Information Economics and Policy 32 (2015) 58–64

Contents lists available at ScienceDirect

Information Economics and Policy

journal homepage: www.elsevier.com/locate/iep

"Selling Out" and the impact of music piracy on artist entry ☆

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ARTICLE INFO

Article history:
Available online 29 July 2015

JEL classification:
D03
K11
L82

Keywords:
Copyright
Piracy
Music
Digitisation
Hyperbolic discounting
Time inconsistency

ABSTRACT

There is a puzzle arising from empirical analyses of the impact of music piracy that this has caused declines in music revenue without a consequential decline, and perhaps even an increase, in the entry of artists and the supply of high quality music. There have been numerous explanations posited and this paper adds a novel one: that artists are time inconsistent and hence, tend to underweight fame over fortune when making future choices; i.e., the degree to which they will 'sell out.' Regardless of whether selling out is anticipated or not, the puzzle is resolved. When selling out is not anticipated, future expectations of piracy are not a concern as these only impact on monetary awards that are not driving entry. When selling out is anticipated, piracy actually constrains the degree to which artists sell out, and assured of that, raises entry returns. Implications and the role of publisher contracts are also explored.

> "I hate to sound like an old man now, but I am, and you mark my words, in a generation from now people are going to say: 'What happened?' Steve Jobs is personally responsible for killing the music business."
>
> [Jon Bon Jovi]

1. Introduction

Digitisation of music has brought with it new challenges for copyright owners, publishers and, in particular, artists to monetise their creative work. In particular, unauthorised copying – or in the popular parlance, piracy – means that it is increasingly easy for consumers to own music without paying for it. A host of recent empirical research[1] has reached the overall conclusion that revenue from music sold has declined as result of digital technologies – such as Napster and its later followers – although there has been an increase in units consumed[2] and a documented increase in concert sales.[3] However, as Waldfogel (2013) shows, this decline in revenue may be associated with a decline in costs as well as a diminished role for publishers. Consequently, the relevant welfare issue is whether there has been a reduction in the supply of quality music or the entry of artists. To this end, Waldfogel (2011, 2012) provides a careful empirical analysis that suggests that quality and entry have not diminished in the 'post-Napster era' and, indeed, in some categories, these have increased.

The precise mechanism whereby music revenues can decline while the incentives to enter the music industry, at least on the part of artists, increase is not clear. It is a puzzle from the perspective of usual economic analyses precisely because it is usually predicted that, unless supply is perfectly elastic, a reduction in the reward from an activity will lead to a reduction in quantity supplied – in this case, of artistic inputs.

☆ Thanks to Laurina Zhang and Stefano DellaVigna for helpful comments. Responsibility for all errors lies with me.

[1] See Rob and Waldfogel (2006), Zentner (2006) and Liebowitz (2006) for prominent examples.

[2] See Oberholzer-Gee and Strumpf (2007), Handke (2006, 2010).

[3] See Mortimer et al. (2012).

http://dx.doi.org/10.1016/j.infoecopol.2015.07.004
0167-6245/

There are several candidate explanations for this puzzle that have been suggested thus far. One is that piracy can allow sampling and better music discovery[4] although this should have a positive impact on revenues. Another is that artists can make up revenue on things other than music sales (Mortimer et al., 2012) although losing a revenue source is a constraint. Finally, there is a notion that the incidence of piracy (and digitisation) falls more on incumbent publishers than artists (Waldfogel, 2013).

The purpose of this paper is not to suggest the primacy of one of these mechanisms over the other but to suggest a novel one that can be placed alongside them and may be of relevance for those empirical researchers exploring the mechanisms that drive creative artist entry. It is motivated by the puzzle and also by an additional set of anecdotes that successful artists (particularly those of a now older generation) have lamented the impact of piracy on music revenues. Bon Jovi quoted above illustrates some frustration but his colleague Richie Sambora singled out piracy as a cause for the music industry's troubles.[5] Meanwhile, former KISS guitarist, Gene Simmons has been very vocal against piracy and is actively engaged in legal action to prevent it (Lasar, 2010). Finally, U2's Bono claimed that "[m]usic has become tap water, a utility, where for me it's a sacred thing, so I'm a little offended"[6] and, in 2014, the band is reportedly working with Apple on a new anti-piracy approach.[7] This suggests that, once artists become successful, no matter what their prior beliefs were regarding making money from music, they become very concerned about it. In the impression of some, they 'sell out.'

This potential story motivates me to explicitly consider (a) artists' choices regarding selling out or not – in particular a trade-off between emphasising fame over fortune and (b) that they may have time inconsistent preferences regarding this trade-off. In particular, using a model of hyperbolic discounting, standard in behavioural economics, I demonstrate how artists may change as they become successful from a trade-off that emphasises fame (and hence, low prices to increase their fan base) to one that emphasises fortune (raising prices when they are older). Consequently, when they are starting out, time inconsistent artists, when choosing whether to enter or not, do not place weight on the notion that, in the future, they might sell out and so, in the face of expected piracy, are not concerned about the loss of music revenues that might result. Time consistent agents, on the other hand, forecast correctly these attitudes but also can commit to the trade-off they desire ex ante. For them, a reduction in music revenue constrains them and reduces their returns to entry. Thus, I demonstrate here that the existence of time inconsistent artists may provide an explanation for the combination of a loss in music revenues and no or even higher artist entry in the face of piracy. Moreover, this model is consistent with a view that older artists may strongly lament a loss in music revenue even when their younger selves professed not to care about the money. The use of behavioural economics to consider the incentives of creative agents is a novel contribution of this paper.

The paper proceeds as follows. In the next section, I develop a baseline model of fame and fortune and show how piracy can simultaneously cause a decline in observed music revenue and an increase in the entry incentives of time inconsistent artists. Section 3 then considers how robust this result is to the addition of publisher contracts. It confirms that the attrition of publisher rents is another explanation for the high elasticity of music artist supply but also shows that contracts do not alter the forces that cause time inconsistent artists to receive benefits at the point of entry if there is increased piracy. A final section concludes.

2. Baseline model of fame and fortune

This section presents a model of artist incentives that offers them a return for successful creative works comprised of two components: *fortune* and *fame*. To access both requires the artist to be successful. Suppose that new artists considering entering the music industry have an outside option with (net present) utility, u. If they forgo this, they enter into a lottery. With probability s, they are successful and can sell music in the future. With probability, $1-s$, they fail, sell no music and they return to their outside option in the future; receiving neither fortune nor fame.

The fortune component is comprised of the sales of music. Music sales have demand, $N(p)$, where p is price and N is the number of fans; $N(\cdot)$ satisfies the usual properties of a demand function.[8] It is assumed that, to be a fan, you need to purchase the music.[9] Thus, in one period, music sales are made which earns revenue pN while, in the next, there is a body of fans available who have experienced the music.

The fame component comes from having fans (N) and, as already assumed, fans can only come from the set of people who have experienced the music. The marginal utility of fame is γ per fan. While the utility from fame can be considered as purely intrinsic it could also have extrinsic components; for instance, being able to play and profit from larger concerts or being able access other trappings that come from high status in society.[10]

[4] See Takeyama (1994), Peitz and Waelbroeck (2006). Zhang (2013) provides an empirical analysis. See King and Lampe (2003) for a critique.

[5] See the 2014 interview here: https://www.youtube.com/watch?v=brxyw2dTN5s.

[6] 2009: http://www.twenty-fourbit.com/2009/03/u2s-bono-speaks-out-against-music-piracy/.

[7] http://www.theinquirer.net/inquirer/news/2371116/u2-and-apple-are-collaborating-on-anti-piracy-music-format.

[8] Specifically, $N(p)$ is concave or log concave so that all objective functions that follow are concave.

[9] Conceptually, fans may also arise without consumption of music. My own observation of current teenage music suggests that this would explain a lot. This may change the conclusions below but it is not something I will investigate in this paper.

[10] For simplicity, the model uses the same units (sales) to indicate units distributed and also fans. In reality, these may be related but distinct. In this case, it may be that other covariates (such as sampling) may impact on the trade-off between fame and fortune to a greater extent than is implicitly assumed in the model.