International Copyright Transactions:

Recent Copyright Law Developments
Around the World and
Their Impact on Licensing and
Protection of US Works

Business Background: Movies and TV
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Twentieth Century Fox

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DATA ON LEGITIMATE FILM AND TV CONSUMPTION (THEATRICAL AND HOME ENTERTAINMENT)
Box Office Data (all films)

Global Box Office – All Films (US$ Billions)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>% Change² 17 vs. 16</th>
<th>% Change² 17 vs. 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S./Canada³</td>
<td>$10.9</td>
<td>$10.4</td>
<td>$11.1</td>
<td>$11.4</td>
<td>$11.1</td>
<td>-2%</td>
<td>2%</td>
</tr>
<tr>
<td>International⁴</td>
<td>$25.0</td>
<td>$26.0</td>
<td>$27.3</td>
<td>$27.4</td>
<td>$29.5</td>
<td>7%</td>
<td>18%</td>
</tr>
<tr>
<td>Total</td>
<td>$35.9</td>
<td>$36.4</td>
<td>$38.4</td>
<td>$38.8</td>
<td>$40.6</td>
<td>5%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Box Office Data (all films)

International Box Office by Region – All Films (US$ Billions)

<table>
<thead>
<tr>
<th>Region</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>% Change 17 vs. 16</th>
<th>% Change 17 vs. 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe, Middle East &amp; Africa</td>
<td>$10.9</td>
<td>$10.6</td>
<td>$9.7</td>
<td>$9.6</td>
<td>$10.1</td>
<td>4%</td>
<td>-8%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>$11.1</td>
<td>$12.4</td>
<td>$14.2</td>
<td>$15.0</td>
<td>$16.0</td>
<td>6%</td>
<td>44%</td>
</tr>
<tr>
<td>Latin America</td>
<td>$3.0</td>
<td>$3.0</td>
<td>$3.4</td>
<td>$2.8</td>
<td>$3.4</td>
<td>22%</td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>$25.0</td>
<td>$26.0</td>
<td>$27.3</td>
<td>$27.4</td>
<td>$29.5</td>
<td>7%</td>
<td>18%</td>
</tr>
</tbody>
</table>
Home Entertainment Data (all titles)

Global Home Entertainment Consumer Spending (US$ Billions)
Source: IHS Markit and Digital Entertainment Group

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>17 vs. 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>International</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>$18.12</td>
<td>$15.59</td>
<td>$11.92</td>
<td>$10.51</td>
<td>$8.85</td>
<td>-16%</td>
</tr>
<tr>
<td>Digital</td>
<td>$5.81</td>
<td>$7.47</td>
<td>$9.12</td>
<td>$10.51</td>
<td>$18.46</td>
<td>41%</td>
</tr>
<tr>
<td><strong>U.S.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>$11.64</td>
<td>$10.26</td>
<td>$9.08</td>
<td>$8.04</td>
<td>$6.83</td>
<td>-15%</td>
</tr>
<tr>
<td>Digital</td>
<td>$6.49</td>
<td>$7.65</td>
<td>$8.96</td>
<td>$11.43</td>
<td>$13.66</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$42.06</td>
<td>$40.97</td>
<td>$39.08</td>
<td>$43.08</td>
<td>$47.80</td>
<td>11%</td>
</tr>
</tbody>
</table>
FILM PIRACY
PERCENTAGES, VOLUMES
AND METHODS
ACROSS 20 MAJOR MOVIE MARKETS WORLDWIDE:

• Year after year, the ratio of unofficial (pirate) to official (legitimate) movie consumption varies widely from country to country (from as low as 1:5 to as high as 2:1)

• But individual countries show large year-on-year changes:
  • Dramatic drop last year: China, France, Poland, Argentina, Thailand
  • Modest drop last year: Italy, Russia, Vietnam
  • Dramatic drop in 2016, flat since: India
  • Steady drop over last few years: Germany, Spain, Mexico, Brazil
  • Flat to down slightly: US, UK, Sweden, South Korea, Australia
  • Dramatic increase last year after falling previously: Canada
ACROSS 20 MAJOR MOVIE MARKETS WORLDWIDE:

• Year after year, total consumption of pirated movies also varies widely from country to country, both in absolute terms and per capita.

• But again, individual countries show large year-on-year changes:
  • Dramatic drop last year: France, Poland, Argentina, Thailand
  • Modest drop last year: Italy, Russia, Vietnam
  • Dramatic drop in 2016, flat since: India
  • Steady drop over last few years: Germany, Spain, China, Mexico, Brazil
  • Flat to slightly up or down: US, UK, Sweden, South Korea
  • Dramatic increase last year after falling previously: Canada, Australia, India
Despite increased availability of legitimate content and some encouraging downward trends, piracy of film and TV content remains very popular.

Like legitimate viewing, pirate viewing is switching to streaming.

Use of pirate apps and STBs to stream pirated content is the fastest growing threat.
PIRACY CONVERSION OPPORTUNITIES
CONVERSION TARGET AUDIENCE (GLOBAL)

Logan: Global P2P Piracy

Source: Irdeto P2P Data
CONVERSION TARGET AUDIENCE (LOCAL)

Logan: South Korea P2P Piracy

By one measure, there were 1.3M P2P downloads of the SPVOD version in S. Korea prior to the first availability of another high-quality version, vs. 1.2M P2P downloads of lower-quality camcord versions.

Source: Irdeto P2P Data
Kingsman 2: South Korea P2P Piracy

By one measure, there were 43.2K P2P downloads of the lower-quality camcorder versions in S. Korea prior to the first availability of a high-quality version. The first high-quality version ripped 23 days after SPVOD release, from a non-SPVOD source.

Source: Irdeto P2P Data
THE USE OF FORENSIC WATERMARKING AS AN ANTI-PIRACY TOOL
In early 2014, Fox began distributing its films digitally in South Korea just after the local theatrical window and prior to other territories, including the US:

- Now up to 32 releases and counting
- Most of the other Hollywood and local content providers also participate
- Business model is referred to as “Super Premium VOD” or “SPVOD”

To limit the damage both within and outside Korea from pirating of high-quality SPVOD files, Fox and other studios have required local distributors to implement new content protection requirements.
WATERMARKING CASE STUDY IN KOREA

Session-Based Watermark

Pre-Roll Warning Card

Burned-In Korean subtitles
### EARLY WINDOW RESULTS

<table>
<thead>
<tr>
<th>COLOR Source Description</th>
<th>High Quality Piracy Free (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-SPVOD HQ rip BEFORE SPVOD window</td>
<td>54</td>
</tr>
<tr>
<td>Non-SPVOD HQ rip AFTER SPVOD window</td>
<td>29</td>
</tr>
<tr>
<td>Non-SPVOD HQ rip DURING SPVOD window</td>
<td>33</td>
</tr>
<tr>
<td>SPVOD rip DURING SPVOD window</td>
<td></td>
</tr>
</tbody>
</table>

#### Source Description
- Non-SPVOD HQ rip BEFORE SPVOD window
- Non-SPVOD HQ rip AFTER SPVOD window
- Non-SPVOD HQ rip DURING SPVOD window
- SPVOD rip DURING SPVOD window

**Movies:**
- Secret Life of Walter Mitty
- Walking with T; Insomnia
- Rio 2
- X-Men DOFP
- Exodus: Gods and Kings
- Birdman
- Taken 3
- Kingsman
- Spy
- Fantastic Four
- Maze Runner
- The Martian
- Peacemaker
- Revenger
- Deadpool
- Edie the Eagle
- X-Men Apocalypse
- Independence Day: Resurgence
- Ice Age: Collision Course
- Minions
- Assassin's Creed
- Logan
- Alien Covenant
- Planet of the Apes
- Kingsman: The Golden Circle
- Murder on the Orient Express
- Ferdinand
- The Greatest Showman
- The Death Cure
- Red Sparrow
13 of Fox’s 32 SPVOD releases in Korea have not resulted in an early-window pirate source*

Of the 19 SPVOD releases that have resulted in an early-window pirate source, the appearance of these sources on the public Internet has been delayed on average almost 9 days after their release dates

--Meaning that there was no competing high-quality pirate source for that length of time, either in Korea or elsewhere

--By comparison, standard VOD/EST releases result in a competing high-quality pirate source almost immediately upon release

So far, 6 individuals have received criminal penalties for uploading pirated SPVOD sources, and additional investigations are pending

--As more cases are brought that result in penalties, the deterrent effect should logically increase

*Note: 7 of these 13 titles did have other high quality pirate sources (screener, disc, DHD or non-Fox-released VOD) before the early window release—but 6 did not