



On the “uniform pricing puzzle” in recorded music[☆]



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ABSTRACT

This paper proposes a possible explanation for uniform pricing in the recorded music industry, based on a pooling equilibrium across different quality types. We show that an *ex ante* ability to invest in the probability of success – which we identify with record companies' artists and repertoire (A&R) expenditures – makes such a pooling equilibrium more likely.

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1. Introduction

Why do all new-release music CDs cost the same? It has been a long-standing puzzle why record companies appear to “leave money on the table” by not engaging in differentiated pricing across their new releases.¹ This is

related to a number of pricing puzzles: why prices do not rise during periods of peak demand, why wholesale pricing (as opposed to agency pricing) has led to lower retail prices for e-books, or why movie theatres do not significantly price-discriminate. On the first of these, [Chevalier et al. \(2003\)](#) suggest that empirical evidence supports “loss-leader” models of pricing behavior in supermarkets, at least: when consumers do not know prices before arriving at the store, costly advertising can commit the store to low prices on popular items and thus solve a hold-up problem that otherwise plagues the consumer in committing the sunk cost of travel to the store. One might view music sales in a similar light, in which high demand items are effectively discounted to sell at the same price as less popular items.

A recent paper by [De los Santos and Wildenbeest \(2014\)](#) suggests that the recent move by e-book publishers – en-

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¹ One might argue that demand for these goods is equally elastic leading to identical markups, but the evidence of [Shiller and Waldfogel \(2011\)](#), a comprehensive discussion of Apple iTunes pricing and an effort to measure the costs of uniform pricing, suggests otherwise. Similar puzzles have been noted in the movie industry. In the latter case it is the uniform pricing behavior of exhibitors – i.e. movie theatres – rather than producers that is the puzzle: see [Orbach \(2004\)](#) and [Orbach and Einav \(2007\)](#). Note

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that the uniform pricing puzzle in music applies only to new releases: over time we do observe various forms of price discrimination for different qualities of recording.

forced by a DoJ suit – away from an agency model of pricing (in which publishers directly set retail prices) to a wholesale model in which publishers sell to retailers at a wholesale price, has significantly lowered retail prices in the sector. They, too, find evidence that, “all retailers provide discounts for the most popular titles, with Amazon often using them as a loss-leader.” (p. 32)

Orbach (2004) suggests a number of explanations for uniform pricing, including “(i) uncertainty surrounding the success of newly released movies; [and] (ii) concerns that prices would be interpreted as quality signals.”²

The first of these is echoed in our analysis in which we make concrete the mechanism by which uncertainty about success (which we interpret as ‘quality’) determines the firm’s pricing decision. One possible explanation for the puzzle identified in our title is simply that producers never know the quality of what they are selling: “[t]he Hollywood cliché ...that ‘nobody knows anything’ when it comes to how a movie will perform at the box office.”³ In such a world they will optimally sell every good at the profit-maximising price associated with the expected quality and that will, indeed, be uniform across all products. This explanation, however, is hard to reconcile with the billions of dollars (see below) spent by record companies each year on identifying and developing talent or the further billions spent on promoting their products.

The second factor cited above – the idea that prices might be taken to signal quality and thus price discrimination becomes undesirable as it will discourage sales of low-price goods – will not always be operative in a market with asymmetric information, as we demonstrate. Essentially, prices alone cannot credibly signal quality in some contexts as they are too easily mimicked by low-quality producers.

In this paper we make four assumptions, driven by empirical features of the industry, to suggest another reason for the observation of uniform pricing: that *ex ante* uninformed firms make initial investments that undermine subsequent incentives for a now-informed firm to signal its type and increase the likelihood of a pooling equilibrium across quality types wherein prices are the same for all qualities.

The first of our four assumptions is that, at least to a first approximation, the production costs of a high-quality good are much the same as those of a low-quality good. The notion of ‘quality’ is elusive in this context and we use it simply as a short-hand for popularity with consumers, so this point is simply that the *ex ante* production costs of a popular recording are essentially the same as those for one that is less successful *ex post*. This means the industry cannot be well characterized as one in which firms invest directly in the quality of a particular recording (and can potentially signal their types through that investment.) While more prominent artists might have more expenditure associated with their recordings, a great deal of this

is promotional or artists and repertoire (A&R) expenditure and that is included in our analysis below. Furthermore, while physical recording costs do vary across artists (with more costly producers, writers, maybe a 40-piece orchestras and so on), our analysis is at the level of an artist and this variation is not relevant: there is no reason to believe that the production cost of a ‘hit’ by artist X is likely to be any different to that of a ‘flop’ by artist X.

Second, we assume that later-period sales of a product are driven entirely by word-of-mouth from first-period consumers. It does seem to be the case that word-of-mouth sales are, indeed, very important for these experience goods. Orbach (2004, p. 357) cites one Hollywood commentator as remarking, “[i]f it doesn’t open, you’re dead” meaning that a movie that does not make an initial splash on its opening weekend will not generally succeed at the box office or in secondary markets.

Third, we assume that promotional expenditures – advertising, marketing and publicity (which we shall refer to in aggregate as ‘advertising’) – are, along with the good’s price and the belief of consumers about the good’s quality, the key determinant of first-period sales. Furthermore, the costs of expanding sales in the first period are increasing and convex in the market size. That advertising expenditures are very significant for record companies is evidenced by a number of studies. “The marketing and promotion of artists is one of the largest items of spending in a record company’s budget” IFPI (2012, p. 23) and, “[i]n 2011, record companies are estimated to have invested US\$4.5 billion worldwide in artists and repertoire (A&R) combined with marketing. This represented 26% of industry revenues.” IFPI (2012, p. 7). Elberse and Ofek (2007), in a Case Study of a U.S. record company, provide a pro-forma profit and loss statement for an ‘average’ superstar band (Exhibit 9a, p. 25) and suggest that for production costs of a recording (distribution, manufacturing, royalties, copyright and so on) of \$18.5 m, marketing and promotion costs would be a further \$6 m. This activity, along with the importance of word-of-mouth sales, potentially serves a signaling role in our model, as we explain below.

Fourth, while producers may *ex ante* be unaware of the exact quality of their proposed productions, we assume that they can invest up-front to improve their expected quality. In a record company it falls to the Artist and Repertoire (A&R) department to identify and nurture talent. IFPI (2012, p. 9) estimates that, “record companies worldwide invested 16% of their revenues in A&R activity in 2011.” In light of the numbers provided in the previous paragraph, this amounts to over US\$2.7b in that year. Presumably this expenditure serves a purpose and the declared purpose of it is to identify and sustain profitable (i.e. successful) talent. Consequently, while we assume that a record company undertakes the production of a recording with some uncertainty as to the likelihood of its success, it does have some prior belief on that, and this prior belief can be improved through A&R expenditure.

Putting these together, our argument is as follows. We consider a three-period setting in which there is product development – A&R – in period zero and then two periods of product sales. Suppose a firm produces – and sells in

² The other categories of explanation Orbach (2004) notes are the perceived costs of administering variable pricing and concerns that variable pricing would complicate the principal-agent relationships between exhibitors and distributors. These are echoed in Thompson (2012).

³ See Thompson (2012).

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