



Graduated response policies to digital piracy: Do they increase box office revenues of movies?☆



Jordi McKenzie

Department of Economics, Macquarie University, Building E4A, North Ryde, NSW 2109, Sydney, Australia

ARTICLE INFO

Article history:

Received 14 August 2015
Revised 22 November 2016
Accepted 19 December 2016
Available online 21 December 2016

JEL classification:
L82

Keywords:

Graduated response policy
Digital piracy
Movies

ABSTRACT

This study investigates the impact of six countries' graduated response policies to digital piracy—sometimes referred to as 'three-strike' policies—on film-level theatrical box office revenues. Applying a quasi-three-way effects difference-in-difference model, no compelling evidence of increasing revenues is observed in any of the markets considered. This finding brings into question the efficacy of graduated response laws if one of the primary objectives is to increase sales in legitimate markets.

© 2016 Elsevier B.V. All rights reserved.

1. Introduction

At present, governments across the developed world are facing increasing pressures from owners of copyrighted content (e.g. music, film, television, games and software) to introduce policies preventing the unauthorised reproduction of these products via the internet. To date, France, South Korea, Taiwan, and New Zealand have all passed 'graduated response' (aka three-strike) policies into law, with a number of other countries actively considering their introduction. With the cooperation of Internet Service Providers (ISPs), these laws provide means to identify and ultimately punish individuals repeatedly detected downloading copyrighted content.

Although the specifics of each country's laws differ, the common objective is a system under which individuals identified downloading content illegally are initially cautioned about their behaviour and informed that future detection will lead to fines and/or (possible) restrictions of internet services. Beyond this group, other countries (US, UK and Ireland) have introduced voluntary schemes between ISPs and copyright holders, which aim more

to educate, rather than punish, illegal downloaders—although repeat offenders may be faced with technical punishments such as lower internet speeds.

While graduated response policies have received almost universal support from the content industries, other groups have strongly opposed them due to privacy and civil liberty concerns. From an economic point of view, it is not obvious that such policies are socially desirable as economic theory can show increases in enforcement to be welfare reducing and increase prices of legal content.¹ Moreover, there is also emerging evidence that the laws don't actually deter the activity and simply lead to more sophisticated downloading behaviour using technologies other than peer-to-peer (P2P) file-sharing services (Alcock and Nelson, 2012; Arnold et al., 2014).

Rather than ask whether the laws reduce piracy activity, more appropriate questions might be whether their introduction has had any measurable effect on legal sales in the content industries, and whether there has been a flow-on effect to innovation. Over the last decade or so, there has been an accumulation of empirical research investigating relationships between piracy and (potentially lost) sales in legitimate markets—for example, Liebowitz (2006), Rob and Waldfogel (2006), Rob and Waldfogel (2007), Oberholzer-Gee and Strumpf (2007), Bhattacharjee et al. (2007), and McKenzie and Walls (2016).²

☆ I am grateful for comments of participants at the 16th Mallen Economics of Filmed Entertainment Conference, Yale University, November 2014; 90th Annual Western Economic International Conference, Honolulu, July 2015; RMIT Graduate School of Business and Law seminar series, Melbourne, September, 2015; and the 85th Southern Economic Association Annual Conference, New Orleans, November, 2015. I also thank Sunny Shin for excellent research assistance. Finally, I thank an anonymous Reviewer and the Editor, Lisa M. George, for valuable comments. All errors are my own.

E-mail address: jordi.mckenzie@mq.edu.au

¹ The technical appendix to Ergas and Fels (2014) provides one such simple exposition.

² Dejean (2009) and Smith and Telang (2012) provide useful surveys on empirical studies of piracy.

More recently, research investigating the same question using quasi-natural experiments has also provided interesting and mixed findings. Papers by [Danaher and Smith \(2014\)](#), [Danaher et al. \(2014\)](#), [Adermon and Liang \(2014\)](#), [Orme \(2014\)](#), [Aguiar et al. \(2015\)](#), and [Peukert et al. \(2015\)](#) provide examples. [Danaher and Smith \(2014\)](#) examine the effect of the shutdown of Megaupload on digital sales and rentals of three major movie studios across 12 countries and find the closure of the illegal site boosted legitimate sales by 6.5–8.5%. Using the introduction of France's HADOPI law, [Danaher et al. \(2014\)](#) examine the impact on iTunes music sales against a set of European control countries. Their estimates suggest the introduction of the law increased legal sales by 22–25%.

[Adermon and Liang \(2014\)](#) study Swedish copyright reform effects on internet traffic and music sales. They find internet traffic decreasing by 16% and sales increasing by 36%, but also show the effect dropping off entirely after approximately six months, which they attribute to weak enforcement of the law. [Orme \(2014\)](#) investigates the passing of anti-piracy policy in the US and finds four of the six policies considered ineffective in the long run in a study of weekly theatrical box office revenues.

[Aguiar et al. \(2015\)](#) find a short-lived decrease in piracy due to the shutdown of a major German streaming service, which suggest a high elasticity of substitution in piracy technologies. [Peukert et al. \(2015\)](#) also study a supply-side intervention, related to the shutdown of Megaupload, and its impact on box office revenues. While they observe a (counter-intuitive) decline in average box office revenues as a result of the shutdown, they show this is not the case for all types of movies as wide-release films actually benefit. They attribute this finding to different word-of-mouth interactions for different types of movies.

This study also makes use of a quasi-natural experiment by analysing the effects of introduced graduated response policies on theatrical box office sales across six countries. Specifically, these include the five countries that have, to date, legislated graduated response laws (France, Korea, New Zealand, UK and Taiwan) as well as the recent private/voluntary arrangement of the US.³ This study contributes to the extant literature by investigating this specific type of policy intervention in all countries wherein they have been implemented and in arguably one of the most important industries in terms of economic value.

The estimation procedure is a quasi-three-way effects difference-in-difference model where the units of observation are individual film revenues. The identification strategy uses film fixed effects, in addition to time and country dimensions, to capture unobserved (correlated) tastes for movies in different markets. This approach is preferable to using time-series data as revenues at the individual film level are more correlated across markets than are they are in a time series dimension—for example, market-level total weekly sales.

As typical of difference-in-difference models analysing a policy intervention, the treatment variable is a (time) dummy variable specific to the date at which the policy is introduced in the specific focal market, with a group of other countries that have not had the policy introduced serving as the control group.⁴ However, identification is not based explicitly on the time-series dimension and associated requirement of correlated time paths, rather it relates to the assumption of correlated film preferences across markets

with country-specific controls for opening week screens/theatres, month-of-release, and trends.

Therefore, the estimation attempts to establish if 'average' film revenues have increased as a result of introduced policies rather than whether 'average' (for example) weekly total box office sales have increased, which might be considered a more conventional application of (two way effects) difference-in-difference method in this context. Although correlated preferences play an important role in helping to identify (possible) policy effects, this is not to suggest that a title-for-title restriction is imposed between legal and illegal consumption. As detailed below, films are implicitly treated as differentiated products, which may substitute each other within and across platforms.

The remainder of the paper is organised as follows: [Section 2](#) provides a brief history of graduated response policies specific to countries analysed; [Section 3](#) describes the film-level data set; [Section 4](#) describes the quasi-three-way effects difference-in-difference and pooled models used in the formal analysis; [Section 5](#) discusses identification of the estimation strategy; [Section 6](#) presents results; [Section 7](#) provides a discussion of the results and robustness checks; and finally, [Section 8](#) concludes.

2. Brief history of graduated response policies

Graduated response policies have been introduced in a number of countries, and are under consideration by a number more, as means by which to reduce the unauthorised reproduction of copyrighted content over the internet and protect/increase sales in legitimate markets. Under a graduated response system, copyright holders monitor illegal downloading of their content and submit evidence of infringement to ISPs, who in turn convey information of the infringement to the offending subscriber.⁵

Although policies differ between countries with respect to administering authorities, record-keeping requirements, definition of offence, and punishments imposed, all share some common features in what is often termed the 'three-strikes' approach. Specifically, an individual determined to be infringing copyright is alerted as a first step, warned about the consequences of continuing the action as a second step, and finally enforcement action of some description is taken as a third and final step—although, as detailed further below, the US system differs from this three-strike approach with (up to) a six-step approach. Punishment may include fines, speed-throttling, data limits, and suspension of service.

Graduated response policies, while being a relatively recent addition to the broad collection of laws concerned with protection of copyright, have proven controversial in a number of the countries where they have been introduced. There have been numerous legal challenges and most have required significant reform to the originally proposed bills. Although full discussion of all legal and academic issues surrounding each of the policies is well beyond the scope of this paper, an excellent survey is provided by [Giblin \(2013\)](#) and the interested reader is accordingly directed. Borrowing from [Giblin's](#) study, a brief discussion of the laws as they affect the countries under consideration in the present analysis follows.⁶

³ As discussed further below, although the UK have formalised the legal framework to be applied, to date the law does not explicitly provide for the graduated response system that since July 2014 is being trialled as a voluntary scheme similar to that of the US.

⁴ Difference-in-difference models have been used widely in applied economic research in a variety of contexts. See, for example, [Angrist and Pischke \(2009\)](#), [Blundell and Dias \(2009\)](#), and [Imbens and Wooldridge \(2009\)](#) for extensive surveys of applications.

⁵ Typically, content owners employ the services of companies that specialise in monitoring P2P networks (and other channels) for downloading activity. Reports include time-stamped information on the file downloaded and the user's IP address. The copyright holder then provides the information to the ISP who in turn issues the infringement notice on the copyright holder's behalf. Failure of ISPs to comply with such instruction has been the source of a number of legal cases including Ireland and Australia.

⁶ The discussion is also complemented with information from the 'Graduated-response.org' website, available at <http://graduatedresponse.org/new/>.

Download English Version:

<https://daneshyari.com/en/article/5075647>

Download Persian Version:

<https://daneshyari.com/article/5075647>

[Daneshyari.com](https://daneshyari.com)