Uniform Prices for Differentiated Goods:
The Case of the Movie Theater

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UNIFORM PRICES FOR DIFFERENTIATED GOODS: 
THE CASE OF THE MOVIE-THEATER INDUSTRY^ 

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Abstract 

Since the early 1970s, each moviegoer pays at any given theater one price for all movies, seven days a week, throughout the year. This pricing model is puzzling in light of the potential profitability of variable pricing that corresponds to demand characteristics. Another unique observation in the motion-picture industry is the legal regime that prohibits relational arrangements between distributors and retailers (exhibitors) and allows only certain forms of spot contracts. We study the persistence of the uniform pricing regime in the motion-picture industry and argue that the extreme legal constraints on the form and substance of vertical relationships in the industry could be the prime cause of the persistence of the uniform pricing regime. We explore additional hurdles to the transition to variable pricing in the motion-picture industry and argue that these hurdles could, in principle, be individually overcome. Nevertheless, it seems that the combination of the factors has an impact on the persistence of the practice.

JEL Classification: D40, K21, L20, L82, M21, Z11

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“[A]dmission prices for films that are not hits and that leave theaters largely empty do not result in admission-price cutting. The exhibitors generally consider demand to be relatively inelastic. The question is whether they have tested this hypothesis with price changes for films of different quality.”

-- Michael Conant

“This is a pricing model which makes no sense, and I believe the entire industry should revisit it.”

-- Edgar Bronfman, Jr.

“First thing is price elasticity -- i.e. you reduce the price of something and people will consume more of it. Then, we have the ability to yield-manage, to charge prices according to demand ... I’m taking that idea to cinema.”

-- Stelios Haji-Ioannou

I. Introduction

Since the early 1970s, at any given movie theater, one price has been charged for all movies, seven days a week, throughout the year. Most theaters employ some forms of price discrimination, such as discounts for seniors and students. But with the major exception of matinee rates, each moviegoer pays the same price for all movies at any time. This business model of uniform pricing for differentiated goods is puzzling, as intuitively one would expect to observe price differentiation across movies and across show times (Surowiecki, 2004, pp. 98-101). Several industry practitioners and scholars have argued that such variable pricing schemes would be “too complex [and] could cause confusion in the minds of consumers” (Litman, 1998, p. 45). This belief, however, is not supported by the industry’s experience that for long decades engaged in sophisticated price discrimination and price differentiation practices (Orbach, 2004). This paper analyzes possible reasons for the persistence of the uniform pricing regime in the motion-picture industry over the last three decades.

Uniform pricing for differentiated goods is prevalent in many industries. There are no price differences among long-distance calls of the same carrier. At the grocery store, all Häagen-Dazs flavors carry an identical price tag. We pay the same to see the Los Angeles Lakers and the Memphis Grizzlies when they come to town, although the Lakers’ games are often sold out and the Grizzlies’ games would probably never be. In the same spirit, most vendors of downloadable music price all songs uniformly.

In many instances, there are solid economic explanations for uniform pricing (McMillan, 2005). Typically, transaction costs, such as information and menu costs, and direct regulatory

2 CEO of Seagram, at the time the parent company of Universal Pictures. March 31, 1998, at the annual conference of the motion-picture industry (Shapiro, 1999).
3 Founder and Chairman of easyGroup and easyCinema. easyCinema opened its first theater on May 26, 2003. The price of tickets at easyCinema is determined by the time of booking (BusinessWeek, 2003).
4 For the history of pricing systems in the movie-theater industry, see Orbach (2004).
5 For recent trends in sports leagues towards variable-price ticketing, see Morrel (2003).
constraints on pricing account for a significant portion of the phenomenon. These explanations and others do not apply to the movie-theater industry.

Another unique characteristic of the motion-picture industry is the legal regime that was laid out by the Supreme Court in United States v. Paramount (1948).6 In Paramount, the Justice Department sought to break up a cartel of eight major distributors that controlled the production of movies in the United States, engaged in price fixing, allocated geographic areas of distribution, and engaged in a few other collusive practices. Five of these eight distributors dominated, through vertical integration, the exhibition of movies in all major cities in the United States. In an attempt to break up the cartel, the Paramount Court ordered the distributors to divorce their exhibition businesses and prohibited various forms of vertical arrangements between distributors and exhibitors. The three key prohibitions were: (i) a prohibition, that was relaxed in the 1980s, against expansion into the exhibition segment, (ii) a prohibition against intervention in box-office pricing, and (iii) a prohibition against movie negotiation, other than in the form of theater-by-theater and movie-by-movie. The combination of these prohibitions practically prohibits any form of relational agreements between distributors and retailers (exhibitors) in the motion-picture industry and allows only certain forms of spot contracts between such players. This type of broad legal constraints on vertical arrangements is extreme and unusual, yet is still in effect over fifty years after the Supreme Court issued its decision in Paramount.

During the reign of the cartel of the Paramount defendants, box-office pricing was sophisticated and sensitive to demand characteristics. This cartel continued functioning during the first two decades after the Supreme Court issued its Paramount decision, although in a less conspicuous manner.7 In the course of that period, box-office pricing converged to its present form of uniform pricing (Orbach, 2004).

We study the persistence of the uniform-pricing regime at the box-office and argue that the major obstacle to the transition to variable pricing is the legal constraints on vertical arrangements. Due to agency and double-marginalization problems, uniform pricing seems to be a second-best strategy for the distributors. The natural first-best strategy, variable pricing with some vertical arrangement with the exhibitors, is illegal under Paramount. We study a few other factors that are believed to justify the pricing regime, such as perceived fairness, uncertainty, and transaction costs. Each of these factors seems to have limited power, as they all can be addressed with relatively simple means. The combination of these factors, however, has an independent impact that is added to obstacles created by the legal constraints.

The paper continues as follows. Section II presents the puzzle of uniform prices at the movie theater. Section III studies the patterns of the demand for movies at the theater and how these patterns may be incorporated into ticket-pricing policies. Section IV explores the actual and alleged causes of the persistence of the uniform-pricing regime, and Section V concludes.

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6 334 U.S. 131 (1948). For discussion and analysis, see Conant (1960) and Orbach (2004).
7 Crandall (1975), De Vany and McMillan (2004), and Orbach (2004).
II. The Puzzle

For simplicity, we distinguish between two terms: “price discrimination” and “price differentiation.” Price discrimination refers herein to third-degree price discrimination, namely to different prices for different groups of consumers, such as senior and student rates. Price differentiation refers herein to pricing that is related to the specific characteristics of a product, such as show times and movie classifications.8

Movie theaters employ several price-discrimination schemes, primarily through discounts for seniors, students, children, and veterans. Price differentiation schemes are less observed. The major price-differentiation scheme, low matinee rates, targets individuals who are flexible during the day and not necessarily perceive moviegoing as an evening entertainment outlet. Weekday passes, a less common practice employed by several theater chains, such as Lowes Cineplex, offer moviegoers a package of several tickets that they can use on weekdays but not during the first week in which a movie plays. Like matinees, weekday passes target mostly specific audiences with peculiar characteristics and sensitivities. The majority of moviegoers normally pay one price for all movie tickets, regardless of the popularity of the movie, the day of the week, and the time of the year.9

In the past, the exhibition segment was more concentrated than it is today and a cartel of the major movie distributors controlled the allocation and exhibition of movies. The cartel utilized a formal classification of movies and the differences among theaters to facilitate various forms of price differentiation and price discrimination (Orbach, 2004). In those days, prior to the 1970s, admission prices varied across movies, the day of the week, and the time of the year. Movies’ screen lives were much longer than they are today, especially before the introduction of the television in the early 1950s, allowing a profitable declining price trajectory over the screen life of a movie.

Despite the changes in the industry, exhibitors today do not perceive different movies as homogeneous goods and, indeed, employ numerous non-price differentiation schemes. For example, in a multiplex, the auditoriums with the bigger screens, better sound systems, and newer seats are usually reserved for the more popular movies. Thus, the key question is why exhibitors price differentiated goods uniformly. Box-office pricing is particularly puzzling given that movies do not only potentially vary in the demand for them, but also in their marginal costs and marginal revenues: Exhibitors and distributors share box-office receipts through revenue-sharing formulas that are negotiated for each movie individually.

Our study addresses the lack of price differentiation schemes in the motion-picture industry. Price discrimination among moviegoers does not exclude price-differentiation. For instance, senior and student discounts do not exclude premium rates for event movies and blockbusters, which are quickly sold out. Our inquiry is into the question of why only rudimentary forms of price differentiation are pursued, while simpler and potentially more

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8 According to this terminology, some forms of price differentiation are second-degree price discrimination, under fairly wide definition of the product.

9 Approximately forty percent of moviegoers are below age twenty-five or above age fifty-nine, but there is no available information on how many of them use available discounts (Motion Picture Industry, 2003).
profitable strategies of variable pricing are abandoned.\textsuperscript{10} Or, why box-office pricing seems barely sensitive to demand characteristics. For example, it is unclear whether the rationale behind low admission prices for matinees on weekdays holds on weekends. Even if it does, there is no reason to charge the same price for matinees on weekdays and on weekends.

The puzzle of (almost) uniform prices at the movie theater grows in light of the price variation across theaters (Davis, 2005). Admission prices in certain cities can get as three times higher than in other cities. Similar price differences exist between first- and second-run theaters. Less considerable, yet material, price variation exists across theaters within the same geographic area, according to their location, design, physical conditions, and other factors. The existing forms of price discrimination and cross-theater price variation indicate that theater chains invest time and resources in devising and administering pricing policies. Thus, one cannot assume that exhibitors do not consider, at least occasionally, the potential advantages of price differentiation.

There are many other factors that deepen the puzzle. Here we list only those we find important for understanding the puzzle: (i) Admission fees are not regulated; (ii) Most theaters in the United States possess some geographic market power either because they are the only theater in town, or because the movies they show are licensed to them exclusively in their geographic area; (iii) In the movie-theater industry, season tickets and subscriptions that may justify uniform prices are not offered; (iv) Administering variable pricing may involve some costs, but (as discussed in Section IV.B) such costs are unlikely to be prohibitive. These industry characteristics and others are discussed in greater detail later in the paper.

III. Optimal Pricing and Recurring Patterns of Demand

A. Optimal Pricing

The profit-maximization problem of a typical exhibitor is a standard problem of a multi-product firm. It is easy to see that without any external economic forces, box-office pricing should vary with marginal costs and demand elasticities.

Given its movie schedules and allocation decisions,\textsuperscript{11} each exhibitor solves:

\[
\max_p \left( \sum_{i,t} \left[ p_i D_{it}(p) - C_{it}(D_{it}(p)) \right] \right)
\]

where \( i \) stands for the movie, \( t \) for the show time, \( p \) is the vector of prices for all movies and show times, \( C \) is the exhibition cost that may vary across movies and show times, and \( D \) is the residual demand faced by the exhibitor. Given the clearance-zone system used by distributors,\textsuperscript{12}

\textsuperscript{10} It is noteworthy that since 1996, two major theater chains have charged higher prices on weekends. Cinemark, the third largest circuit in the U.S., charges $0.25 to $0.50 more for Friday and Saturday evening shows in some of its theaters than it charges on other days of the week. For the first matinees on Monday through Thursday, Cinemark charges $0.50 to $1.50 less than for later matinees. Century Theaters, the seventh largest circuit in the U.S., charges between $0.25 and $0.50 more for Friday and Saturday shows in some of its theaters than it charges on other days of the week. Since 2001, Lowes Cineplex, the fifth largest circuit, employs similar weekend pricing schemes in certain cities.

\textsuperscript{11} For a model of schedule and allocation decisions, see Swami et al (1999).

\textsuperscript{12} The “clearance-zone system” guarantees each exhibitor exclusivity for its licensed movies for defined geographic area and defined period.
each exhibitor enjoys some geographic market power and, therefore, faces a downward sloping residual demand curve. Under the standard conditions on demand, which guarantee that second-order conditions are satisfied, optimal prices must satisfy the following first-order conditions:

\[ (2) \quad \forall i, t \quad D_{it}(p^*) + \sum_{j,t} (p_{jt}^* - mc_{jt}) \frac{\partial D_{jt}(p^*)}{\partial p_{it}^*} = 0 \]

where \( mc_{jt} = \frac{\partial C_{jt}(D_{jt}(p^*))}{\partial p_{jt}^*} \) is the marginal cost of the exhibitor with respect to an additional patron.

The key point in equation (2) is that generically the optimal price vector is not uniform, but varies across movies and show times with the demand elasticity and marginal cost. This result, of course, is not surprising as it merely conforms to standard economic models. Others have supported this result with more complex models that address ticket pricing for various entertainment industries.\(^{13}\) In what follows we focus on the variation in demand and demand elasticities without a thorough analysis of the cost side. It should be noted, however, that any such variation in the supply side would only increase incentives to deviate from uniform pricing policies.

**B. Descriptive Statistics**

An empirical evaluation of variable pricing necessitates estimation of demand elasticities, which cannot be undertaken due to the long persistence of uniform prices in the industry. In this section we discuss the enormous variation in the total demand along several dimensions and argue that such variation reflects likely variation in demand elasticities. The anecdotal evidence we provide later supports this conclusion. The quantitative analysis presented in this section is based on data for all the movies released in the United States between the years 1985 and 1999 (3,523 movies).\(^{14}\)

The demand for motion pictures varies in three major dimensions: (i) specific movie demand; (ii) different seasons and days of the week; and (iii) different stages in the movie’s screen life. Our analysis shows that price differentiation along the contours of these dimensions is likely to increase revenues. Certain characteristics and patterns of demand, we argue, can be identified with sufficient certainty to profitably set non-uniform prices.

(i) **Specific movie demand.** While the motion-picture industry is notorious for the uncertainty surrounding the success of newly released films, there are several ways by which expected levels of box-office revenues can be estimated. For example, production costs and gross box-office revenues have been found strongly correlated, with simple correlation coefficients of 0.5 to 0.7 for each year between 1985 and 1999 (Prag and Casavant, 1994; Einav, 2004). Sequels perform quite similarly compared to the originals, at least in terms of order of magnitude (Ravid, 1999). Furthermore, much of the uncertainty regarding a movie’s success is revealed after its first weekend on the screens (Einav, 2004), so at least in principle admission prices can be adjusted on the first Monday after the release date.

(ii) **Seasonal demand.** Attendance patterns during the week and across seasons are rather predictable. The number of moviegoers on an average weekend day (Friday through Sunday) is

\(^{13}\) See, for example, Huntington (1993), Rosen and Rosenfield (1997), and Marburger (1997).

\(^{14}\) A detailed description of the data is beyond the scope of this paper and can be found in Einav (2004).
approximately 3.5 times higher than the number of moviegoers on an average weekday. This pattern may suggest that the demand for movies on weekdays is more elastic than the demand on weekends. Similarly and as shown in Figure 1, movie attendance during the summer and holidays is much higher than during the rest of the year. Einav (2004) estimates that more than half of this seasonal variation can be attributed to seasonal variation in demand, with the remaining driven by more attractive movies released in high-demand seasons.

Figure 1

*Seasonality in Movie Attendance (1985-1999)*

The figure of Average Weekly Attendance represents the average share of American population that attended movie theaters in a given week.

(iii) Demand over the movie’s screen life. The demand for movies strongly diminishes with the movie’s screen life. Figure 2 exhibits the average accumulation of box-office revenues for all the movies released in the United States between 1985 and 1999. It indicates that the demand for a given movie decays with its age. Furthermore, a more detailed analysis shows that screen lives of successful movies tend to be longer than those of less popular movies, and the revenues of the former tend to decay in a slower rate over time.

The foregoing discussion suggests various directions for profitable variable pricing. We do not claim that exhibitors can take full advantage of the observed patterns of demand, as there are substantial obstacles that prevent it. Our argument is modest: variable pricing is likely to benefit the movie-theater industry.

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15 Similar pattern for the years 1969-1984 can be found in Vögel (2001).
C. Anecdotal Evidence

There is anecdotal evidence that variable pricing would increase revenues. In 1970, several local exhibitors in Washington, DC, slashed their admission fees on weekdays by 67% and, as a result, significantly increased their box-office revenues and more than doubled their popcorn sales (Headley, 1999). During the 1980s and 1990s, several circuits revived the practice of discount days; but, despite positive results, these policies were abandoned because of per-capita requirements by distributors (King, 1992). In the late 1990s, this policy emerged again, and today some theaters have discount days in which they offer tickets at reduced admission prices. This practice has also brought strong financial results in many markets in Asia, Australia, Europe, Latin America, and New Zealand.

International markets provide a few other inspiring examples. In 2000, Zhao Guoqing, a Chinese exhibitor, gained an article in Time Magazine for his rebellious and highly profitable act of cutting admission prices in his theaters by 67% (Jakes, 2000). In Australia, prices are sensitive to seasonal demand and special events. During the Sidney 2000 Olympic Games, for example, prices were cut aggressively (Groves, 2000). In Japan, tickets for Jurassic Park were profitably sold for a premium of 67% (Mackenzie, 1993) and tickets for Austin Powers were profitably sold at 45% discount to attract young audiences (Watts, 1999). Similarly, in the Czech Republic, significant premiums (30%-50%) were charged for Independence Day, Evita, and Titanic, boosting box-office revenues (Meils, 1997 and 1998).

IV. Possible Causes for Uniform Prices

Our inquiry into the possible causes for uniform admission fees at the movie theater is based on many interviews and conversations with industry practitioners and observers. Most of

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16 Customary movie licensing agreements contain ‘per-capita requirements’ that set minimum amounts paid to the distributor for any patron who watches its movies.
the popular explanations utilize soft arguments from behavioral economics and transaction-cost economics. These arguments, discussed below, are not convincing but still have an effect on the persistence of the uniform pricing regime, as they are added to more established reasons. The more established reasons seem to stem from structural characteristics of the motion-picture industry and, specifically, the nature of the relationships between distributors and exhibitors and the legal constraints imposed on them. It is noteworthy that although some of the popular explanations may be refuted, the combination of well-established and less-established explanations seems to have an independent impact on the persistence of the present pricing regime.

A. Behavioral Explanations

1. Perceived Fairness

Businessmen often believe that price changes that consumers perceive as unfair are undesirable (Blinder et al, 1998). For example, Coca-Cola took fire for introducing a vending machine that adjusted prices to weather conditions (Hays, 1999; McKay, 1999). Economists who have studied this intuition argue that it deters businesses from taking full advantage of the law of supply and demand.17 In the context of entertainment industries, Okun (1981, p. 170) noted:

[I]mplicit contracts or conventions . . . introduce a concept of fairness in the relations between suppliers and customers whereby price increases based on cost increases are generally accepted as fair, but many that might be based on demand increases are ruled out as unfair. That analysis leaves many specific questions unanswered. Some forms of peak-load pricing by utilities or transport are accepted (even by regulators) as fair; some hotels in college towns charge especially high rates on football weekends. On the other hand, firms in the sports and entertainment industries offer their customers tickets at standard prices for events that clearly generate excess demand.

The standard analysis of perceived fair prices focuses on a reference transaction (Kahneman et al., 1986a), which in the motion-picture industry is the purchase of a movie ticket. Presently, moviegoers are accustomed to uniform admission prices, and this transactional experience may create the assumption that exhibitors’ costs do not vary across movies. Accordingly, modifying admission prices uniformly in accordance with changes in general costs may be more acceptable than setting different prices for different movies and different show times. For example, charging higher prices on weekends and holidays may antagonize patrons because they would perceive it as an act to increase exhibitors’ profits in an unfair fashion. As the president of the National Association of Theatre Owners put it, “We want people to get in the habit [of visiting the theater] on a regular basis and to see as many movies a year as possible. To build that kind of loyal clientele, you can't bounce admission prices around on them.”18 According to this point of view, pricing movies in any way other than uniformly is likely to backfire.

Despite the difficulties that fairness perceptions may present, it can hardly justify uniform admission prices. Uniform prices seem fair merely because of the system’s regularity, not due to any intrinsic justice. No sophisticated schemes and ploys are needed to change the present reference transaction; in fact, simple marketing mechanisms could do the trick. The general rule is that consumers may be hostile toward price increases but always welcome discounts (Thaler, 1980; Kahneman et al., 1991). Therefore, discounts on weekdays, during low-demand seasons, and for certain movie categories could establish a non-uniform pricing system without antagonizing patrons. Once such a pricing regime is established, price modifications for specific movie categories or show times are unlikely to violate fairness perceptions since the structure of the reference transaction has lost its uniformity.

The perceptive asymmetry between discounts and surcharges is important: For many individuals it is easier to forgo discounts than accept surcharges. Thus, although charging “summer surcharges” and canceling “winter discounts” are economically equivalent, the latter is likely to be more acceptable. More generally, a successful transition to variable pricing could be facilitated through simple framing strategies. Furthermore, since charging higher prices for event movies was a successful practice in the past and still is successful in several international markets, there are reasons to believe that patrons would not perceive such a practice as unfair.

2. Unstable Demand

Another common explanation for uniform prices is that, under variable pricing, moviegoers would perceive the price as a quality signal. According to this view, price differentiation would deter patrons from low-priced movies. In economic terms, the fear is that the demand for movies is unstable (Becker, 1991) and that any price drop below the uniform price would lead to a sharp decrease in demand.

Figure 3 illustrates a hypothetical case of unstable demand. The demand curve behaves normally above and below the level of uniform price but is discontinuous at this level \( p^U \), at which a slight deviation downward would result in a sharp drop in demand.

The question of whether ticket prices are perceived by moviegoers as quality signals and will therefore affect demand is an empirical one and has never been tested. Still, even if demand were unstable, some price variation would probably still be profitable. First, adjusting admission prices to the recurring demand patterns over time conveys no quality signals. Second, charging higher prices for event movies is unlikely to have any negative effect on the demand for other movies: Patrons clearly distinguish between “regular” and “event” movies. Similarly, different admission prices for movies that target different audiences are unlikely to destabilize the demand for less pricey movies. For example, lowering prices for documentaries may increase the demand rather than shrink it. Thus, the unstable-demand argument applies only to price

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19 Kahneman et al. (1986a) point out that “[p]sychological studies of adaptation suggest that any stable state of affairs tends to become accepted eventually, at least in the sense that alternatives to it no longer readily come to mind.” In the same spirit, Franciosi et al. (1995) conducted several experiments and showed that, although a transition path to a new equilibrium may be affected by fairness considerations, equilibrium outcomes reflect standard economic models.

20 See generally Harris and Joyce (1980). Several studies show that consumers are susceptible to explanations regarding the rationale for pricing and alter their fairness perceptions following such explanations (see, e.g., Ng, 1988).
differentiation across movies with a similar profile. In such circumstances, however, price differentiation is less justified on economic ground as well.

**Figure 3**

![Figure 3: Unstable Demand](image)

3. **Demand Uncertainty**

Demand uncertainty is perhaps the most mentioned cause for the difficulties in varying admission prices (Goldman, 1984; Caves, 2000; De Vany, 2004). Although much of the uncertainty normally resolves after the first weekend, price adjustments seem undesirable: Price cuts are likely to be perceived as quality signals and may deter patrons rather than increase demand, and price increases may antagonize patrons and have a chilling effect.

The uncertainty argument is too broad and, despite its popularity, it cannot explain the uniform-pricing puzzle. First and foremost, the argument fails to explain the uniformity of prices over time. Uncertainty regarding the performance of newly released movies has nothing to do with possible differentiation across seasons or price differentiation between weekdays and weekends. Second, empirical evidence shows that demand uncertainty is not as great as popularly argued and that the determinants of success in the industry are not totally random (see Section III.B, as well as Moul, 2004). Producers may be unable to predict the demand for specific movies, but can identify with some level of confidence certain categories of movies with unique demand characteristics, such as event movies and documentaries. In fact, the studios make significant investments in studying consumers’ preferences to improve their ability to forecast box-office revenues (Bakker, 2003). Empirical evidence suggests that production budgets, sequels, participation of stars and top directors, ratings, competition from other movies,
and advertising all significantly related to revenues and thus can be incorporated into pricing decisions.21

B. Transaction Costs and “Confusion Costs”

Administering variable pricing could be costly. For example, differentiating among movies would necessitate monitoring mechanisms to prevent patrons from purchasing tickets for low-priced movies and watching premium-priced movie. Similarly, variable pricing could result in complicated price menus that would confuse moviegoers.

In practice, the problem is limited to arbitrage opportunities at the multiplex and agency costs that are discussed in the next section. Discounts during low-demand seasons are unlikely to entail any costs or to create confusion among patrons. Weekend pricing may complicate price menus but would not be confusing if simple, consistent pricing were implemented.

Arbitrage opportunities could probably be prevented by monitoring mechanisms that are not much different from the mechanisms already employed by exhibitors. Today, some screens are sold out while others are not, and, therefore, exhibitors must monitor the patrons entering sold-out movies. Otherwise, patrons who could not purchase a ticket to a sold-out movie could use a ticket to another movie. At the multiplex, exhibitors must also prevent moviegoers from watching two movies in a row for the price of one movie. One indication of the manageable monitoring costs of variable pricing is the prevalence of price discrimination across seats in some countries (Cheung, 1977) and at some theaters in the United States, as well as the prevalence of reserved seating in many international markets. Put simply, the arbitrage opportunities today are similar to those available under a variable-pricing regime.

C. Structural Characteristics of the Industry and Regulatory Constraints

1. Agency Problem

At the box office, the interests of exhibitors and distributors may diverge, even though they share revenues. For the exhibitor, a dollar spent by a patron on refreshments is better than a dollar spent on a ticket, as the markup on refreshments is approximately 85% and on tickets approximately 45%. As a result, the exhibitor’s interest is not necessarily to maximize box office revenues (Hofmann, 2003). Uniform pricing, together with the customary per-capita requirements, arguably allow distributors to maintain minimum levels of ticket prices, thereby protecting their share in the box-office receipts. This argument could be true, but it is too simplistic to explain price uniformity over time. Simple weekend and seasonal pricing schemes could serve the mutual interests of exhibitors and distributors without raising additional complexities.

Another agency problem at the box office is related to the distributors’ concerns that, under variable pricing, exhibitors would attribute moviegoers of high-priced movies to low-priced movies and pocket the entire price difference rather than sharing it with the distributors.

21 See, for example, Austin (1989), Litman and Kohl (1989), Wallace et al. (1993), Eliashberg and Shugan (1997), Litman and Ahn (1998, p. 172-197), and Ravid (1999). Similarly, several studies show that nominations for Academy Awards contribute to a film’s revenues (Smith and Smith, 1986; Dodds and Holbrook, 1989; and Nelson et al., 2001). Because of the short screen life of movies, the Oscar effects are relevant only to a small group of movies.
Under uniform pricing, these concerns do not arise. The question remains why exhibitors should bother to engage in accounting manipulations, while they can simply misstate the number of patrons and pocket much more. Moreover, like the first agency problem, this agency problem cannot explain the lack of price differentiation over time.

Agency problems of similar nature – actual or imaginary – exist in other industries, but it is difficult to find an industry that adopts uniform pricing to address such problems. One possible explanation for the uniqueness of this strategy in the motion-picture industry is the regulation of the distributors-exhibitors interactions under the Paramount decrees. When the relationships between upstream and downstream players are limited to only few forms of spot contracts, traditional solutions to agency problems cannot be employed. For example, the Paramount decrees practically prohibit arrangements of revenue sharing that would bundle box-office and refreshment revenues.

2. Double Marginalization

Due to the regulatory separation between distributors and exhibitors, in most markets in the United States, the players face a problem of double marginalization: Distributors possess some market power in their films and exhibitors possess some market power in their geographic areas. The traditional solution to double marginalization problems is vertical arrangements between upstream and downstream players. This solution, however, is illegal under the Paramount decrees that prohibit relational agreements between distributors and exhibitors and spot contracts that specify exhibitors’ pricing. More specifically, resale price maintenance – the simplest solution to double marginalization – is outlawed by the Paramount decrees.

Uniform pricing mitigates the problem of double marginalization because, under such a pricing regime, the exhibitors’ markup cannot be adjusted to the demand for specific movies and show times and, therefore, it only partially reflects their market power. This mechanism is, however, very rudimentary since the specific demand characteristics are not incorporated in the price to the consumer. Moreover, exhibitors often absorb much of the distributors’ markup, which is derived from their negotiated share of box office revenues. In other words, uniform pricing prevents exhibitors from incorporating specific movie and show time demand characteristics in ticket pricing, while the distributors’ share of box office receipts incorporates specific movie demand and frequently also seasonal demand.

V. Concluding Remarks

In the motion-picture industry, exhibitors seem to ignore known and identifiable patterns of demand for their products by sticking to uniform pricing. Due to the persistence of the practice of uniform pricing at the box office, it is impossible to estimate demand elasticities for movies. The suggestive evidence, however, indicate that optimal pricing should not be uniform.

Each of the common justifications for the governing pricing model cannot, by itself, explain the persistence of the uniform-pricing regime. The combination of the justifications and their perceptions by industry executives, however, seems to create impediments to the transition to variable pricing. The industry’s justifications for the persistence of the practice fail to explain

22 For a general theoretical analysis of the problem, see Spengler (1950) and Mathewson and Winter (1984).
why the same justifications do not hold in other industries with similar characteristics, such as the music and the publishing industries. Indeed, all alleged problems can be circumvented by relatively simple means.

A key distinction between the motion-picture industry and other industries is the legal constraints on the relationships between distributors and retailers (exhibitors). The Paramount decrees of 1948 significantly restrict the form and substance of the contracts and negotiations between distributors and exhibitors and allow only certain forms of spot contracts between these players. Put simply, the Paramount decrees restrict the design of pricing mechanisms that align the interests along the supply chain. We suggest that the uniform-pricing regime may be some form of a second-best solution, given the legal prohibition against the natural first-best solution. Distributors typically enforce uniform pricing by refusing to deal with exhibitors that wish to switch to variable pricing. Such refusal to deal may be legally questionable, but it is not in violation of the Paramount decrees. The alleged enforcement of uniform pricing by distributors has never been prosecuted by the antitrust agencies. Indeed, our hypothesis cannot be empirically proven at this stage and should be regarded as a theoretical explanation. The positive results of the pricing experiments of several national chains support this explanation.

Our basic argument – that prices should vary across movies and show times – calls for a final comment. Many scholars and industry practitioners who have considered this argument dismissed it in its entirety. Much of the reluctance to adopt variable pricing stems from formidable concerns about the costs of administering and policing price differentiation across movies. Such differentiation may present a challenge to the industry, but it should neither be confused with, nor should it supersede, price differentiation across show times. Practical obstacles to variable pricing across movies, if such exist, cannot explain why movies are priced uniformly on weekdays and weekends and throughout the year. Thus, those, who remain skeptic of the viability of price differentiation across movies, may still accept the view regarding the desirability and viability of non-uniform prices with respect to time.

References


23 See, e.g., a letter from United International Pictures, one of the six largest Hollywood distributors, to Mr. Stelios Haji-Ioannou, a pricing entrepreneur and the founder of easyCinema (Malkani, 2003):

“We have concluded that your business model is unlikely to lead to a sustainable increase in aggregate rentals and on this basis that we should not begin a business relationship.”


45. Motion Picture Association (2003), 2002 U.S. Movie Attendance Study.