empirical Questions About Internet Piracy

- Has Internet filesharing displaced sales and revenues in the media industries? **YES**
- Do revenues lost to filesharing reduce incentives to create new artistic works? **STILL IN QUESTION**
- What strategies or policies are effective in mitigating the effect of filesharing on revenues? **TODAY’S FOCUS**
Does Piracy Displace Media Sales?

Number of Peer Reviewed Published Studies

<table>
<thead>
<tr>
<th>Modern Digitization of Media</th>
<th>VHS Piracy in Bollywood 1985-2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced revenues from piracy + Cost saving digital technologies</td>
<td>Reduced revenues from VHS piracy + Weak IP enforcement + No reduction in production costs</td>
</tr>
<tr>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>No decline in # or quality of music and movies</td>
<td>Significant decline in # and quality of films made</td>
</tr>
</tbody>
</table>

Sources: Waldfogel (2012), Aguiar and Waldfogel (2015)  
Source: Telang and Waldfogel (2014)
How to Mitigate the Impact of Piracy

▪ Strategies that make legal content more attractive, for example:
  ▪ Availability and convenience of legal alternatives
  ▪ Timing of legal alternatives (shorter windows / delays)
  ▪ Pricing of legal alternatives

▪ Policies that make illegal content less attractive, i.e. enforcement:
  ▪ Piracy site shutdowns
  ▪ Blocking of piracy sites
  ▪ Increasing threat of piracy detection and penalties
Antipiracy Enforcement Can Influence Consumers

- Demand-side policies can be effective
  - HADOPI in France caused digital music sales to increase by 25%
  - IPRED in Sweden increased caused music sales to increase by 36% for six months, after which lax enforcement led to a return to pre-IPRED sales levels

Antipiracy Enforcement Can Influence Consumers
The Effect of HADOPI on French Digital Music

Antipiracy Enforcement Can Influence Consumers

- Supply side policies can be effective, depending…
  - Shutdown of Megaupload caused a 6.5-8.5% increase in digital movie revenues
  - UK blocking of The Pirate Bay dispersed piracy to other sites, no increase in paid legal streaming
  - UK blocking of 19 piracy sites in November 2013 significantly reduced piracy, increased usage of paid legal streaming by 12%
Antipiracy Enforcement Can Influence Consumers Site Blocking in the UK

Pirate Bay Site Block - Ineffective

19 Simultaneous Site Blocks - Effective

Antipiracy Enforcement Can Influence Consumers

Summary

- Demand side policies targeting consumers are effective when consumers perceive penalties will be enforced.

- Supply side policies targeting sites are effective when content is fully removed (Megaupload) or when enough sites are blocked to make piracy inconvenient.
Firm Strategies Also Influence Consumers

▪ Availability / convenience of legal content reduces piracy
  ▪ Removal of NBC tv shows from iTunes increases piracy of those shows
  ▪ Addition of ABC shows to Hulu also reduced piracy of those shows

▪ Shorter international DVD windows (time between US and foreign DVD release) reduces piracy, increases sales

▪ Demoting piracy links in search engine results shifts consumer behavior toward legal channels

Firm Strategies Also Influence Consumers

Piracy of NBC Content Before and After Removal from iTunes

Firm Strategies Also Influence Consumers
Field Experiment Manipulating Search Results

<table>
<thead>
<tr>
<th>Condition</th>
<th>n</th>
<th># Legal option</th>
<th>% Legal option</th>
<th>Average price (conditional on legal copy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition 1: No manipulation</td>
<td>60</td>
<td>48</td>
<td>80.0%</td>
<td>$9.80</td>
</tr>
<tr>
<td>Condition 2: Legal manipulation</td>
<td>71</td>
<td>67</td>
<td>94.4%</td>
<td>$9.89</td>
</tr>
<tr>
<td>Condition 3: Infringing manipulation</td>
<td>65</td>
<td>37</td>
<td>56.9%</td>
<td>$9.93</td>
</tr>
</tbody>
</table>

Strategy and Policy Together Are Optimal

Carrot + Stick
Strategy and Policy Are Optimal Together

- Firm strategies to make content more attractive are less meaningful if copyright is not enforced
  - It’s hard to “compete with free”

- Antipiracy enforcement will be less effective if content is not available, not convenient, delayed, or prohibitively priced
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