Close, But No Cigar: The Bimodal Rewards to Prize-Seeking

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Abstract

This article examines the economic effects of prizes with implications for the diversity of market positions, especially in cultural fields. Many prizes have three notable features that together yield an emergent reward structure: (1) consumers treat prizes as judgment devices when making purchase decisions, (2) prizes introduce sharp discontinuities between winners and also-rans, and (3) appealing to prize juries requires costly sacrifices of mass audience appeal. When all three conditions obtain, winning a prize is valuable, but seeking it is costly, so trying and failing yields the worst outcome—a logic we characterize as a Tullock lottery. We test the model with analyses of Oscar nominations and Hollywood films from 1985 through 2009. We create an innovative measure of prize-seeking, or "Oscar appeal," on the basis of similarity to recent nominees in terms of such things as genre, plot keywords, and release date. We then show that Oscar appeal has no effect on profitability. However, this zero-order relationship conceals that returns to strong Oscar appeals are bimodal, with super-normal returns for nominees and large losses for snubs. We then argue that the effect of judgment devices on fields depends on how they structure and refract information.

Keywords

judgment device, market information, prizes, social cognition, culture, film

December 2005 saw the release of two films that had striking similarities but fared very differently at the box office. Both films were dramas set in the rural American West that had production budgets of about $15 million, involved artists with prior Oscar nominations, and told stories about stigmatized minorities in ways that spoke to contemporary political contentions. Moreover, both films had Oscar marketing campaigns and were featured in a *Variety* (2006) cover story, "The 2006 Oscar Portfolio." *Brokeback Mountain,* however, was nominated for eight Oscars and went on to make $83 million in domestic box office, whereas *The Three Burials of Melquiades Estrada* received no Oscar nominations and made only a disappointing $9 million.

These two otherwise similar films illustrate the general theme of this article, that prizes can significantly shape the reward structure of fields. We derive this emergent outcome from three features common to many prizes. First, prizes can serve as important consumer judgment devices that focus consumer attention in fields where quality is complex. Second, prizes introduce sharp discontinuities between winners and those who were about as

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prize-worthy but failed to win. Third, appealing to prize juries is costly when their taste is decoupled from direct mass audience appeal. We build on the Tullock lottery model from economics to suggest that, when these three conditions hold, prizes create a bimodal reward structure in which winning a prize is valuable but pursuing it is costly. That is, prize-seeking can be a risky strategy, with great rewards for those who achieve prizes and substantial losses for those who try but fail. After developing our theoretical argument, we apply it to the empirical setting of the Oscars, which involves operationalizing a measure of prize-seeking in terms of a film's Oscar appeal.

This article speaks to several literatures. First, it contributes to the emerging research stream concerned with the roles that information plays in structuring the interface between consumers and producers (e.g., Anand and Peterson 2000; Espeland and Sauder 2007; Hsu 2006; Karpik 2010). This literature has improved our understanding of how continuous measures (e.g., sales charts, quality rankings, and critic ratings) serve as judgment devices, but it has thus far largely ignored prizes. Our study confirms this literature's general insight that judgment devices play a crucial role in shaping consumer demand, but it contrasts with prior findings in two important ways. First, whereas previous research understands judgment devices as uniformly affecting the entire field, we observe a more selective effect that benefits some producers but leaves others with only the costs of their failed efforts to achieve a favorable evaluation. Second, in contrast to prior claims that judgment devices promote homogeneity, we suggest they can also promote heterogeneity of fields by enabling the production of offerings that would otherwise not be economically sustainable while not changing the incentives for strategies that make more direct appeals to audience preferences. As we develop in this article, these outcomes of bimodal returns at the individual level and diversity at the field level can be explained by how prizes can not only be valuable to attain

and costly to pursue (much like many other forms of judgment devices) but also have the distinct feature of introducing discontinuities.

These insights also inform the literature on status. Earlier studies have found that high status is associated with various desirable rewards (e.g., Podolny 1993). Our study provides empirical support for the position that the *structure* of status allocation significantly affects the distribution of outcomes (Frank and Cook 1995; Goode 1978; Sauder 2006). Specifically, we suggest that a status system that is minimally scaled and based only on a few recognized categories may lead to different actor- and field-level outcomes than would a status system with finer granularity.

Furthermore, this article contributes to understanding and modeling the social organization of cultural industries, where prizes are especially common (English 2005; Street 2005). We provide a theoretical argument about prizes and prize-seeking and make a methodological contribution by developing a novel operationalization of recursively refracted prestige that measures the prize-worthiness of cultural products. Our theoretical argument begins from the sociology of culture's model that prizes are a mechanism through which cultural elites consecrate works that are consistent with their tastes while denying such consecration to others (Bourdieu 1993). Once consecrated, goods appeal to a much broader audience that would not have discovered these works in the absence of this intercession. Producers seeking to gain this cultural consecration (and the resulting prestige that attracts audiences) can attempt to engage in costly reverse engineering of the logics favored by cultural elites. As a result, the existence of prizes can extend the breadth of cultural fields by creating demand for works with high prize appeal but comparatively little direct mass appeal. Overall, our argument suggests that pursuing consecration is a risky strategy, thereby providing a new twist on the literature on effects of cultural prizes (e.g., Lee 2009; Lincoln 2007) by also reckoning the costs of their pursuit.

PRIZES

Since the mid-eighteenth century, when the British Society of Arts started to bestow achievement awards, prizes have proliferated exponentially and are still on the rise today (Best 2008; Goode 1978; Street 2005). The International Congress of Distinguished Awards, for example, identified a total of 26,400 prizes that are currently being awarded (cf. English 2005). Prizes have always had a special place in cultural industries, but they have now spread to virtually every institutional field (Frey 2006). For example, the corporate sector has witnessed a strong increase in the number of prizes, including awards for the most innovative designs and the most environmentally friendly solutions (Anand and Watson 2004).

We propose three common features of prizes that, when all three obtain, cause prizes to have emergent economic effects: (1) consumers treat prizes as judgment devices, (2) prizes create sharp discontinuities, and (3) appealing to prize juries sacrifices mass audience appeal.

Consumer Judgment Devices

To the consumer, prizes attached to products can serve as important judgment devices (Karpik 2010). A judgment device is a guidepost that helps reduce consumers' cognitive deficit—that is, the gap between what a consumer knows and what she would need to know to make an optimal choice. Such cognitive deficits are usually caused by the seemingly infinite variety of available offerings along with considerable uncertainties about the true quality of these offerings (Best 2011; Caves 2000).

In these complex purchase situations, consumers often delegate judgment by relying on evaluations from a judgment device, to the extent that the device functions as a "surrogate consumer" that powerfully mediates the exchange relationship (Hirsch 1972; Karpik 2010; Sauder 2006). Judgment devices play an important role in structuring demand. By aiding consumers in making purchase decisions, judgment devices enable the exchange of products with high quality uncertainty and thus render markets possible that otherwise might not exist. Most important for the concerns of this study, judgment devices also affect the success of individual producers through acting as status markers and assigning prestige to their approved offerings (Goode 1978; Podolny 1993). As seen in experiments, a product's position in sales charts has a direct causal influence on future sales (Salganik, Dodds, and Watts 2006; Salganik and Watts 2008). Audience ratings are the very currency of broadcasting markets, and participants in the market attempt to shift definitions and biases underlying these ratings in their favor (Napoli 2011). Moreover, critics are known to significantly determine the fate of producers in many industries (Hirsch 1972; Karpik 2010).

Similarly, prizes can serve as judgment devices that attract consumers to products (Best 2011; English 2005), and natural experiments suggest their effect is substantially causal (e.g., Ginsburgh and van Ours 2003). Prizes constitute symbolic capital, but consumers treating them as judgment devices transmutes the producer's symbolic capital into economic capital. For this reason, prizes would be of pecuniary value even if producers were so unsentimental as to place no intrinsic value on accolades. Moreover, because profitable strategies are more likely to be imitated (Haveman 1993), knowing what sorts of products made money suggests what sorts of products will continue to be produced in the future.

It is thus not surprising when producers alter their behavior so as to increase their chances of being evaluated favorably by these judgment devices (Espeland and Sauder 2007; Sauder and Espeland 2009). The success or failure of producer control of judgment devices can shape entire fields; for example, in the 1950s, the incumbent Tin Pan Alley music industry lost control of promotional media and as a result ceded most of the recorded music market to independent record labels offering rock and roll, country, and blues (Peterson and Berger 1975). Note that we use the term "producer" broadly throughout this article to refer not only to enduring

organizations but also to single-project organizations (e.g., films) and individuals (e.g., artists). Producers in this sense encompass the production side generally, and our usage does not distinguish whether the locus of agency lies with, for instance, cultural distribution firms or creative workers. We can afford a certain agnosticism in deciding who exactly among the producers responds to the incentives of judgment devices because cultural production almost always reflects collaboration between capital and artists (Caves 2000), and in cases where action is inherently collaborative "it may not matter whom we see as holding the heuristic" (Martin 2009:19).

Discontinuity between Winners and Also-Rans

Prizes are unique among judgment devices in sharply demarcating winners from the rest; they act as instruments of consecration that grant legitimacy to certain products while denying it to others, thus producing "discontinuity out of continuity" (Bourdieu 1991:120). In contrast, other judgment devices, such as rankings, create relatively continuous distinctions, following a logic of ordinal valorization rather than discontinuous consecration (see Allen and Parsons [2006] for the difference between valorization and consecration). Whereas such ordinal valorization assigns incrementally differentiated prestige to the majority of products, prizes elevate a few products above the rest (Anand and Watson 2004; Frank and Cook 1995; Goode 1978; Lincoln 2007). This means that in distinguishing the truly excellent, prizes create a complement of losers that homogenizes the merely good with the mediocre and the atrocious. It is this overly sharp distinction between the excellent and the merely good that makes prizes unique.

Merton (1968) describes the analogous phenomenon of the "41st chair problem" in reference to the large number of scientists who narrowly missed being admitted to one of 40 seats in the French Academy of Science. Similarly, award competitions are typically characterized by a fixed number of prizes, resulting in many "uncrowned" actors who are essentially equivalent to the winners in every respect except that they failed to win the prize (Zuckerman 1996).

As a consequence, prizes can trigger a winner-take-all allocation of resources to small numbers of winners who benefit disproportionally vis-à-vis also-rans (Frank and Cook 1995). They confer symbolic capital (and by extension, whatever economic success this symbolic capital avails) to a few winners while denying these benefits to many also-rans, thus translating small differences in relevant product characteristics into potentially enormous differences in outcomes. On the margin between the worst prize recipient and the best also-ran, any differences in relevant characteristics are likely to be negligible, so differences in outcomes are the result of the prize itself. The only major difference between winner and also-ran is that one attained a prize denied to the other. Hence the carnival game verbal consolation, "close, but no cigar."

Prize Appeal versus Mass Audience Appeal

So far, we have emphasized that prizes can attract consumer demand; in this section, we raise the oft-neglected point that producers' attempts at appealing to prizes can be costly. In particular, we suggest these costs frequently stem from prizes being conferred based on expert opinion (English 2005). Through specialized training or acquired experience, experts accumulate vast knowledge on the relevant subject matter, which raises their legitimacy as arbiters of taste and agents of consecration (Bourdieu 1993). Furthermore, experts are often perceived as impartial (Caves 2000; Hirsch 1972), which increases consumer trust in the prize as a credible judgment device (Karpik 2010).

The resulting distinction between those performing the evaluation (the experts) and those eventually consuming the respective good (the consumers) raises the question as to what extent experts' and consumers' preference structures are congruent. Prior research in consumer behavior suggests that criteria

for excellence employed by experts in rendering their judgments and standards of popular appeal governing the tastes of ordinary consumers tend to differ quite substantially (Holbrook 1999). For example, whereas experts in some fields may appreciate demonstration of strong technical skills and high novelty, consumers tend not to cherish such attributes and may even resist them (Caves 2000; Kremp 2010). For the purpose of our argument, the important thing is not what sort of preferences are held by insider experts and mass audiences, but only that they may differ from one another.

The reason for such divergence is that ordinary consumers commonly do not share the same habitus and dispositions that guide experts' standards of evaluation. As Bourdieu (1984, 1993, 1996) suggests, the standards learned and employed by elites who possess significant cultural capital tend to deviate from the standards of consumers with comparatively less cultural capital. Accordingly, differences between expert judgments and popular appeal are common.

Such differences are often even desired by prize organizers, because they help to distinguish prize-worthiness from straightforward mass appeal and thus give the prize a *raison d'être* (Street 2005). Almost by definition, prizes are intended to recognize excellence in a field, but they can also subtly redefine what excellence means. Prize founders commonly express a desire to provide a means for recognizing artistic achievement to correct a perceived overemphasis on mass appeal (Caves 2000; English 2005). That is, prizes often represent an attempt to promote the logic of "art for art's sake" (i.e., cultural capital) over that of commercial appeal (i.e., economic capital).

PRIZES AS TULLOCK LOTTERIES

In the previous sections, we elaborated three important features of many prizes: they serve as judgment devices that attract consumer demand, they introduce discontinuities between winners and comparable also-rans, and they are allocated according to criteria that may differ nontrivially from direct audience appeal. The combination of these conditions results in many prizes having quite different effects from those of other judgment devices studied in prior research. In developing our argument, we suggest that many prize competitions can be interpreted as Tullock lotteries, which allows us to derive nonintuitive predictions about the effect of these prizes on producer returns.

The theory of Tullock lotteries was originally developed by public choice theorists to explore the issue of rent-seeking (Krueger 1974; Tullock 1967). In this technical usage, a "rent" is a surplus derived from a resource that nature or social structure holds fixed in supply (Sørensen 1996), such as profits of a legally enforceable monopoly or a domestic industry protected by tariffs. The pursuit of rent-producing resources is called rent-seeking, which can be extremely costly in time, money, and other efforts. A rich literature in economics has employed formal modeling and lab experiments to study Tullock lotteries (see Konrad [2009] for a recent survey), but so far relatively little research has systematically examined Tullock lotteries in real-world social settings.

In general, Tullock lotteries are a model for an unusual form of exchange in which a market actor is less a purchaser than a gambler. In most other forms of market exchange, only the actor who actually acquires a resource has to pay for it, while those who fail to attain it get to keep their money. In contrast, Tullock lotteries characterize situations where all aspirants bear costs but the resource is awarded only to the winner (Krueger 1974; Tullock 1967). That is, in a Tullock lottery, one pays a bid and then may or may not receive the resource, with the likelihood of winning being proportional to the magnitude of one's bid.[1] Moreover, bidding expenses have no salvage value for the unsuccessful bidder; the efforts of those who do not attain the resource are simply lost. Consequently, even if the winner enjoys substantial rents, the costs incurred by

the losers must be included in reckoning the expected value of rent-seeking.

Paralleling the structure of Tullock lotteries, we suggest that prize winners tend to be among those with the most impressive efforts. However, unsuccessful prize seekers do not regain either the direct outlays in time and effort they invested in lobbying for the prize nor the indirect costs they incurred through changing their strategy to appeal to the prize jury. That is, prizes can be viewed as valuable resources allocated to winners of competitions determined by a combination of luck and prize seekers' irrecoverable expenditures. From this perspective, prize-seeking can be viewed as akin to buying lottery tickets (Frank and Cook 1995).

These observations have important implications for the payoff structure of producers in markets with prizes characterized by the three scope conditions outlined earlier. When considered net of one another, winning should be valuable but prize-seeking should be costly. Prize winners benefit substantially from the judgment device's credentials conferred upon them, but the discontinuous nature of prizes means that also-rans will experience no prize benefits while still facing the burden of wasted prize-seeking expenses. Thus, we propose the following:

> *Hypothesis 1:* When considered net of winning, returns to prize-seeking will be negative.

A corollary is that because rent-seeking is expensive and uncertain, it can dissipate the expected value of rents. That is, the long-run expected value of rent-seeking should generally be a normal rate of return (Krueger 1974; Tullock 1967). Although rent-seeking returns are bimodal (being higher than normal for those who achieve the rent and lower than normal for those who try and fail), the expected value should be zero. This suggests that a prize-seeking strategy should not have a gross effect on market success.

> *Hypothesis 1a:* When pooling together prize winners and also-rans, returns to prize-seeking will be average.

PRIZE SEEKERS AND PRIZE WINNERS

As argued earlier, Tullock lotteries conceptualize rent-seeking as the placing of bids for a valuable resource. In mathematical proofs, these bids are conceived of as either money or the conceptually clean but vague construct of "utility." In contrast, bids are difficult to observe in many real-world social settings, because they do not come in monetary forms and utility is as difficult to measure in empirical work as it is easy to model in formal theory. Appealing to prize juries while sacrificing mass audience appeal is a type of bid that is difficult to measure due to its nonmonetary form. Worse, by only revealing a small number of winners (rather than ranking all candidates) and providing relatively few specific details regarding the reasons for selecting these winners (rather than providing an explicit scoring schema) (Karpik 2010), prize competitions exacerbate the difficulty of estimating the extent of rent-seeking by individual producers. In other words, an external observer only learns who wins and who does not, but not why or how close each loser came to winning. In this section, we use Bourdieu's theory of artistic consecration to motivate an approach to reconstructing the underlying distribution of prize-seeking.

Bourdieu (1993) emphasizes that the evaluation criteria applied by instruments of consecration are often implicit, abstract, and esoteric. Whereas it is clear that the logic of consecration is typically distinct from the preferences of mass consumers, it is difficult to clearly specify what that logic is. Individual producers in fields structured by consecration must exert significant effort in searching for the "culturally pertinent features endowed with value in the field's own economy" (Bourdieu 1993:117) and in implementing those features in their own production to increase their chances of gaining prestige. An important mechanism for doing so is mimesis (Bielby and Bielby 1994; Bourdieu 1977, 1990), the process of imitation whereby producers adopt

principles that successful peers have used in the past.

In deciding how to seek the endorsement of a judgment device, producers can use the heuristic of how the judgment device has treated various types of products in the past. By doing so, producers can reverse engineer the tacit criteria applied even in esoteric adjudication. For instance, if a judgment device tends to favor products adhering to a particular set of artistic themes, producers can pursue the device's endorsement by adopting those themes.

Therefore, we argue that one can accomplish the otherwise intractable task of operationalizing prize-seeking by exploiting the tacit logic of prize seekers to imitate the observable traits associated with past prize winners. One can then measure the prize potential of any given product in the present by mapping how strongly it embodies these observable traits. In the same way that larger bids make one more likely to win a Tullock lottery, greater prize appeal—as reflected in one's similarity to recent prize winners— makes one more likely to win a prize.

> *Hypothesis 2:* Similarity to recent prize winners on observable traits will increase the chance of winning.

THE EMPIRICAL CASE: HOLLYWOOD AND THE OSCARS

We test our hypotheses within the context of the Hollywood film industry, home to one of the world's most prominent prizes: the Academy Awards, or Oscars (Levy 2003). The Oscars constitute the model for cultural prizes in the field of entertainment (English 2005), with such widely imitated features as public nominations, final awards announcement as spectacle, and an annual cycle recognizing achievements from the previous 12 months.[2] The Oscars represent a particularly compelling setting for our research, because they clearly reflect the three general features of prizes that we propose should trigger a Tullock lottery reward structure.

First, the Oscars function as an influential judgment device. A movie is a classic example of an experience good—people do not know for certain whether they will like a movie until they have seen it, and they will not get a refund if it did not meet their expectations (Lee 2009).[3] Due to this high ex ante uncertainty, consumers' decisions of whether to view a particular movie must rely on judgment devices (Deuchert, Adjamah, and Pauly 2005). The Oscars are among the most important judgment devices in the film industry (Deuchert et al. 2005; English 2005). Commonly conceived of as a prime indicator of cinematic qualities and achievement, the Oscars have long been the focus of audience attention. Similarly, producers follow outcomes of the Oscars very closely and often incorporate information about Oscar wins and nominations when promoting a movie (Lee 2009).

Second, the Oscars create a sharp discontinuity between those who are nominated for an Oscar and those who are not.[4] The original objective of establishing the Oscars was to recognize excellence in film, making the "best" in the field salient and thereby increasing the esteem (and market demand) for the selected films disproportionate to those that are not considered "best" (Lincoln 2007; Rossman, Esparza, and Bonacich 2010). Nelson and colleagues' (2001) empirical results illustrate how the Oscars transform small differences in quality into large differences in earnings. They estimate that being nominated for Best Picture creates an additional $4.8 million (in 1997 dollars) in box office.

Third, the Oscars are awarded by a jury of film experts. Academy members of each relevant branch are eligible to make nominations—for example, writers nominate writers and actors nominate actors—and members of all branches nominate films for Best Picture (Levy 2003). In total, 5,783 Academy members were entitled to vote for the 2012 Oscars (Academy of Motion Picture Arts and Sciences 2011)—a relatively small and highly select group compared with all Hollywood workers, and even more so compared to audiences in general. Academy members are

recruited from prior nominees and other artists sponsored by members, giving the Academy the character of an elite jury of experts in the field (Deuchert et al. 2005). These experts differ from the average moviegoer not only in terms of training and status but also in terms of demographics; the average Academy member is decades older than the movie industry's median customer and they are disproportionately non-Hispanic white men (Caves 2000; Horn, Sperling, and Smith 2012). These differences suggest that Academy members tend to emphasize different evaluative criteria than do ordinary movie audiences. Consequently, film producers catering to Academy members' preferences may incur a nontrivial cost by sacrificing direct audience appeal.

Given their close fit with our theory's scope conditions, their usage in prior sociological research (e.g., Faulkner and Anderson 1987; Lincoln 2007; Rossman et al. 2010), and the availability of systematic data over a prolonged period of time, we use the Oscars to test our hypotheses. The unit of analysis is the film. More specifically, we analyze films released from 1985 to 2009 (i.e., films eligible for the 58th through 82nd Academy Awards).[5] Data on these films came from the Internet Movie Database (IMDb) and studio-system.com. We restricted the sample to films appearing on Academy eligibility ballots, which in practice means films that had a Los Angeles County theatrical run during the release year. We further restricted the sample to exclude foreign-language, animated, and documentary films, because these films are on the edge of the field and not directly comparable. For our primary analyses, we use only films with observable budgets ($n = 2,919$), but Part B in the online supplement shows that all results are robust to also including films without observed budgets ($n = 3,732$).

Our analyses proceed as follows: We first use a lagged regression model of Oscar nominations to define each film's Oscar appeal as a function of genre, plot keywords, and various other traits. We then explore financial returns as a function of Oscar appeal and Oscar nominations. Between these two analyses, we are able to model the Oscars as a Tullock lottery by operationalizing the magnitude of a nonpecuniary bid and then testing its effect on ultimate financial outcomes, both in expectation and net of achieving the prize.

OSCAR APPEAL

One of the central concepts addressed in this article is the extent to which a film's traits conform to those valued by Academy voters. The entertainment press and other close watchers of the film industry have a strong shared understanding that some films pursue an Oscar strategy, but this is less often articulated than assumed (or satirized, as in *Tropic Thunder* [2008]). Among the most common terms for such films is "Oscar bait," a term that implicitly mocks these films for their aggressive pursuit of prizes, in contrast to the coy detachment artists are expected to show (English 2005). To avoid the pejorative connotations of that term, and to emphasize that we treat the plausible potential for achieving Oscars as a continuous concept rather than a discrete category, we refer instead to films' varying degrees of "Oscar appeal."

Oscar appeal faces a measurement challenge because it is not explicitly reported in any database. We thus must operationalize a metric that allows us to rate how closely the strategy of each film in our data frame approximated the Oscar appeal formula at the time of its release. Such an operationalization has several complications. First, we ideally want our measure of Oscar appeal to reflect an ex ante perspective of a film's intended strategy that is unbiased by whether the film was actually nominated or even by how well-executed the film was. Second, we want to allow for the possibility that the Oscar appeal formula has evolved over time rather than risk anachronistically applying current understandings of Oscar appeal to films released decades ago. Third, we want our operationalization to be scalable to a relatively large number of films to allow for quantitative analyses. All these criteria point to the use of

computerized coding of Oscar appeal rather than use of human coders.

With this in mind, and following a logic similar to Tolnay, Deane, and Beck's (1996:798) approach of calculating the expected number of events, we conceive of Oscar appeal as an approximation of the "Oscar formula" as implicitly understood by filmmakers and Academy members at particular points in time. Our operationalization involves a three-step process to measure Oscar appeal as the degree to which a film's characteristics resemble recent nominees.[6] First, we collected information on various film characteristics from IMDb and recoded the keyword and genre variables into summary indices. This recoding allows us to include string variables that are too sparse to analyze otherwise. Second, we performed negative binomial regressions (over a series of rolling five-year windows)[7] to determine the impact of these film characteristics on receiving major category Oscar nominations (acting, writing, director, and Best Picture). Third, we constructed each film's Oscar appeal as the linear prediction of the regression coefficients from the immediately preceding five years. The predicted values based on this (lagged) model operationalize the extent to which filmmakers crafted films with Oscar appeal, regardless of whether they actually received nominations. The rolling windows in step two and the lag from step two to step three avoid endogeneity in defining Oscar appeal (and have the added benefit of allowing for the possibility of changes in fashion). In the following sections, we describe each of these steps in more detail and validate the resulting Oscar appeal measure.

Genres and Keywords

IMDb has two files describing the thematic content of films. These files deserve special attention because their categorical nature makes them technically demanding to integrate into the analysis and because they are where we would expect to find indications of the aesthetic dimension of Oscar appeal. The IMDb "genres" file describes a close-coded system distinguishing 19 broad genre categories of films.[8] In contrast, the IMDb "keywords" file is an open-coded system with thousands of much more specific thematic elements.[9] Both files have a field-tagged data structure, meaning that codes are non-mutually exclusive descriptions rather than a mutually exclusive dummy set. For instance, *When Harry Met Sally…* (1989) has the genres comedy, drama, and romance as well as 39 keywords, including sex, friendship, University of Chicago, and fake orgasm. All thematic tags attached to a film are implicitly equal, with no distinction of primary/secondary, plot/subplot, or the like.

Both genres and keywords present considerable analytic difficulties in any type of statistical estimation strategy. First, both variables run into perfect prediction problems when a particular theme appears only in films that do not receive any Oscar nominations in a given period. Moreover, keywords are open-coded, so there are a very large number of unique strings and a very sparse matrix for combinations of film and keyword strings. As such, it is impossible to derive weights for individual keyword strings through any sort of regression or factor framework. Rather, we define our theme indices by formula, although coefficients for effects of these indices upon achieving Oscars are of course estimated by regression. Although we define genre and keyword values separately, we will describe them together with the generic term "themes," because the algorithms used are the same for both.

Conceptually, we use earlier-nominated films to define the Oscarness of themes, which in turn informs the Oscarness of later films that use these themes. This logic of recursively refracted prestige is common in cultural sociology, for instance, in Bourdieu's (1993) model of artists/authors deriving prestige from critics and gallerists/publishers, who in turn derive prestige from artists/authors. Our approach also parallels work in economics and political science that measures the political tone of press coverage by means

of catchphrases or NGOs appearing in press coverage, with weights for these references derived from the voting records of members of Congress who use these phrases (Gentzkow and Shapiro 2006; Groseclose and Milyo 2005).

Let i be a theme and j a film with ζ_{ij} being a dummy for theme i being attached to film j. Then $n_{i(j)}$ would be the number of films using a particular theme and $n_{j(i)}$ would be the number of themes that describe a particular film. We can take κ_j, or the number of major category Oscar nominations earned by film j, as our datum for Oscarness. We would like to log this variable but cannot as it has many zeroes; thus, we substitute the closely related inverse hyperbolic sine function (Burbidge, Magee, and Robb 1988). This diminishing function of major category Oscar nominations constitutes our measure of a film's Oscarness, which we use to inform our understanding of the Oscarness of the themes associated with it. We first scale this expression by the root number of themes attached to a film to reflect that in some sense a film's Oscarness is shared by its thematic elements. We then sum together all the scaled Oscarness for films associated with a particular theme and divide this sum by the frequency of the theme so as to give an indication of the Oscarness for the theme's average film. The result is λ_{it}, which can be understood conceptually as how tightly associated with the Oscars a particular theme is at a particular time.

$$\lambda_{it} := \frac{\sum_{j=1}^{J} \zeta_{ij} \dfrac{ln\left(\kappa_j + \sqrt{\kappa_j^2 + 1}\right)}{\sqrt{n_{j(i)}}}}{n_{i(j)}} \qquad (1)$$

Although there is some change from year to year, on a fairly consistent basis the highest λ_{it} genres are drama, war, history, and biography, whereas the lowest are usually horror, science fiction, action, and family. The λ_{it} of keywords oscillates more than that of genre; for convenience we draw examples with reference to the year 2009, when among the high λ_{it} keywords were bribery, effeminacy, and ambiguous ending, whereas low λ_{it} included

animal attack, sword fight, and eaten alive. To assess intertemporal correlations of genre and keyword λ_{it} across years, we calculated Cronbach alphas and obtained values of .92 and .87, respectively, suggesting that both scores are relatively stable. Further analysis of how and why λ_{it} shifts over time is beyond the scope of this article; for present purposes, allowing temporal variation can be understood as a conservative assumption.

We then use these λ_{it} scores to define τ_j, which conceptually measures how extensively a film uses themes associated with the Oscars. For this purpose, we calculate the sum of λ_{it} of all themes associated with a film. Note that to avoid a semi-tautological usage, as well as to allow for a possible causal process of imitation, we define a film's τ_j based on λ_{it} scores calculated from a lagged rolling window covering films from the previous five years. For instance, films about boxing were nominated in both 1980 (*Raging Bull*) and 2004 (*Million Dollar Baby*). This means that having the keyword "boxing" would make a positive contribution to a film's τ_j from 1981 to 1985 and 2005 to 2009.

$$\tau_j := \sum_{i=1}^{I} \lambda_{it} \zeta_{ij} \qquad (2)$$

Estimation of Oscar Appeal

Because films are not explicitly rated by their Oscar appeal, we must measure Oscar appeal operationally as how closely a film conforms to the model of recent films that garnered Oscar nominations. Specifically, in Table 1 we model the number of major category Oscar nominations each film garnered using negative binomial regression as a function of observable traits. We use negative binomial regression because the dependent variable (number of above-the-line nominations per film) is almost perfectly described by a negative binomial distribution (with a mean of .3, over-dispersion of 13.2, and no zero-inflation).[10] To allow for nonlinear effects, we break our most important continuous variables into linear splines at the time-specific median.

Table 1. Negative Binomial Regression of
Total Nominations

Genres τ_j	
Spline: Minimum to Median	15.576***
	(2.954)
Spline: Median to Maximum	1.640*
	(.640)
Keywords τ_j	
Spline: Minimum to Median	2.636***
	(.489)
Spline: Median to Maximum	.699***
	(.093)
MPAA Rating: R	.385**
	(.141)
Contributors with Prior Nominations	
Actors	.259
	(.157)
Writers	.070
	(.177)
Director	.849***
	(.181)
Distributor[a]	
Major	.107
	(.171)
"Independent" Division of Major	.611**
	(.198)
Release Date	
Spline: 1 to 180	.006*
	(.002)
Spline: 180 to 320	.007***
	(.002)
Spline: 320 to 366	.020**
	(.007)
Constant	−8.557***
	(.634)
Log(Alpha)	
Constant	1.332***
	(.105)
Log-Likelihood	−1230.845

Note: N = 2,919. Standard errors in parentheses.
Cases with missing values for budget are
dropped.
[a]The reference category is true independent
distributors (e.g., Lionsgate).
*p < .05; **p < .01; ***p < .001 (two-tailed tests).

As mentioned earlier, subsequent analyses
base Oscar appeal on coefficients calculated
with the previous five years' films. For space
reasons, we present results based on data pooled

across years, but the actual Oscar appeal metric
is based on 25 rolling windows (for details, see
Part C in the online supplement).

For convenience of presentation, we intro-
duce the independent variables as we discuss
their effects. Conceptually, we consider Oscar
appeal to be strategy rather than quality or
outcome, so we base our measure only on
information that was knowable prior to a
film's release and that could be expected to
affect a film's likelihood of being nominated
for an Oscar: genres, keywords, MPAA rat-
ing, contributors' prior nominations, distribu-
tor, and release date.

First, we consider a film's themes. Genres
and keywords are, respectively, the broad
conventions and the specific elements of a
film's artistic content (Waguespack and
Sorenson 2011). As discussed earlier, we do
not enter these thematic elements directly into
the model but rather use τ_j to summarize how
closely a film's themes resemble those of
recent nominees. Both genre and keyword τ_j
have very strong effects, dwarfing most other
effects in the model. Interestingly, both of
these thematic effects are concentrated on the
lower end of the scale, such that there are
huge increases as a film moves from low to
moderate values of τ_j and smaller (but still
large) effects as a film moves from moderate
to high values of τ_j.

As an additional measure of a film's con-
tent, we include a dummy for an MPAA rating
of R, because this rating gives more artistic
flexibility, which tends to be favored by prize
voters (Simonton 2005). Indeed, we find that
R-rated films attract more nominations.

We include specifications for prior nomi-
nations. This variable follows from extant
literature on Hollywood's Matthew effect
dynamics in status, which shows that actors
are more likely to be nominated if they are
prior nominees or worked with writers or
directors who were previously nominated
(Rossman et al. 2010). In our analysis, prior
nominations are statistically significant for
directors but not for writers or actors.

The distributor is the company that adver-
tises films and disseminates prints to theaters

(Zuckerman and Kim 2003). Distributors select film projects to match a market strategy and are responsible for any Oscar marketing campaign. We find that the most advantageous type of distributor for attaining Oscar nominations is the "independent films" subsidiary of a major studio (e.g., Sony Pictures Classics or Focus Features). These specialty divisions outperform mainstream divisions of major studios and true independent distributors (the reference category).

Finally, we include the day of the year because films are most able to commercially leverage Oscars if they are still in theaters when nominations are made (Lee 2009; Nelson et al. 2001). Consistent with exploiting this dynamic, the later in the year a film is released, the more nominations it attracts. As revealed by the spline specification, the effect is gradual for the first half of the year and the early fall, then accelerates dramatically in late November with the start of Oscar season. The linear prediction effect of being released on Christmas versus New Year's Day is 2.9, a respectable effect comparable to having advantageous keywords. This finding is consistent with the practice of Oscar-contending films having a qualifying run (i.e., a token theatrical release) around Christmas.

Validation of the Oscar Appeal Measure

The result of this algorithm is our Oscar appeal variable. The variable follows a normal distribution with a mean of –3.1 and a standard deviation of 2.1. Although the coefficients that define the metric are estimated with count models, the variable is normal because we use the linear prediction (i.e., before exponentiation). Some examples of films from various parts of the distribution will serve to illustrate the metric's face validity. Examples of films from the left tail (i.e., with extremely low Oscar appeal) include *The Hottie & the Nottie* (2008) and *The Foot Fist Way* (2006). Examples from near the mean/median include *Guinevere* (1999) and

How Stella Got Her Groove Back (1998). In the extreme right tail we find many films that achieved multiple nominations, like *Out of Africa* (1985) and *The Aviator* (2004). However, many films with high Oscar appeal did not actually receive any nominations. For instance, the film with the very highest estimated Oscar appeal in our analysis, *Come See the Paradise* (1990) (which had a qualifying run and is about Japanese-American internment during World War II), achieved no nominations (and had a paltry box office).

In addition to the face validity of these examples, we can test the validity of Oscar appeal by relating it to information from other sources (Homburg et al. 2012), specifically, three metrics reflecting estimations of Oscar appeal made by various expert audiences: Academy voters, entertainment journalists, and (in Part F of the online supplement) the studios themselves.

We first validate the Oscar appeal metric by using it to predict the number of Oscar nominations. As Table 2 shows, the effect is highly significant, with a slope of almost one. This reflects the fact that the Oscar formula evolves slowly: a film released today has a reasonable likelihood of Oscar nomination if it is similar (especially in genre and keywords) to Oscar-nominated films released over the previous five years. Figure 1 shows a similar pattern through plotting kernel density of Oscar appeal broken out by how many nominations films actually achieved.

As Figure 1 shows, films with no nominations have a dramatically lower distribution of Oscar appeal. Among films with one or more nominations, the mean Oscar appeal increases along with the actual number of nominations, but at a diminishing rate. The difference in Oscar appeal between films with no nominations and those with at least one nomination is extremely significant, with a t value of –22.7 (n = 2,919).

We can compare Oscar appeal not only to actual Oscar nominations but also to experts' prospective views. For this purpose, we compare Oscar appeal to predictions published in

Table 2. Negative Binomial Regression of Total Nominations

Oscar Appeal	.878***
	(.047)
Constant	.034
	(.097)
Log(Alpha)	
Constant	1.420***
	(.104)
Log-Likelihood	−1255.175

Note: N = 2,919. Standard errors in parentheses. Cases with missing values for budget are dropped.
*p < .05; **p < .01; ***p < .001 (two-tailed tests).

Entertainment Weekly (EW). This popular magazine annually publishes a list of nomination predictions before the actual nominations are made. EW has published these predictions since the 67th Academy Awards (i.e., films released in 1994). During this period we observe 2,278 films. EW's list is broken out by category, but, as with actual nominations, we sum EW's predictions by film and compare films by Oscar appeal. We find a large and statistically significant ($t = -24.7$) difference in our Oscar appeal measure between films with zero EW-predicted nominations and those with at least one EW-predicted nomination.

We can also use EW's predictions to compare actual nominations, also-rans, and films not even in the running. EW typically gives about twice as many predictions as there are actual nominations. The EW list usually identifies all actual nominations, plus a roughly equal number of false positives; we consider the latter to be also-rans. Figure 2 shows a kernel density plot of Oscar appeal for films that were neither predicted by EW nor nominated by the Academy, films EW predicted but that failed to be nominated, and films EW accurately predicted would be nominated. Films that were neither nominated nor predicted show a noticeably lower distribution for Oscar appeal. In contrast, the also-ran and

nominee curves overlap substantially. Nonetheless, EW predictions that did receive nominations have higher average Oscar appeal than do the also-ran failed predictions, and the difference is statistically significant, with a *t* value of –5.6.

Summary of Oscar Appeal as a Metric

Overall, we see that Oscar appeal can be effectively measured as a continuous variable based on predicted values of previous nominations. The variable primarily measures genres, keywords, and release dates, with additional nontrivial contributions from type of distributor, Oscar track record of the director, and MPAA rating. Using these observables allows us to construct a continuous variable ranking each film along what is otherwise a tacit aesthetic distinction, which (to borrow a line from Justice Stewart) could previously only be described as "I know it when I see it."

We validated this Oscar appeal metric by showing that it is associated with actual nominations. Moreover, and more tellingly, it is also associated with two measures of expert anticipation. Films flagged by *Entertainment Weekly* as likely nominees have very high levels of Oscar appeal. Likewise, as seen in Part F of the online supplement, films with Oscar marketing campaigns in *The Hollywood Reporter* have very high levels of Oscar appeal. In both cases, the level of Oscar appeal is especially strong for (but not limited to) films anticipated by experts that then went on to actually receive nominations. Hence, we find support for Hypothesis 2, which suggested that products with traits similar to recent prize winners will be more likely to win prizes themselves.

Our Oscar appeal metric accomplishes the difficult task of operationalizing the extent to which artworks conform to the esoteric criteria of artistic gatekeepers, as expressed in their prior consecrations. In constructing this metric, we incorporated information from
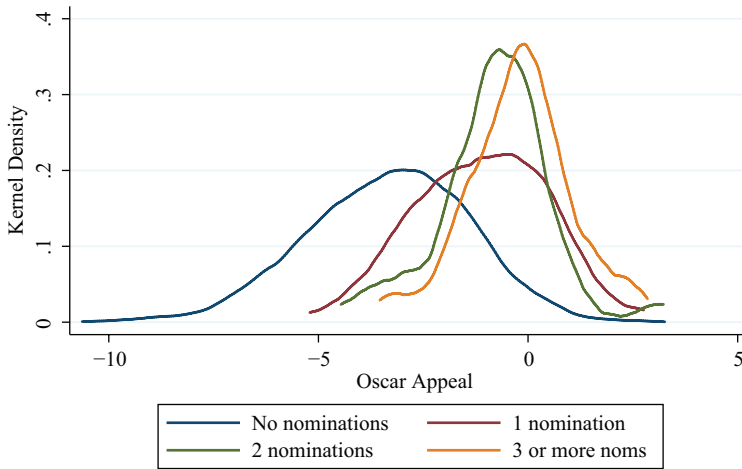
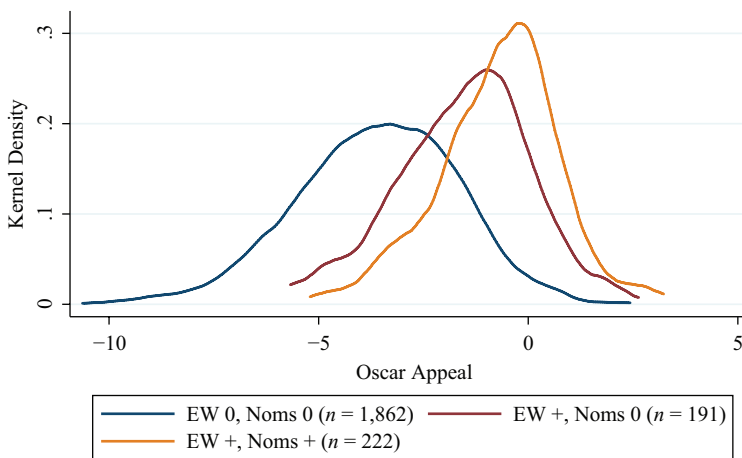**Figure 1.** Distribution of Oscar Appeal by Actual Number of Nominations

Figure 2. Distribution of Oscar Appeal by *Entertainment Weekly* Predictions and Actual Nominations
Note: The three films that were nominated but not predicted by EW are not shown.

string-based thematic content codes using an algorithmic solution; the resulting indices, genre and keyword τ_j, have particularly high predictive power. Given the increasing prevalence of string-based datasets thanks to web scraping and digitization, our methodological approach should have manifold potential uses in future sociological inquiry. First, the present study allows for, but does not substantively or theoretically explore, the possibility of temporal shifts in λ_{it} and the regression

coefficients used to calculate predicted values. Future research could apply our metric to explore temporal shifts to understand how prize reactivity affects the frequency and prestige of different elements. Second, going beyond film, the algorithm we developed for calculating λ_{it} could also be used to interpret field-tagged thematic databases from other culture industries, such as the All Music Guide and the Music Genome Project. Third, our methodological approach could be applied

to various types of nonmonetary rent-seeking in fields beyond culture.[11]

ANALYSIS OF FINANCIAL RETURNS

We now treat Oscar appeal as an operational measure of prize-seeking and use it to explore how such a strategy affects financial returns. We use financial returns as our key empirical measure of a film's commercial success. Financial returns are significant not just for individual producers' income statements but also for the long-term composition of fields, because rational (or even boundedly rational) financiers will avoid backing strategies that consistently lose money. In the long run, strategies with a lower than average expected value will occur less frequently. Note that this reductive *homo economicus* model could hold even if artists either place a nonpecuniary value on prizes or use them as investments to build reputations with pecuniary returns over the long run (Lincoln 2007). Indeed, it is common for movie stars to work for well below their usual quote fee to make films that might win them prizes. From the financier's perspective, such a film might be inexpensive to make due to the implicit subsidy (in the form of an enormous opportunity cost) borne by artistic labor.

To measure financial returns, a film's revenues must be considered in relation to its expenditures, which is why we divide box office by production budget.[12] Our box office data come from studiosystem.com and focus on each film's initial theatrical run; our production budget data come from IMDb. Both box office and budget follow over-dispersed count distributions. In millions of constant 1983 dollars, box office has a mean of 24.5 and a standard deviation of 32.1, whereas budget has a mean of 18.6 and a standard deviation of 17.4. Moreover, as would be expected in a more or less efficient market, budget and box office have a reasonably high correlation of .60. The box-office-to-budget ratio has a lower bound of zero (i.e., bombs) and an upper bound asymptotically approaching infinity (i.e., films with tiny budgets but

high box office). The box-office-to-budget ratio is highly skewed, with numerous films that made almost no money and a handful of commercially successful but cheap films in the right tail. *The Blair Witch Project* (1999), whose box office was 2,314 times greater than its $60,000 budget (in nominal dollars), has the highest value. As is typical for ratios of counts, this variable has an extremely right-skewed distribution. Thus, we take the natural logarithm, for exactly the same reasons as one commonly transforms odds into log-odds. Our dependent variable of log(box office/budget) has a normal distribution (mean of –.1, standard deviation of 1.3) with no floor or ceiling truncation, which allows us to employ Ordinary Least Squares regression. Finally, note there are nontrivial levels of missing data for budget. We handle this through casewise deletion here but Part B in the online supplement shows results are robust to multiple imputation.

Using this measure of financial returns as a dependent variable, we investigate Hypotheses 1 and 1a in Table 3. The Oscar appeal variable not only has a substantive interpretation as a prize-seeking strategy, but it also captures the selectivity of Oscar nominations. At this point, the model can be understood to have a quasi-experimental design, such that experiencing the treatment (i.e., Oscar nominations) is random net of the predicted values (i.e., Oscar appeal) (Brand and Xie 2010; Morgan and Winship 2007).[13] Two things follow from this. First, the effect of Oscar nominations net of Oscar appeal can be interpreted as a treatment effect, not a selection effect. Second, the ignorability assumption holds that under such circumstances, control variables are superfluous for getting an unbiased estimate of the treatment effect.[14] As such, we have somewhat minimalist models and interpret Oscar appeal as controlling for selectivity to Oscar nominations. It is worth repeating that our measure of Oscar appeal is deliberately based only on information that was knowable before a film's release; thus, effects of earlier prizes (e.g., the Golden Globes) and other forms of buzz are already priced-in to

Table 3. OLS Logged Ratio of Box Office to Budget

	1	2
Oscar Appeal	−.045***	.009
	(.013)	(.012)
Nominations (Inverse Hyperbolic Sine)	.584***	
	(.054)	
Constant	−.592	−.340
	(.915)	(.933)
R^2	.052	.013

Note: N = 2,919. Dummy set for year not shown. Standard errors in parentheses. Cases with missing values of the dependent variable are dropped.
*p < .05; **p < .01; ***p < .001 (two-tailed tests).

the Oscar appeal effect (to the extent they were predictable based on the film's strategy) or the Oscar nomination effect (to the extent they are part of the stochastic component of Oscar buzz). Our regressions include a dummy set for release year, but results are robust to leaving them out.

In Model 1, we model financial returns as a function of Oscar appeal and Oscar nominations. We apply an inverse hyperbolic sine transformation to nominations, which is comparable to a natural logarithm but is more appropriate for variables with a large number of zeroes (Burbidge et al. 1988). Oscar nominations have a strong positive relationship with financial success, which is consistent with our claim that consumer use of prizes as a judgment device transmutes the symbolic capital of prizes into economic capital. More interesting is the effect of Oscar appeal. Net of the effect of nominations, Oscar appeal has an appreciable negative effect on financial returns. This finding affirms Hypothesis 1, which posited that returns to prize-seeking are super-normal for winners and subpar for losers.[15]

Model 2 explains financial success only as a function of Oscar appeal. Results show that the effect is now close to zero and drops out of significance. The coefficient has a *t* of .75, so we cannot reject the null at the standard alpha threshold of .05, or even the more lenient .10 cutoff. Because mixed-strategy equilibrium models (like rent dissipation) make a substantive prediction for the null hypothesis (e.g., Chiappori, Levitt, and Groseclose 2002; Walker and Wooders 2001), this substantively tiny and not even marginally significant coefficient can be treated as consistent with the rent dissipation model of prizes proposed in Hypothesis 1a. That is, in equilibrium, the costs of prize-seeking and the risk-adjusted value of a prize balance one another such that the expected value of a prize-seeking strategy is zero. Note that a mixed-strategy equilibrium of rent dissipation assumes reallocation of strategies at the field level whenever a temporary disequilibrium occurs. How this occurs at the micro level is an empirical question we leave to future research, but it should occur even if we assume a certain rigidity in the level of Oscar appeal that a particular artist can plausibly target, if we instead imagine reallocations of capital. That is, even if we find it hard to imagine James Ivory directing Anthony Hopkins in a slapstick comedy or Michael Bay directing Megan Fox in an inspiring biopic, we might still find that when the expected value of Oscar appeal is high, Ivory will get more of his films greenlit, and when it is low this financing will flow to Bay instead. The rise (in the early 1990s) and decline (over the past decade) of specialty divisions within the studios resembles such a dynamic at an institutional level.

In this section, we demonstrated that net of achieving Oscar nominations, Oscar appeal has a negative effect on financial returns. In essence, there are two types of high Oscar appeal movies—those that do not receive nominations (and tend to lose money) and those that do receive nominations (and tend to make money)—but taken together these two types of movies are no more nor less profitable than movies with low Oscar appeal. This section thus affirms Hypothesis 1 and shows results consistent with Hypothesis 1a. As such, we can conclude that the Oscars follow the structure of a Tullock lottery and seem to exhibit rent dissipation.

CONCLUSIONS

This article has demonstrated how the Oscars shape the reward structure of Hollywood films. We find that appealing to the Oscars is costly, but actually getting nominations is valuable. Consistent with the dissipation of rents that theory predicts will often occur for Tullock lotteries, the negative net effects of Oscar appeal and the positive effects of Oscar nominations counterbalance so that there is no statistically significant zero-order effect of Oscar appeal on financial returns. To analyze this dynamic, we operationalized Oscar appeal on the basis of similarity to recent nominees and validated our metric against multiple independent assessments of Oscar-worthiness.

The major theoretical contribution of this article is to show how prizes can significantly shape the reward structure of markets: prizes often provide substantial benefits to those who win them, even as trying to achieve prizes is costly. This means that returns to prize-seeking are bimodal, with prize winners getting the highest economic returns and also-rans experiencing substantial losses. Although similar risky reward structures are well understood in economics, the Tullock lottery literature primarily applies the model to tangible things like monopoly licenses and does not consider how the model applies to social cognition processes like status shocks from consecration by elite cultural institutions. Conversely, Tullock lotteries are almost unheard of in sociology, although we have a very active literature on judgment devices, market information regimes, and other forms of social cognition. The theoretical synthesis developed here adds to economics that rent-producing resources consist not just of state subsidies or barriers to entry, but also systematic social processes through which information and prestige are refracted. Sociology, for its part, can be enlightened as to how pursuing legitimacy can involve considerable risk for actors when symbolic capital is mediated through judgment devices.

Although our empirical analyses focused on Hollywood and the Oscars, we expect our finding of judgment devices creating Tullock lotteries to generalize whenever three conditions occur. First, the judgment device affects consumer demand. Second, the judgment device involves a categorical distinction between winners and also-rans. Third, pursuit of the judgment device is costly (where costs can include not only direct costs of prize campaigning but also indirect costs like forfeiting direct mass audience appeal to appeal to the taste of elite prize juries).

We suggested these conditions apply to the Oscars in the film industry, but they can also be found in many other cultural fields and beyond. For example, the Tony Awards are a close parallel to the Oscars for theater, with significant economic benefits for productions that get short-listed by the vote of 700 expert judges (Boyle and Chiou 2009). Throughout most of the Anglophone world, the Man Booker Prize is as important to the field of book publishing as the Oscars are to Hollywood (Anand and Jones 2008; English 2005), providing disproportionate benefits to its two to ten finalists selected by a jury of literary critics, writers, academics, and leading public figures (Sutherland 2008). In the field of journalism, prizes such as the World Press Photo Prize and the Pulitzer Prizes provide various benefits to winners who are selected based on elite criteria by panels of leading experts (Below 2010; Topping 1999). Several arts prizes given by academies, such as the Prix de Rome, not only promise publicity but also access to exclusive distribution channels for those chosen as winners (White and White 1993). In academic publishing, prestigious prizes and grants may motivate researchers to adopt more risky scientific strategies (Foster, Rzhetsky, and Evans 2013). Our three scope conditions are not only met by prizes in cultural fields, but they also apply to many other fields. Corporations compete for design prizes, such as the red dot award, and advertising agencies hope to win creativity prizes, such as the CLIO Award, all of which give increased exposure to a limited set of expert-selected winners while denying such exposure to also-rans (Anand and Watson 2004; Frey 2006).

In addition to prizes, our theory is generalizable to other types of judgment devices, such as industry certifications. Industry certifications come in various forms, such as certifications for sustainability, reliability, or top quality, which consumers (and intermediaries, like retailers) in many industries take seriously (Rao 1994). It is expensive to pursue such certification, but a firm can charge a premium if it is achieved. Likewise, tame film content sacrifices audience appeal, but it draws categorical certifications that open the film to younger audiences; filmmakers ideally want the most salacious content possible while still receiving a G or PG rating from the MPAA (Waguespack and Sorenson 2011).

Furthermore, it is instructive to consider our theory's implications for settings where only *some* of the three scope conditions are present. For example, a prize for "most sustainable supply chain in the semiconductor industry" might distinguish winners and losers and diverge from the usual means of appealing to consumers, but it is doubtful many consumers consider such a prize a salient information source in choosing which brand of RAM to use in a computer upgrade. Pursuing such a prize may thus hurt financial performance for winners and losers. Similarly, students are clearly sensitive to rankings when choosing a law school, and there are expensive ways for schools to game the rankings (Espeland and Sauder 2007), but the ordinal style of information in a ranking will obviate the sharp risk present in prize-seeking. For example, a law school that narrowly fails to be ranked #28 will still be ranked #29 or #30, a far less detrimental outcome than the lack of any recognition that befalls also-rans in a prize regime (Sauder 2006). Finally, consider the Billboard Music Awards, which honor chart-topping records. The Billboard Music Awards show makes winners more salient to its primetime network television audience and (unlike the Billboard charts) creates a discontinuity between winners and those who failed to win by a narrow margin. However, it is not costly for a musician to pursue Billboard Awards because they are mechanically allocated on the basis of market

success, meaning they reinforce cumulative advantage rather than create a Tullock lottery.

Likewise, we can consider situations where a condition applies to a lesser or greater *extent*. Most obviously, judgment devices can vary in how effectively they structure demand, with some being highly salient to consumers and others less so. For instance, it seems likely that Oscars have a greater effect on attracting film audiences than Emmys do for television audiences. Conversely, for goods that are regularly given as gifts, prizes can be even more salient consumer judgment devices than the Oscars are for film, as with the Newbery Prize for children's books (English 2005) or the German Spiel des Jahres prize for board games (Woods 2012). Similarly, the strength of the costly to pursue criterion may be found in attenuated form, especially when a judgment device is intended to measure popular appeal (or other forms of technical efficacy) but where it is still possible to game the criteria. For example, many of the criteria for selecting the most valuable player (MVP) of the National Basketball Association (NBA) are consistent with technical efficacy considerations, but Nutting (2010) finds evidence that feasible contenders show reactivity by adjusting their play to exhibit more aggressive offence to increase their chances of winning the award, although doing so may reduce scoring efficiency (Berri, Schmidt, and Brook 2006). Conversely, the aesthetic favored by elite literary prizes is probably more distinct from that of the average fiction reader (and thus more costly to pursue) than the Oscars aesthetic is distinct from that of the average filmgoer.

Ironically, the most interesting condition to treat as a gradational concept is that of sharp discontinuities. One can think of a continuum of how sharply judgment devices draw distinctions, with the extreme case being a prize with a single winner and no runners-up. The Oscars are typical of many entertainment prizes in that they somewhat relax the sharp discontinuity criterion by virtue of recognizing multiple categories as well as both winners and nominees. Even more subtly, rankings and ratings often have prize-like natures. Although we contrast prizes to rankings, many

rankings involve discontinuities due to finite length or internal demarcations of salience; on these margins, rankings may behave like prizes (Sauder 2006; Sauder and Lancaster 2006). For instance, *The New York Times* Best Seller list is a ranking, but the 35th bestselling novel in the country can describe itself as a "*New York Times* Best Seller," whereas this boast is denied to the country's 36th most popular fiction title. Publishers and authors use consultants to game this distinction through such tactics as giving perks to consumers who buy through pre-sales or making temporally concentrated straw purchases (Trachtenberg 2013). Similarly, Michelin stars are often conceived as a rating, but receiving even a single star is commonly understood as a significant signal of prestige, introducing a sharp demarcation between chefs with and without a star and making chefs very attentive to Michelin inspections (Rao, Monin, and Durand 2003). Our findings thus speak to rankings and ratings that take on a prize-like character. Hence, we may see Tullock-lottery-style effects not only from prizes but also from other judgment devices such as tiered rankings—although presumably in attenuated form if the scope conditions apply only weakly.

Overall, our study opens the door for a new agenda of research aimed at clarifying how various characteristics of judgment devices influence the structure of reward allocation. Ultimately, comparative inquiry into various fields with different types of prizes could show how distributions of behaviors and outcomes are structured under different combinations of absent, moderate, or strong forms of each of the three conditions.

So far, we have mainly emphasized the role of prizes for their impact on individual producers. In closing, we consider how prizes may shape entire fields. Information regimes can have powerful effects in structuring fields, as seen by effects of sales charts as compared to those of information regimes institutionalizing social network analysis (Anand and Peterson 2000; Healy 2009; Rossman 2012). We suggest that when our three conditions hold, prizes can shape fields through their effect on the reward structure of different market positions.

By creating more favorable conditions for certain market positions, it is reasonable to assume that prizes consumers treat as judgment devices lead to more products occupying those market positions. In fact, one purpose of many prize-givers is to provide incentives for producers to emulate prize-winning achievements, lending prestige to products that conform especially strongly with the criteria applied by the prize (English 2005; Goode 1978). This article showed that, net of actual nominations, prize appeal can reduce financial returns, so this implies that the possibility of getting prize nominations drives the existence of products with high prize appeal that might otherwise be economically unsustainable to produce. As such, in the counterfactual without the prize, fewer products with high prize appeal might exist. Conversely, note that existence of a prize does not change the reward structure for low prize-appeal products. The Tullock lottery structure is compatible with a mixed strategy equilibrium in which some actors play the prize game and others sit it out.

By creating rewards for prize-seeking while not harming other strategies, prizes can increase a field's breadth. The role of the Oscars in Hollywood implies that biopics in which the historical protagonist overcomes oppression can coexist with popcorn movies about robots fighting aliens. This contrasts with such continuous judgment devices as rankings and critic ratings, which affect the vast majority of producers *regardless of their current position* (Sauder 2006; Sauder and Espeland 2009). A winery can always ship more cases by getting another point in the Parker guide, and a law school can always attract more numerous and qualified students by moving up a few slots in *US News*. Hence, field-level effects of continuous and discontinuous judgment devices will differ markedly, with rankings and ratings encouraging isomorphism and prizes promoting diversity—with diversity of cultural products being, of course, an outcome at the heart of the production of culture tradition (e.g., Lopes 1992; Peterson and Berger 1975). However, this diversity-promoting effect will occur only to the extent that prizes also meet the costly to pursue criterion, otherwise they will not be

characterized by Tullock lotteries but rather by cumulative advantage, promoting isomorphism at the field level by increasing the success of projects that exemplify logics already directly rewarded by the mass audience.

In the last generation, sociology has gone beyond a general notion that perceptions are socially constructed to an agenda oriented around studying how specific social institutions refract messy reality into comprehensible judgment devices (e.g., Anand and Peterson 2000; Hsu 2006; Karpik 2010; Zuckerman 1999). This research agenda shows how the structure of information rewards some actors over others and how such rewards, in turn, give market information regimes disciplining power or isomorphism (Rossman 2012; Sauder and Espeland 2009; Zuckerman 2000). Our study advances this stream of research by suggesting how benefits of favorable assessment depend not only on the criteria applied in synthesizing information, but also on the form in which this information is presented, with categorical information such as prizes having effects that are different in nature from continuous information such as rankings or ratings.

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Notes

1. Tullock lotteries are closely related to "all-pay auctions," in which the highest bid always wins. These two forms of exchange differ in that all-pay auctions are deterministic whereas Tullock lotteries are probabilistic.
2. Many prizes focus on recent achievements, but not all do. Notably, the Nobel Prize is effectively a lifetime achievement award that often honors accomplishments that are a generation past (Zuckerman 1996). Such slow tempo prizes differ nontrivially from the "previous year" prizes assumed by our model, and generalization may or may not apply.
3. For thoughts on alternative models of the film-going experience besides experience goods, see Part A of the online supplement (http://asr.sagepub.com/supplemental).
4. In Part D of the online supplement, we discuss the nature of wins and nominations and show that using wins yields similar coefficients.
5. We chose 1985 as our starting year because this is the point at which box office and budget information began to have decent coverage in our datasets. Moreover, by the mid-1980s, the transition from the post-studio system to the current blockbuster era was mostly complete (Baker and Faulkner 1991).
6. Our Stata code for creating Oscar appeal is available at http://codeandculture.wordpress.com/2013/07/29/oscar-appeal/.
7. The five-year measure of Oscar appeal that we use throughout the article is highly robust to alternative time window specifications (and its components, τ_j for genres and keywords). It has a correlation of .91 with a measure based on a three-year window and .97 with a 10-year window.
8. We excluded an additional nine genres from our analysis because they are not relevant to the article's universe of relatively recent live-action, theatrical, narrative films. These nine excluded genres are animation, adult (i.e., pornography), documentary, film noir, game show, news, reality TV, short, and talk show.
9. Many keywords are assigned by the user community well after a film's release date, which suggests the possibility of endogeneity. However, in an analysis of late 2003 releases, we found no systematic difference between contemporaneous versus ex post keywords, either in general or specifically for nominees.
10. The distribution is 0 ($n = 2,615$), 1 ($n = 123$), 2 ($n = 71$), 3 ($n = 29$), 4 ($n = 37$), 5 ($n = 31$), 6 ($n = 12$), and 7 ($n = 1$). We also experimented with zero-inflated negative binomial regression (with release date as the inflation model), and all results were robust.
11. For instance, sociologists are intensely interested in different forms of labor tournaments, but the content of "the positional arms race" in these tournaments is often multifaceted, involving such things as time and money spent on training or equipment, various forms of ethical or safety corner-cutting, and the opportunity cost of forgone employment (Frank and Cook 1995). Employing our methods to operationalize "promotion seeking" would allow for interpreting its consequences net of actually rising in the labor tournament. In a similar vein, research in neo-institutionalism aimed at deciphering abstract legitimacy guidelines (Deephouse and Suchman

2008) could create an index of legitimacy-seeking by regressing symbolic performance outcomes on a large corpus of practices.

12. Ideally, we would compare the net present value of all revenue streams (including home video) to total expenditures (including prints and promotion), but such figures are not publicly available. However, domestic box office and production budget are reasonable proxies, of which other forms of expenditures and revenues are usually multiples; it has thus become conventional to use them in quantitative analyses (e.g., Baker and Faulkner 1991; Hsu 2006; Zuckerman and Kim 2003).

13. Oscar appeal is analogous to a propensity score but has several differences. Propensity scores are traditionally predicted values of a binary treatment and are calculated from the same sample that experiences the treatment (Morgan and Winship 2007). In contrast, Oscar appeal is the linear prediction of a count outcome and coefficients are lagged. Moreover, propensity scores are usually used only to isolate the treatment effect, whereas we give a theoretical interpretation to both Oscar appeal (analogous to a propensity) and Oscar nominations (analogous to a treatment).

14. If a covariate can be understood as a predictor of Oscar nominations, then we included it in calculating Oscar appeal. Conversely, if a covariate is not a good candidate for explaining Oscar nominations, then its inclusion as a predictor of financial returns is superfluous for the purposes of deriving unbiased estimates of Oscar appeal and nominations. In supplementary analyses included in Part E of the online supplement, we show that results are robust to controlling for a measure of film quality.

15. The *R*-squared for these models are low, but this is to be expected given our analytic strategy. As noted earlier, there is a .60 correlation between budget and box office. Our analytic strategy puts this association on the left-hand side and regresses its noise. In a reasonably efficient market one would expect few systematic covariates (i.e., arbitrage opportunities) in a regression of the ratio of revenues to expenses. Moreover, the low *R*-squared does not imply a lack of power for the finding when one considers that above-the-line Oscar nominations are fairly rare, characterizing only 10 percent of eligible films.

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