

Thesis Abstract

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Quantifying the Heterogeneous Effects of Piracy on the Demand for Movies (Job Market Paper)

The debate on digital piracy has attracted significant public attention. An accurate estimate of the loss due to piracy relies crucially on correctly identifying the substitution between pirated and paid consumption. Using a novel dataset of downloads collected from the BitTorrent network, I estimate a random-coefficient logit demand model of movies to quantify the effect of movie piracy on movie revenue from two distribution channels: box office and DVD sales. I allow piracy to have potentially positive effects on sales through word of mouth (WOM). Counterfactual results reveal that digital piracy has different effects on different channel of sales. When all piracy is removed, US box office revenue will only increase by 2.71% (\$ 231 million) while US DVD sales will increase by 36% (\$ 527 million) over 40 weeks in 2015. In addition, the effects on sales differ substantially by quality of pirated videos. On the one hand, high-quality piracy have stronger substitution effects on sales and are mainly responsible for the lost sales. On the other hand, positive WOM promotional effects on sales from low-quality piracy outweigh its negative substitution effects. Lastly, the positive WOM effects from all pirated consumption have moderate contributions to the industry revenue amounted to \$ 68.7 million over 40 weeks in 2015.

Will the Leak Sink the Ship? Screener Leaks and the Impact of Movie Piracy

Screeners are movie copies sent to critics and industry professionals for evaluation purposes. Sometimes screeners are leaked accidentally and made available to download on the Internet. This paper exploits the plausibly exogenous variation of file sharing/piracy activities caused by screener leaks of Oscar nominated movies to estimate the impact of movie piracy on box office revenue. Using information on leak dates collected from *thepiratebay.org*, I employ a difference-in-difference strategy to identify the causal effect of piracy on movie box office. The paper finds two interesting results. First, screener piracy caused by leaks reduces the box office revenue of the leaked movie in subsequent weeks by 29.8% on average. However, the negative impact on total box office is to a large extent moderated by the late occurrence of leaks. Second, there are significant negative indirect effects on other movies: An additional contemporaneous leak lead to a 3% decrease of box office revenue of

other leaked movies.