

# Competing With Free: The Effect of Post-Release Movie Piracy on Box-Office Revenue

National Research University Higher School of Economics, Russia

Dmitriy Leont'ev, dileontev@gmail.com

Irina Shafranskaya, ishafranskaya@hse.ru

Evgeniy Ozhegov, eozhegov@hse.ru

# Literature Review

Piracy can benefit a copyright holder:

- As a form of product sampling (Gupta et al., 2004)
- When network effects are strong (Conner & Rumelt, 1991)
- By creating switching costs (Conner & Rumelt, 1991)



# Piracy in Motion Picture

	Negative Effect	No Effect
Secondary Data	Danaher and Waldfogel, 2012 Smith & Telang, 2012	Zentner, 2012 Smith & Telang, 2009
Surveys	Rov & Waldfogel, 2007 Henning-Thurau, Henning, & Sattler, 2007	Bounie, Bourreau, & Waelbroeck, 2006



# Research Questions

Is going to the movies substitutable by watching a pirated version of a high quality at home?

Which movie characteristics influence various types of movie consumption?



# Data Collection

400 observations

Jan 2010 - Jan 2013

4 open sources

- IMDB.com and Kinopoisk.ru: movie characteristics
- Kinokopilka.tv: information on piracy activities
- Boxofficemojo.com: box office revenues



# Empirical Strategy

$$\begin{cases} y_{1i} = X_{1i}b_1 + y_{2i}u_{12} + e_{1i} \\ y_{2i} = X_{2i}b_2 + y_{1i}u_{21} + e_{2i} \end{cases}$$

## Explanatory Variables

Awards (All, Academy, MTV, Festival, Etc)

3D

Genre

Release Dates (Russia, World)

Releases (DVD, BRD), Release Differences (DVD, BRD)

Box Office (Russia, World)

Audience

Ratings (Critic, Kinopoisk, IMDB)

Budget

Star Power

Top 250

HD

Downloads



# Results

## BOX-OFFICE (RUSSIA)

Parameter	Estimate/Coef
Awards_Mtv	-737286 (**)
Awards_Etc	-166280,3 (.)
3D	4752126 (***)
Box-Office (World)	0,0313617 (***)
Critic Rating	-32343,13 (*)

R-squared: 0,7651. P=0.

## DOWNLOADS

Parameter	Estimate/Coef
Box-Office (Russia)	0,000464 (***)
Rating (IMDB)	2951,669 (***)
Release_DVD_Diff	-97,02245 (***)
Release_BRD_Diff	40,04797 (***)
HD	3377,841 (***)

R-squared: 0,4938. P=0.

The significance of the estimates are denoted by the following codes:

<0,0001: «\*\*\*», <0,001: «\*\*», <0,01: «\*», <0,05: «.».

No evidence of substitution effect was found



# Limitations

- The intensity of downloads is not absolute
- The number of movie consumption options is not complete

# Implications

Real time bidding online advertising platforms





**QUESTIONS AND COMMENTS  
ARE WELCOME**