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The Mediating Role of Familiarity, Peers,
and Experts**

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Product Success in Cultural Markets

The Mediating Role of Familiarity, Peers, and Experts

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Abstract

The mediation of ambiguous markets has been essential to recent developments in economic sociology. Cultural industries provide a valuable testing ground for its perspective of socially influenced market behavior. This article emphasizes the uncertainty of cultural markets and thus the relevance of social valuation in disseminating new releases. I hypothesize that recipients of culture simplify cultural choice by reacting to easily attainable signals of product value. Mechanisms of valuation include product familiarity, peer influence, and expert critique. Focusing on an exemplary cultural market, I confront theoretical implications with data from the German book industry (2001–2006). Panel and cross-section regressions show that, alongside well-defined market segments, separate mechanisms guide consumer behavior. For incumbents' offerings, prior recognition stabilizes cultural choice and reinforces differences in market success. In the highly ambiguous newcomer segment, imitation and negative media steer audience attention, at times leading to unsatisfactory aggregate outcomes, i.e. 'bad' bestsellers.

Keywords

Bestsellers, book market, cultural choice, cultural markets, diffusion, fixed effects individual slopes regression, market mediation, imitation, quantitative content analysis

Citation

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1 Introduction

Popular cultural markets operate under extreme uncertainty. On the production side, ‘nobody knows’ (Goldman, 1983) which new manuscripts, songs, or screenplays will match consumer preferences. To cope with uncertain product success manufacturers oversupply a vast and diversified range of new releases (e.g., DiMaggio, 1977; Hirsch, 1972). For consumers, cultural objects are highly ambiguous (Bielby and Bielby, 1994) and often lack clear categorization (Zuckerman and Kim, 2003). In fact, this opacity is a constituent ingredient of cultural consumption, as people rarely want to read novels or watch movies they already know.

This environment provides a valuable testing ground for theories of socially influenced market behavior. Within the sociological study of markets, cultural industries have received particular interest, because they lack almost entirely any objective standards of valuation (see Beckert, 2009; Zuckerman, 2012 for reviews). Adding to this perspective, I hypothesize that recipients of culture, rather than relying on elaborate searches in markets with short product lifecycles and ambiguous product categorization, simplify cultural choice by reacting to more easily attainable signals of product value. Processes of valuation are thus crucial to the operation of cultural markets and the successful dissemination of new releases.¹

Valuation occurs through various channels including the reputation of creators and content (Bielby and Bielby, 1994), imitation among peers (Salganik et al., 2006), and evaluation by professional critics (Shrum, 1991). Each mechanism effectively reduces uncertainty regarding a work’s value. Many prominent offerings such as popular fiction sequels, best-of albums, or blockbuster movies obviate additional valuation. These offerings are sufficiently familiar to a large potential audience and permit easy expectations as to their content and quality. With rising ambiguity of offerings, however, sensitivity to additional sources of valuation should increase.

Social scientists have long recognized the importance of ‘mediation’ in opaque markets. Accordingly, this article relates to several literatures. First, I draw on the ‘Production of Culture’ framework (DiMaggio, 1977; Hirsch, 1972; Peterson, 1976), which considers the fabrication of culture a multi-step process involving a series of intermediaries regulating the flow of cultural innovations from creation to potential consumption. Second, I call on

¹Although some considerations presented here apply to cultural markets generally, this article encompasses only cultural mass markets for fiction, records, and movies. I exclude artistic markets such as for paintings, sculptures, or antiques as they differ from mass markets in several ways: Their industrial organization is typically narrow, supply is limited and prices are relatively high. More importantly, specific motivations such as investment and distinction (e.g., Bourdieu, 1984; Veblen, 1899), which play only minor roles in popular mass markets, substantially drive consumer behavior in artistic markets.

concepts of quality inference based on current product success (Bikhchandani et al., 1992; Cialdini, 1984). Popularity-bound inferences, also termed ‘rational imitation’ (Hedström, 1998) or ‘herd behavior’ (Banerjee, 1992), describe individuals who follow others, regarding their actions as useful indications of unknown outcomes. Third, I borrow from diffusion research (Mahajan and Peterson, 1985; Rogers, 2003; Strang and Soule, 1998) the concepts of ‘compatibility’ as well as of ‘internal’ and ‘external’ influence, which provide a common language for synthesizing these diverse approaches to explain consumer choice and product sales in cultural markets.

Undoubtedly various measures of artistic achievement as well as tensions between commercial success and cultural recognition exist (e.g., Bourdieu, 1996; Craig and Dubois, 2010; Verboord, 2011). When considering mediated markets, however, one must not mistake critical appraisals for measures of product success. Following Shrum (1991) and others (e.g., Gemser et al., 2007; Zuckerman and Kim, 2003), I consider cultural ‘consecrators’ as influencers of aggregate demand rather than as recipients *per se*.

I structure the remainder as follows: In section 2, I sketch a theory of consumer behavior in cultural markets in which poorly informed individuals rely on signals of product familiarity as well as on internal and external valuation in selecting cultural content. This perspective on mediated markets implies processes of cumulative advantage resulting in heavily skewed market outcomes not necessarily justified in terms of ‘quality.’ Considering differences in product familiarity permits generation of detailed hypotheses regarding product valuation in market segments of varied opacity.

In section 3 I test these implications using exemplary sales data from the German fiction market, employing both panel and cross-section regressions. Book markets are non-transparent, providing permanent innovation and an ambiguous set of poorly classified offerings. Book markets, like many cultural industries, exist within several niches, each featuring a restricted identity and specific patterns of product valuation. Although successful releases of previously unknown artists constantly reshuffle status hierarchies, a compelling gradient in recognition between established writers and new entrants reinforces market segmentation. Following the demands of Sauder et al. (2012) and Kovács and Sharkey (2014), the dataset permits a direct test of the effects of several informational cues, discriminating among consequences of reputation, popularity, and media coverage. In the concluding section, I relate my findings to existing results from other cultural markets and indicate potential generalizations to further domains of social interaction.

2 Cultural choice

Hirsch (1972, p. 649) describes the role of consumers as “one of rank ordering cultural styles and items ‘preselected’ for consideration.” I thus turn to consumer behavior to explain product success in cultural markets. Still, this article does not address the social prerequisites of taste or the reproductive function of cultural choice. Rather than studying ‘what’ and ‘how much’ culture people demand depending on their position in a social hierarchy (e.g., Bourdieu, 1984; DiMaggio 1987; Peterson, 1992), I hope to explain ‘by which means’ consumers select cultural objects—within the range of offerings they like because, say, of socially predefined tastes. This examination helps to identify basic mechanisms of cultural demand and therefore permits conclusive interpretations on the emergence of bestsellers.

A useful theory of cultural choice must first capture specific attributes of cultural industries: Cultural markets provide experience goods (Nelson, 1970) whose characteristics and ‘quality’ one only learns fully through consumption.² At the same time, the enjoyment of cultural goods is expensive as it includes opportunity costs for the time spent consuming them (Becker, 1976). Thus, consumers should be motivated to choose cultural content worth both the money and the time required. Further, a convincing explanation must reproduce several market outcomes typical for cultural industries: The proposed theory must allow a highly skewed distribution of market success in that cultural mass markets exhibit strong concentrations of recognition upon groups of stars (Frank and Cook, 1995). It must explain short product lifecycles often peaking soon after initial release (DeVany, 2004) and capture both a stabilization of demand for well-known artists, sequels, or genres (DeVany and Walls, 1999) and a convergence into sudden fads (Salganik et al., 2006).

2.1 General argument

The present explanation of cultural choice emphasizes the uncertainty of cultural markets and thus the relevance of social valuation in disseminating new releases. Strictly speaking, social recognition signals a product’s availability (Cialdini, 1984), quality (Podolny, 2005), legitimacy (Rossman, 2014), and coordination potential (Clark et al., 2006). Offerings maintained by social valuation are more likely to be considered for consumption (Shocker et al., 1991), increasing potential audience size (Kovács and Sharkey, 2014).

For precision, one can easily formalize this argument. Consumers $i = 1, 2, \dots, N$ within a certain market or genre have the choice between two goods x and y (the latter can be

²‘Quality’ in this regard refers to the match of cultural content to individual preferences (e.g., Kovács and Sharkey, 2014). It determines the individual pleasure of consuming the product but does not necessarily correspond to an objective ranking of cultural value.

a composite good encompassing all other market goods). Since quality is unobservable, it does not affect individual selection behavior directly. Instead, consumers select culture according to social recognition S , which one can capture in the individual utility function $u_i = u_i(x, y; S_x)$. In the most general interpretation, S_x serves as a complement of x , increasing its consumption value (Becker and Murphy, 2000). S_x can be both indicative and constitutive of utility. In either case, I assume higher levels of S_x to increase the expected pleasure from enjoying x . Let $x_i \in [0, 1]$ be the individual tendency to select good x . Under conformity to social cues, the tendency to choose x depends on the availability of S_x , such that $\partial x_i / \partial S_x > 0$. *Ceteris paribus*, a product’s attractiveness increases with rising social recognition.³

A series of empirical studies in cultural markets indicates that processes of product valuation draw on creators’ reputation (e.g., Bielby and Bielby, 1994; DeVany, 2004), products’ popularity (e.g., Salganik et al., 2006; Sorensen, 2007), and critics’ evaluation (e.g., Gemser et al, 2007; Zuckerman and Kim, 2003). Under ambiguity and uncertainty “those who propose new products are likely to be evaluated on the basis of reputations built upon prior successes” (Bielby and Bielby, 1994, p. 1293). Bestseller lists mediate the relationship between artifacts and audiences, providing “concise manifestations of ‘what other readers like’ ” (Verboord, 2011, p. 292). Finally, one can expect reception of culture to follow “experienced characterizations by authorities and associates” (Shrum, 1991, p. 352).

In the first scenario, S_x represents the creator’s past successes or ‘star power.’ Familiarity affects audience attention both directly and by moderating the relevance of additional valuation in disseminating new releases. In the second case, S_x equals the product’s current popularity relative to the demand for similar goods. This ‘internal’ source of product valuation is measurable using sales rankings and indicates the majority opinion on the value of x . The third interpretation stresses the importance of intermediaries, such that S_x reflects the ‘external’ valuation provided by influential critics. I adopt the attributes ‘internal’ and ‘external’ valuation from diffusion research to distinguish between popularity-bound social influence and media influence on cultural choice.

In the following, I discuss these proposed mechanisms of market mediation in more detail. To facilitate empirical testing on the grounds of sales data, I will formulate propositions on the product level, but all hypotheses refer to underlying patterns of individual consumer behavior.

³For the sake of generalization, I leave the second order conditions unspecified. In cases of preferential attachment (subsection 2.3), increases in popularity should affect audience attention over-proportionally ($\partial^2 x_i / \partial S_x^2 > 0$). One can plausibly assume reputation (2.2) and expert evaluation (2.4), however, to influence consumer choice at a decreasing marginal rate ($\partial^2 x_i / \partial S_x^2 < 0$).

2.2 Familiarity

For successful dissemination innovations need some degree of legitimacy, i.e., similarity to familiar content, existing ideas, or common practices (Coleman, et al. 1957; Graham, 1954). In his compendium on the diffusion of innovations, Rogers (2003, p. 243) summarizes the principle of ‘compatibility’ as follows: “Old ideas are the main mental tools that individuals utilize to assess new ideas and give them meaning. Individuals cannot deal with an innovation except on the basis of the familiar [...] against which an innovation can be interpreted, thus decreasing its uncertainty.”

This argument closely relates to a fast-growing sociological literature on the cognitive structuring of opaque markets. Initiated by Zuckerman’s (1999) seminal paper on product classification among securities analysts, the mediation of ambiguous markets by categorization has been at the core of recent theoretical advances in economic sociology (see Hannan, 2010; Zuckerman, 2012 for reviews). To assess the alignment and value of market offerings, potential consumers refer to existing product categories against which they might evaluate a new release (e.g., Negro et al., 2010). Failing to achieve a clear-cut product identity exacerbates processes of product valuation. Prominently termed as ‘illegitimacy discount’ (Zuckerman, 1999), lack of conformity to well-established categories—for example, a dubious genre classification (Hsu et al., 2009) or inadequate product naming (Zhao et al., 2013)—has been shown to cause confusion and reduce audience attention.⁴

Rossmann (2014) combines both strands of literature and argues that ‘categorical density,’ i.e. the number of successfully diffused innovations of the same category, determines cognitive accessibility and perceived value of new releases. Others speak of strong ‘signaling properties’ of familiar cultural content (Gemser et al., 2007) which effectively reduces consumers’ uncertainty. Hence, interpreting S_x as an object’s relation to prior successful content, I term the *familiarity hypothesis*:

H1 Familiarity increases the perceived value of cultural objects such that market success is higher for well-known artists than for new entrants.

Two plausible mechanisms reinforce the proposed Matthew effect (Merton, 1968) or path-dependency (Mahoney, 2000): First, repeated choice might be attractive because deriving pleasure from cultural products typically requires some degree of prior knowledge (Adler, 1985; Bourdieu, 1984). For example, visiting a music festival might be more satisfactory if

⁴The use of pseudonyms demonstrates the relevance of focused identities in cultural markets. To protect their followers from confusion, writers often use pen names for unorthodox publications. Agatha Christie, for example, wrote love stories under the name of Mary Westmacott and Stephen King experiments as Richard Bachman.

one knows the bands, or reading a novel more rewarding given familiarity with the writer’s previous work. Second, reputation serves as a focal point in helping people to synchronize cultural consumption. This might be preferable, for example, if individuals enjoy discussions among informed friends and acquaintances.

Considering that consumers sensitive to familiarity form habits for widely recognized offerings, habitualization reinforces processes of cumulative advantage. This leads to implications similar to economic convention theory (Katz and Shapiro, 1986): Rather than being of informational use, S_x then reflects benefits from coordination. In this case, the pleasure from consuming x depends also on interactions with others, so that S_x indicates the availability of network externalities (DiMaggio and Garip, 2011; Granovetter, 1978). Thus, ‘star power’ serves as an institutional device to coordinate cultural choice (Adler, 1985).

Taking the argument further, product familiarity should moderate the relevance of both internal and external valuation: Well-established providers of cultural content cater to institutionalized market niches (i.e., their fan bases) and conform to salient product categories (i.e., their previous bestselling releases) decoupling the success of ‘stars’ from social influence and media coverage. In contrast, social recognition should be more important for newcomer offerings, providing visibility for offerings not otherwise considered (Shocker et al., 1991) and encouraging hesitant and ill-informed individuals to adopt an ambiguous innovation (Rossman, 2014). In the words of Coleman, Katz, and Menzel (1957, p. 268) “it is precisely in situations which are objectively unclear that social validation of judgments becomes most important.” I call this the *information hypothesis*:

H2 Dissemination of new entrants’ offerings depends more strongly on additional sources of valuation.

The informative function of familiarity is well-established within the Production of Culture framework. In a centerpiece, Bielby and Bielby (1994) show how television programmers carefully use product categorizations to manage the reception of new series. “A linkage to an established writer-producer [...] reduces the need to use other reputational or imitative rhetorical strategies to describe a new series” (p. 1298).

2.3 Internal valuation

Hedström (1998) speaks of ‘rational imitation’ when individuals conform to others, regarding their actions as useful indications of unknown outcomes (for similar arguments see Granovetter, 1978; Merton, 1948; Salganik and Watts, 2008). In a similar vein, Zuckerman (2012) refers to ‘socially endogenous inferences’ as a “powerful engine of social construction under

conditions in which objective quality differences are relatively minimal” (p. 239). I thus propose the *internal valuation hypothesis*:

H3 Current popularity increases the perceived value of cultural objects.

If individuals choose a certain offering x conditional on its popularity S_x , increases in audience attention raise demand mostly in the outer region of the popularity distribution. Consistent with concentrated market outcomes in popular culture, imitation implies a heavily skewed valuation distribution and thus an enormous inequality of market success. Consequently, the emergence of bestsellers follows a process of cumulative advantage (DiPrete and Eirich, 2006), market outcomes thus depending critically on early consumer choices.

Sociology offers various explanations of social contagion, such as models of social diffusion (Coleman et al., 1957) and threshold models of interpersonal influence (Granovetter, 1978). To reproduce the spreading of innovations, however, they typically assume a fraction of initially activated individuals who subsequently infect their neighbors. Hence, these approaches are inappropriate to explain how imitative dissemination actually begins. Focusing on the emergence of conformity in decision situations under uncertainty, models of herd behavior can fill this explanatory gap (Chamley, 2004).⁵

Herd models assume a sequence of individuals $i = 1, 2, \dots, n, \dots, N$, who each choose between alternatives x and y . Each individual holds a binary guess (‘good’ or ‘bad’) as to the value of each. Additionally, individuals have complete information on the behavior of all previous decision makers. In cultural markets, omnipresent sales rankings approximate this condition of full public information. When making a decision, individual n considers her private signal as well as the public signal available from observing $n - 1$ predecessors. If no clear trend indicates predecessors favoring one alternative over another, individual n will follow her own guess. If previous choices accumulate upon one alternative, however, individual n will ignore her private information and follow the crowd. In this case, public information dominates her noisy guess and she deliberately chooses to be part of a herd to increase her selection accuracy. In this formulation, herd behavior depends solely on the succession of private signals failing to enable reliable prediction as to which alternative will receive internal valuation.⁶

⁵Economists had originally proposed models of information cascades in the early 1990s (Banerjee, 1992; Bikhchandani et al., 1992). Since then sociological research has employed them fruitfully (e.g., Hedström, 1998; Strang and Macy, 2001).

⁶By allowing for selective imitation, the model can accommodate various social phenomena prevalent in cultural markets, such as popularity spreading within clustered networks (Watts and Dodds, 2007), the following of opinion leaders (Katz and Lazarsfeld, 1955), or the pursuit of social distinction (Bourdieu, 1984). In these cases, individuals consider only the actions of a certain subset of predecessors with whom they share direct ties or whom they perceive as socially relevant.

Although inferences grounded in popularity facilitate and stabilize expectations of product value, the consequences of herd behavior can be astonishingly irrational. Unlike word-of-mouth, which provides subjective accounts on the ‘quality’ of alternatives (Chevalier and Mayzlin, 2006), imitation under the observable actions scenario has limited capabilities to reduce opacity. Consequently, the approach is flexible enough to accommodate both unstable market dynamics and specific market outcomes, such as ‘bad’ bestsellers.

Since individuals ignore private information once they are part of a ‘herd,’ the signal from observational learning only reveals private information aggregated before a cascade has begun. Resulting from limited information aggregation, herd behavior is fragile, such that new information (e.g., critical reviews) can overturn existing cascades. More importantly, consequences of rational imitation are not necessarily desirable in terms of market outcomes: More popular goods might be better than others, but market success is hardly restricted to superior offerings. Instead, the precision of private signals determines the probabilities for well-led or misled herds. If too many people imitate the (misinformed) behavior of others, the validity of public information is lost. This implication is fully in line with Zuckerman’s (2012, p. 234) observation, that “conditions of high sensitivity to popularity have the potential to greatly loosen objective constraints on valuation.” I therefore advance the *quality hypothesis*:

H4 Under opaque market conditions, product success might not be justified in terms of ‘quality.’

Commonly available information thus provides an objective constraint on the workings of internal valuation. In transparent markets or market niches, internal valuation occurs under relatively stable conditions, as consumers are well informed about the range and characteristics of cultural output. Assuming precise information at least among early adopters (Rogers, 2003), imitation allows determination of product success by ‘quality.’ However, easily available information from the social environment is less valid for unfamiliar releases trading under conditions of increased opacity.

2.4 External valuation

Valuation in cultural markets also depends on media coverage. In this perspective, S_x represents recognition by influential critics. The mediating role of media has long been recognized both in diffusion research (e.g., Bass, 1969; Mahajan and Peterson, 1985) and within the Production of Culture framework (e.g., Hirsch, 1972; Shrum, 1991). As both gatekeepers and tastemakers (Shrum, 1991), influential critics draw attention to cultural offerings and provide ready-made product characterizations.

The approval of a product’s value by well-respected authorities provides a clear indication of preferable product attributes. Thus, professional filtering should be crucial for inducing visibility and establishing product legitimacy (see also Beckert, 2009; Lamont, 2012 for reviews). Bourdieu (1996) speaks of ‘consecration’ in describing how gatekeepers allot symbolic capital to cultural goods. Others refer to status as offering an interpretative lens through which audiences perceive quality and form valuations (Azoulay et al., 2014; Kovács and Sharkey, 2014). In this sense, affiliation to high status reviewers provides both visibility (Gould, 2002) and quality signals (Podolny, 2005). Both mechanisms feed on the fact that association with well-known actors is more easily observable than product value itself. Indirectly, favorable reviews might serve as focal points for coordinated consumption and guide distributors’ market strategies, reinforcing the original effects from external valuation. Hence, I propose the *external valuation hypothesis*:

H5 Favorable reviews increase the perceived value of cultural objects.

In accordance with the *information hypothesis*, effects from external valuation should be stronger for unfamiliar releases. However, prior results are inconclusive as to the evaluative function of reviews. Shrum (1991), for example, reports heterogeneous responses to professional filtering in separate market segments, distinguishing between highbrow and popular genres in performing arts (see also Gemser et al. 2007 for the case of motion pictures). Shrum’s work suggests that favorable reviews may have no effect on audience attention if reviewers’ sophisticated preferences do not coincide with recipients’ tastes. Similarly, Lamont (2012) stresses that generation of value by external sources includes negotiations about adequate evaluation criteria and the identification of legitimate judges.

Taking into account the literature on product categorization (Hannan, 2010; Zuckerman, 2012) further aggravates the formulation of straightforward implications from professional evaluation. According to categorization research, simple and focused product identities must coincide with established niche expectations (Hsu et al., 2009; Zhao et al., 2013). Since reviews are crucial in assigning product identities, commendation by the ‘wrong’ critic can result in illegitimacy (Zuckerman and Kim, 2003). For example, a mainstream categorization due to well-established critics’ favorable reviews could reduce the appeal of independent newcomers by making them appear less fit to meet their original niche audience’s specialized demands.

Having said that, one can plausibly assume that, particularly for otherwise unnoticed offerings, the evaluative function of reviews is superimposed by their visibility effect, rendering specific evaluations irrelevant to audience attention. In this context, negative reviews—opposing the common practice of favorable evaluation—could be particularly effective in

stimulating audience attention (e.g., Berger et al., 2010; Clement et al., 2007). Negative publicity informs consumers of a product’s existence and increases product accessibility. By causing more stir it “encourages the product to be top of mind” (Berger et al., 2010, p. 816). Then, again, the *information hypothesis* implies larger attention effects for new entrants’ releases. In the following, I confront my propositions with sales data from an exemplary cultural market.

3 Evidence from a market for fiction

Within the study of cultural industries, fiction markets offer an adequate environment for testing the proposed hypotheses. On the one hand, reading is highly time-consuming, which should motivate people to select ‘good’ books. On the other, floods of poorly classified new releases constantly confront consumers. More clearly than in other cultural markets, both a high relevance of quality and strong uncertainty about product characteristics affect consumer choice.

The cost of publishing a book is relatively low and, compared to manufacturers in other cultural industries, publishing houses filter cultural content only weakly (Thompson, 2012). From 2001 to 2006, the period presently studied, German publishers alone released around 4080 hardcover novelties per year (Börsenverein, 2007). A survey conducted among 65 German publishers in 2003 shows that around half of them have more than 500 fiction titles in their current portfolios; 50% of these novelties enter the market in less than 5000 copies (Homburg and Klarmann, 2004). Due to this abundance of offerings, the selective role of consumers appears to be of particular importance in explaining product success.

3.1 Methodology

Book markets provide reliable process-produced data on the popularity of cultural goods. Unlike most cultural markets, German book prices are fixed by law and thus independent from popularity.⁷ This technical advantage precludes problems of endogeneity that could arise if, for instance, retailers reduced prices of popular books to increase consumer attention further.

Across fiction markets one can distinguish two segments differing strongly in market ambiguity. When buying books by established writers, consumers are typically well-informed

⁷Hardcover prices vary little and depend on the number of pages and the style of binding rather than on star power or publisher strategy. The sample’s mean book price is 20.1 Euro (26.3 US\$) and the standard deviation is 3.19 Euro.

about their attributes due to advertisement, media coverage, in-store promotion, word-of-mouth, or their own past consumption of the writers' work. Valuation occurs in a stable, easily assessable environment, in which familiar offerings conform to legitimate product categories. In the newcomer segment, however, consumers are poorly informed about novelties' range and characteristics. Product classifications are highly ambiguous and newcomers lack reputation. I exploit this segmentation to test the proposed hypotheses on product valuation under varying conditions of product familiarity.

Throughout, I use product sales as the dependent variable. A number of studies have employed similar strategies to identify determinants of market success for cultural offerings such as Hollywood movies (DeVany and Walls, 1999), music records (Hendricks and Sorensen, 2009), and musical shows (Reddy et al., 1998). Several papers have also studied factors of fiction market success. Book sales increase following rankings in the *New York Times* best-seller list (Sorensen, 2007), in the wake of literary awards (Kovács and Sharkey, 2014), and due to positive word-of-mouth (Chevalier and Mayzlin, 2006). Newspaper reviews and television shows also stimulate audience attention. Most interestingly, positive sales effects may also arise from negative reviews and controversial discussions (Berger et al., 2010; Clement et al., 2007).

3.2 Data

The dataset consists of all 798 hardcover fiction titles which reached a Top 50 sales rank in Germany for at least one week between September 2001 and August 2006.⁸ The dataset covers all weeks a book ranked in the Top 50 (which I call its lifecycle). The N time series differ in length T ($t = 1, 2, \dots, T$).

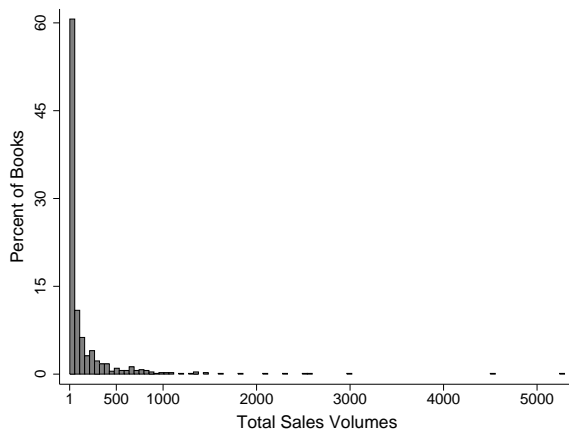
Naturally, the dataset is strongly biased towards the most successful end of the market. Of approximately 4080 hardcover releases per year, only 4% ever reach the Top 50. Sample limitation has obvious consequences on external validity restricting my findings' generalizability to relatively popular releases. More problematically, however, success bias can induce complicated causal structures threatening internal validity (Denrell and Kovács, 2008; Elwert and Winship, 2014). I will address potential endogenous selection bias in additional sensitivity analyses concerning the effects of external valuation. That said, the sample shows considerable variation in market success; 16% of titles reach the Top 50 for only one week, while 4% remain for a year and longer. Restriction to Top 50 titles effectively reduces un-

⁸The sample includes books from seven genres: 'novel' (412 titles), 'crime and thriller' (254), 'historical novel' (50), 'science fiction and fantasy' (35), 'before 1945' (18), 'biography' (11), and 'other' (18). Altogether 79 publishers marketed these books.

observed heterogeneity: Among other things it ensures that all sampling units were equally available in bookstores during the period under investigation.

Rank data are from *Buchreport* (2008). The book market news agency determines weekly Top 50 sales ranks from electronic cash register scans in 350 representatively selected bookstores across Germany.⁹ Based on ordinal ranks $R_t \in [1, 50]$, a book’s inverse listing ($51 - R_t$) roughly approximates its weekly sales. However, this specification rests on a proportional rank-volume relation. To model a more realistic parabolic relation, we must weight the ordinal approximation (see Appendix A1 for details). Then, a book’s approximated ‘total sales volume’ equals the sum of weighted sales ranks over its full Top 50 lifecycle.

Figure 1: Distribution of market success



The allocation of market success is heavily skewed (see Figure 1). Half of the sampled books drop out of the Top 50 within seven weeks of their release, earning up to 31 sales units. The sample’s most successful publication is Dan Brown’s *The Da Vinci Code* which between February 2004 and September 2006 earned a total of 5 294 sales units. Assessing the inequality of market success, the Gini coefficient (ranging from 0 (equality) to 1 (complete inequality)) is 0.76. The distribution of sales follows an L-shaped pattern, clearly exhibiting a heavy tail of extremely popular books: An obvious group of bestsellers (with >500 sales units) consists of 70 titles (9% of the sample) accounting for 59% of Top 50’s total sales volume.

⁹The procedure excluded online sales. At the time of study online sales accounted for less than 10% of total fiction sales in Germany (Börsenverein, 2007).

3.3 Panel analysis

In a longitudinal form, we can use the dataset to identify the proposed effects of internal and external valuation on product sales. Considering the logarithm of approximate weekly sales as the dependent variable, I estimated the following fixed effects (FE) panel regression to test for internal valuation:

$$\log Y_{it} = \alpha_i + \beta_1 S_{it}^+ + \beta_2 S_{it}^- + \beta_3 S_{it}^0 + \beta_4 M_{it} + \beta_5 t + \beta_6 t^2 + u_{it}.$$

To control for unobserved heterogeneity, the model contains N dummies α_i which account for time-invariant characteristics such as the story, binding, and price of book i ; u_{it} represents the idiosyncratic error term. A series of time-variant dummies captures the effects of social influence (see Table 1). Based on the variation of sales within book-specific lifecycles, I have computed their effects by comparing sales in a stimulus week to average sales in non-treatment weeks. Counting the weeks from entering the Top 50, t and t^2 model a dominant trend of decurved lifecycles.¹⁰ To account for varying degrees of opacity and specific valuation processes for familiar and unfamiliar objects, I estimated regressions separately for newcomer books (written by Top 50 debutants) and books by established writers (who had previously reached Top 50 with at least one prior publication).¹¹

Table 1: Description of panel variables

Construct	Measurement	Books with event		Week of event		
		N	%	Mean	Median	
Strong social influence	S_t^+	1 if first time in Top 1–10 in $t - 1$	121	18.0	1.82	1
Weak social influence	S_t^-	1 if first time in Top 11–20 in $t - 1$	234	34.7	2.40	2
No social influence	S_t^0	1 if first time in Top 21–25 in $t - 1$	148	22.0	2.89	2
TV coverage	M_t	1 if endorsed in TV show in t	61	9.1	4.61	1
Newspaper review	R_t	1 if reviewed in newspaper in t	240	35.6	6.66	5
Time trend	t	number of weeks from Top 50 entry	674	100.0		

In book markets, sudden increases in popularity-bound social influence are quantifiable based upon bestseller lists. To test the *internal valuation hypothesis* I consider the most

¹⁰A cubic approximation of the lifecycle trend proved insignificant; an alternative specification based on weekly dummies left results unchanged.

¹¹The inclusion of lagged independent variables requires that book-specific time series have a minimum length of 2 weeks. This reduces total sample size to $N = 674$. As social cues typically build up early in the lifecycle (see Table 1) and only 116 titles remained in the Top 50 for more than half a year, I truncate lifecycles at $T = 26$. For the control of time trends all models include both treated and untreated books (although the latter do not contribute directly to the estimation of treatment effects).

prominent ranking published in the weekly magazine *Der Spiegel*, displayed in many bookshops and frequently referred to in other media. The list uses *Buchreport*'s rank data and each week specifies the 20 most successful titles. I expect strong social influence from listings in the top half of the ranking. Hence the dummy S_t^+ equals 1 in the week following a book's first listing in the Top 1–10, and 0 in all other weeks. S_t^- represents minor social influences, marking the week after a book's first Top 11–20 position (results are robust to alternative cut points, see footnote 12). Altogether, 355 books qualified for a publicly announced bestseller status. S_t^0 captures the week in which a book first neared, but missed, the ranking (Top 21–25 in $t - 1$). This variable serves as a counterfactual, indicating the absence of internal valuation (see Sorensen, 2007 for a similar operationalization). The determination of cultural choice by popularity implies $\beta_1 > \beta_2 > \beta_3 = 0$. Further, by distinguishing familiar from unfamiliar releases one can predict β_1 and β_2 to be higher for new entrants than for incumbents (*information hypothesis*).

M_t is a dummy of media attention. It reflects whether a book came to be discussed in *Lesen!*, Germany's most prominent literary TV show at the time of study. Again, the *information hypothesis* suggests stronger effects from television coverage for poorly legitimized newcomer offerings.

Table 2 displays the panel results. In the newcomer segment, *internal valuation* clearly affects readers' choice (model 1). Following a first Top 10 listing, debuts exhibit sales 74% higher than in weeks without treatment. A weaker social stimulus increases sales by 32% on average. Both effects differ significantly in magnitude ($p < .001$) and point estimates resemble the expected order $\beta_1 > \beta_2 > \beta_3 \approx 0$. Indicated by the zero effect of the placebo variable S_t^0 , popularity-bound social influence can be interpreted as being causal to cultural choice.

These effects are similar, but much smaller in magnitude, for less ambiguous offerings (model 4). Wald tests indicate significant differences in the estimates of S_t^+ ($p < .001$) and S_t^- ($p = .021$) for new entrants and incumbents. This finding clearly supports the *information hypothesis*: For followers of established writers, bestseller rankings come as less of a surprise and exercise relatively little consequence. Further, differences between 'strong' and 'weak' social influence are relatively small and insignificant ($p = .255$).¹²

¹²Results are robust to alternative specifications of social influence: First, new entrants benefit significantly more from reaching the list in general regardless of the position obtained in the ranking (45% higher sales in the following week vs. 18% for incumbents for a first-time listing at rank 1–20). Second, a finer grading of 'strong' and 'weak' influence along cut points 1–5, 6–10, 11–15, and 16–20 shows similarly that newcomers benefit significantly more from high-ranking (1–10) than from low-ranking first-time listings (11–15 and 16–20; effects for ranks 1–5 and 6–10 are statistically indiscernible). In contrast, effects for incumbents are much smaller in size and differences between 'stronger' and 'weaker' social influence are insignificant.

Table 2: Effects of internal and external valuation on weekly sales

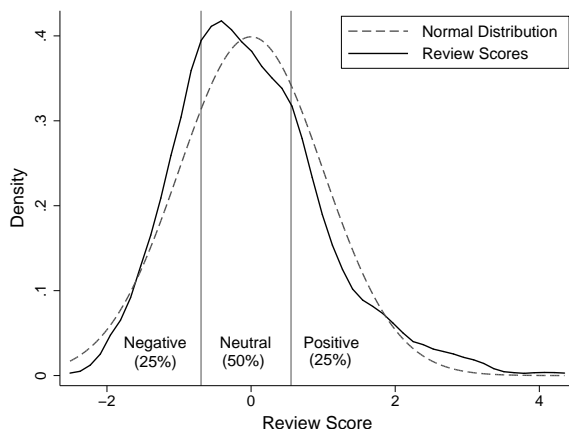
	Newcomers						Established					
	1		2		3		4		5		6	
	FE		FE		FEIS		FE		FE		FEIS	
	β	t	β	t	β	t	β	t	β	t	β	t
Strong social influence	.737***	(7.44)					.238***	(3.44)				
Weak social influence	.315***	(5.29)					.148**	(3.31)				
No social influence	.038	(.45)					-.021	(.38)				
Positive review			-.031	(.35)	-.043	(.75)			.145*	(1.96)	-.016	(.43)
Neutral review			.030	(.46)	.069	(1.69)			.068	(.99)	.048	(1.64)
Negative review			.273**	(2.79)	.159*	(2.40)			.076	(1.51)	-.026	(.65)
Review in $t + 1$.009	(.17)	-.017	(.47)			.009	(.20)	-.024	(1.13)
TV coverage	1.028***	(4.08)	.997***	(3.96)	1.101***	(5.61)	.719*	(2.55)	.707*	(2.52)	.717***	(3.50)
Weeks since release	-.025*	(2.54)	-.038***	(3.84)			-.072***	(9.20)	-.079***	(10.99)		
Weeks since release ²	-.0007	(1.78)	-.0003	(.71)			.0001	(.19)	.0003	(1.03)		
Constant	2.003***	(32.09)	2.094***	(32.83)			2.732***	(51.72)	2.776***	(60.43)		
N observations	3828		3828		3672		5679		5679		5621	
N books	317		317		241		357		357		323	
R^2 within	.282		.259		.046		.579		.576		.015	

Panel regression with book fixed effects (FE, models 1, 2, 4, and 5) and individual-specific slopes (FEIS, models 3 and 6). Dependent variable: log weighted sales rank Y_{it} . Non-standardized coefficients, robust absolute t -values in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Corroborating the moderation effect of familiarity, endorsement on television is more relevant to the success of unfamiliar products. In accordance with results from the US (Sorensen, 2007), the consequences of television coverage surpass all other effects, briefly doubling newcomer sales.

On average, books by established writers show strong opening power, followed by steep declines in weekly sales resembling an ‘exogenous’ trend typical of legitimate innovations (Rogers, 2003; Rossman, 2014). Both the overall constant ($p < .05$) and the decrease over time ($p < .001$) are significantly smaller for unfamiliar objects. Due to the dominant time trend among incumbent offerings, model determination is considerably higher for familiar offerings.

Figure 2: Distribution of experts’ evaluations



To test the *external valuation hypothesis* I collected review data for all sampled books evaluated in at least one of Germany’s three leading national newspapers *Frankfurter Allgemeine Zeitung*, *Süddeutsche Zeitung*, and *Die Zeit*, between 2001 and 2006. In total, I gathered 761 newspaper reviews on 368 titles. I then employed quantitative content analysis (Riffe et al., 2005) to distill objectively the opinion expressed in each text (see Appendix A2 for the procedure). The content analysis generates considerable variation in review scores (see Figure 2). A positive (negative) review score indicates a relatively good (bad) evaluation by professional literary critics.

For the present study, I group newspaper reviews into positive (best 25%), negative (worst 25%) and neutral (intermediate 50%) judgments (see Figure 2). Within their Top 50 lifecycle 116 debutant and 124 incumbent titles received at least one review. To check whether professional critique indeed has a causal effect on cultural choice, all models include an additional dummy, marking the week before publication of a newspaper review. If the

pre-review placebo shows a positive effect on subsequent sales, critics would seem to follow, rather than leading, consumer behavior (Basuroy et al., 2003; Eliashberg and Shugan, 1997; Gemser et al., 2007).

Model 2 clearly discards the *external valuation hypothesis* for consumers of novel content. Surprisingly, releases of approving information like neutral reviews show no sales effect for newcomer books. Instead, only disapproving reviews positively affect audience attention, on average increasing sales by 27% in the week following publication. The pre-review dummy is insignificant, suggesting a leading role of professional critics. Estimates differ for readers of established content (model 5). In line with the *external valuation hypothesis*, demand reactions result only from approving reviews ($p = .05$). Again, there is no significant result for neutral evaluations, highlighting the attention effect from reviews expressing strong opinions. Prior findings from the US closely correspond to my FE results: Berger et al. (2010) indicate that established writers benefit only from positive evaluation whereas less familiar authors similarly gain from negative reviews. For the German book market Clement et al. (2007) report increased sales following both positive and negative discussion in a renowned literary television show.

I cannot fully rule out the possibility of endogenous selection bias (Elwert and Winship, 2014). Books might reach the Top 50 only because they received critical appraisal, potentially biasing estimated effects of external valuation. Consequently, both models consider only newspaper reviews published after a book's first Top 50 listing, i.e. books do not enter the sample because of the treatment considered.¹³ Further, critics might review books by familiar authors when they come out but only review the unfamiliar when they have become popular. I tested whether critics discriminate between newcomers and established writers: There are no significant differences in the timing of reviews with respect to both the time passed since a book's release ($p = .907$) and its Top 50 position before the review ($p = .218$). Also, differences of review scores are minimal and insignificant for both newcomers and incumbents.

Still, one might expect filtering decisions to vary with book characteristics resulting, most plausibly, in more frequent reviews for promising books (Dobrescu et al., 2013; Reinstein and Snyder, 2005). Indeed, covered books hold Top 50 positions some 1.5-ranks higher on average than non-reviewed books in the week before a review's publication ($p = .087$). Selection on

¹³Still, as suggested by Denrell and Kovács (2008), I ran additional regressions restricted to observations which reached the sampling condition long before receiving the treatment. I chose a forerun of 4 weeks, excluding all books which in this period had received reviews by any of the three newspapers considered. Although sample size is considerably smaller (43 newcomer and 55 incumbent books) results remain robust: Books by familiar authors benefit from positive evaluations ($\beta = .215$; $t = 2.61$) while newcomer sales increase only after negative reviews ($\beta = .443$; $t = 2.93$).

steeper sales trajectories violates exogenous treatment assignment and thus the assumption of parallel sales trends for books with and without media coverage. If the treatment variable positively associates with unobservables and unobservables interact with time, FE estimates will be biased upwards (Brüderl and Ludwig, 2015).

Allowing for heterogeneous sales trajectories—and thus a weaker exogeneity assumption—I extended the fixed effects approach in models 3 and 6 to account for individual-specific slopes (FEIS; see Brüderl and Ludwig, 2015: 336-338; Wooldridge, 2010: 374-381). Conditioning on both t and t^2 I estimated

$$\log Y_{it} = \alpha_{1i} + \alpha_{2i}t + \alpha_{3i}t^2 + \mathbf{X}_{it}\beta + u_{it}.$$

While FE demeans individual panels to eliminate differences in outcome levels across books, FEIS additionally purges individual-specific slopes. Technically, FEIS runs pooled OLS regressions on detrended data such that estimated treatment effects β are unaffected by individual differences in both levels (modeled in α_{1i}) and growth (modeled in α_{2i} and α_{3i}).¹⁴

Although absorbing some of its size the extended analysis retains the positive effect of negative evaluation for unfamiliar offerings (model 3). Obviously, the evaluative function of reviews is superimposed by their attention effect. The placebo’s zero influence shows similarly in FEIS regression, permitting a causal interpretation of the positive effect from scathing reviews. In the established segment, however, favorable reviews cease to increase sales (model 6). This ineffectiveness of external valuation in the FEIS perspective suggests that critics are inclined to reviewing incumbents’ promising books. Treatment assignment is thus biased towards commercially viable releases, favoring sales trajectories which increase in the following weeks regardless of receiving positive media attention.

For unfamiliar offerings estimated effects of external valuation conform to Shrum’s (1991, p. 368) finding that “even mediocre or negative reviews are better than no review at all.” Consequences of professional critique thus deviate considerably from effects of word-of-mouth among peers, the persuasion effects of which are well-documented (Chevalier and Mayzlin, 2006; Godes and Mayzlin, 2004; Ehrmann and Schmale, 2008). Once newspaper coverage is of little evaluative function, negative reviews—opposing the common practice of favorable evaluation—appear particularly effective in stimulating product visibility. Corroborating the *information hypothesis* attention effects of negative evaluation are large and significant only for newcomers. External valuation thus evokes unintended consequences. In contrast to perceptions by status theorists (e.g., Gould, 2002; Podolny, 2005) readers of Top 50

¹⁴The inclusion of α_{1i} , α_{2i} , and α_{3i} requires that individual panels have a minimum length of $T = 4$, reducing sample size to 241 debutant and 323 incumbent books.

books do not act on approving information by influential intermediaries. This leads to the conclusion that consumer behavior reshapes expert mediation, and—unlike conventional appraisals (e.g., Hirsch, 1972; Zuckerman, 1999)—critics alone do not purposely determine the fates of new releases.

3.4 Cross-section analysis

From the present discussion it becomes clear that consumers’ reactions to internal and external valuation vary with product familiarity. A final cross-section analysis provides descriptive results on the stabilizing role of reading habits and on the ‘quality’ of market outcomes for familiar and unfamiliar books. For this purpose, I estimated the following OLS regression using the logarithm of total sales volumes as the dependent variable:

$$\log \sum_{t=1}^T Y_{it} = \beta_0 + \beta_1 Q_i + \beta_2 \log F_i + \beta_3 M_i + \beta_4 R_i + \mathbf{X}_i \beta + u_i.$$

I refer to ‘quality’ as the match of cultural content to individual preferences (e.g., Kovács and Sharkey, 2014). Q thus represents a book’s average consumer evaluation. *Amazon’s* highly frequented voting apparatus, which lets customers rate books easily by assigning 1 [–] to 5 [+] stars, provides a suitable indicator (see Appendix A3 for a discussion). According to the *quality hypothesis*, a work’s intrinsic value drives consumer choice subject to imitation only given high market transparency ($\beta_1 > 0$). Validity of social proof crumbles if individual beliefs as to a work’s value are noisy and too many people imitate others’ misinformed behavior. In the more ambiguous newcomer segment, ‘quality’ should remain irrelevant ($\beta_1 \approx 0$).

F indicates the star power of writers and thus their familiarity among readers. I specify the concept as the sum of past Top 50 notations an author has achieved with prior publications. The variable is valid only for 393 books by established authors, ranging from 5 to 1 131 weeks of previous listings (median: 36) and used on a logarithmic scale. The *familiarity hypothesis* implies $\beta_2 > 0$.

Further covariates control for additional sources of inter-book heterogeneity (Table 3). M and R resemble the previous dummies of media attention in a cross-section variant, each book covered receiving the value 1. Finally, \mathbf{X} is a vector including the price-per-page in Eurocent (inflation adjusted, log), a full set of genre dummies, and an indicator of market competition. The latter controls for the presence of popular offerings of the same category against which one might compare a new release. These substitutes potentially limit i ’s market success. The variable is the z -standardized sum of sales by titles of the same genre released in the same month as the book under consideration.

Table 3: Description of cross-section variables

Construct		Measurement	Min	Max	Mean (sd)	Median	
Consumer evaluation	Q	number of <i>Amazon</i> stars, 9 levels 1–5	N^a	1.50	5.00	3.90 (.68)	4.00
			E^a	1.50	5.00	3.72 (.68)	4.00
Past popularity	$\log F$	log number of weeks author previously listed Top 50	0 1.61	0 7.03	0 3.66 (1.20)	0 3.58	
TV coverage	M	dummy, 1 if endorsed in TV show	0	1.00	.15		
			0	1.00	.05		
Newspaper review	R	dummy, 1 if reviewed in newspaper	0	1.00	.54		
			0	1.00	.39		
Price	X	log Eurocents per page	.62	3.13	1.72 (.40)	1.69	
			.38	2.63	1.69 (.36)	1.67	
Competition		z -std. sum of sales by same genre books	−1.55	4.11	.03 (.99)	−.24	
			−1.55	3.51	−.03 (1.01)	−.33	

^a First (second) line indicates books by newcomer (established) writers.

Again, I estimated separate regressions for new entrants and for incumbents. Table 4 displays standardized beta coefficients, allowing direct comparison of the relative strengths of effects across explanatory variables. In the established segment, the model explains 37% of the variation in book sales. The predictability of newcomer success is markedly lower.

Table 4: Determinants of total sales

	Newcomers		Established	
	beta	t	beta	t
Consumer evaluation	−.129**	(2.71)	.111*	(2.48)
log Past popularity			.538***	(14.36)
TV coverage	.268***	(5.34)	.082*	(1.68)
Newspaper review	.197***	(3.57)	.163***	(3.37)
log Price	−.200***	(3.63)	−.104*	(2.10)
Competition	−.072	(1.63)	−.109**	(2.62)
Genre fixed effects	yes		yes	
N	405		393	
R^2	.164		.374	

OLS regression with genre fixed effects. Dependent variable: log sum of weighted sales ranks Y_{it} . Standardized beta-coefficients, robust absolute t -values in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Consumer evaluations associate only weakly with audience attention, yet results differ for familiar and unfamiliar offerings. In the established segment, increases in perceived quality associate positively with product success. This is true only while consumers remain sufficiently informed about the products on offer. Consistent with the *quality hypothesis*, consumers are less able to determine whether unfamiliar content will satisfy their individual preferences. In the newcomer segment, consumer evaluations relate negatively to sales: In terms of non-standardized coefficients, sales decline by 33% on average with each additional star. Obviously, market outcomes are socially less desirable under more opaque market conditions. When the buildup of popularity decouples from what people perceive as a good read, ‘bad’ bestsellers emerge more frequently.

In the established segment, the indicator of reputation contributes most to the explanation of market success. A 10% increase in past popularity on average yields 7.8% higher sales. Supporting the *familiarity hypothesis*, this finding is in line with prior evidence on the stabilizing role of star power in both Germany (Clement et al., 2007) and the US (Sorensen, 2007).

In both segments, the dummies of media coverage show the expected positive signs. Again, visibility effects of media coverage are stronger for more ambiguous releases. Although lacking a control for unobserved heterogeneity (e.g., self-selection by critics), cross-section regressions reproduce the findings from panel analysis. Finally, monetary considerations affect cultural choice and substitution can be a mild threat to book market success: Books by well-known writers sell significantly less when released simultaneously with successful alternatives of the same genre.

4 Discussion

Considering the abundance of cultural supply paired with quality uncertainty on the audience side, I argue that market ambiguity vigorously affects cultural choice. Hence, scrutinizing cultural choice reveals the workings of various social cues in informationally imperfect settings. Processes of cultural valuation draw on reputation of creators and content, imitation among peers, and, to a lesser extent, evaluation by professional critics. Each mechanism effectively reduces uncertainty regarding a work’s value and thus contributes to the new releases’ successful dissemination.

My findings from an exemplary book market suggest that, alongside the boundary of two well-defined market segments, separate mechanisms guide cultural choice. On the one hand, consumers seek books by established writers under relatively little ambiguity, so that product valuation occurs in a stable, more easily assessable environment. In the established segment,

previous recognition stabilizes cultural choice and reinforces differences in market success. Newcomer content, on the other hand, trades under more opaque information conditions. Absent product familiarity, additional sources of valuation are thus highly influential upon audience attention. As a result of high product ambiguity, poorly informed readers are prone to flock to the most popular alternatives and, most surprisingly, to negatively reviewed books. In consequence, processes of product valuation are susceptible to distortion and the emergence of bestsellers anything but restricted to worthwhile offerings.

These findings also renew questions on the filtering role of professional critics (Gemser et al., 2007; Shrum, 1991; Zuckerman and Kim, 2003). Due to the dominance of attention effects, and in stark contrast to word-of-mouth among peers (Chevalier and Mayzlin, 2006; Godes and Mayzlin, 2004; Ehrmann and Schmale, 2008), newspaper reviews on average lack evaluative function. The strong unintended consequences of negative reviews for debuts cast doubt on common reviewing practices in which, following professional norms, critics often caution their readers against disappointing releases. This surprising result might also be due to differentiation of book markets. Cultural markets consist of various niches and many professional critics only target specific consumer groups. For example, receiving negative reviews by mainstream critics could contribute to the appeal of independent newcomers (cf., Gemser et al., 2007; Zuckerman and Kim 2003). Taking into account finer-grained variations of product identities might thus lead to different estimates of external valuation and add to our understanding of negotiations about legitimate cultural agents (Bourdieu, 1996; Lamont, 2012).

Furthermore, my findings relate directly to existing results from other cultural markets. Salganik et al. (2006) demonstrated how imitation shapes demand for novel pop songs. Corroborating my results on questionable market outcomes, they showed that under increased social influence the rank order of market success associates with consumer evaluations moderately at best. Zuckerman and Kim (2003) investigated how feature film audiences respond to product identities certified by professional critics. Their results indeed revealed a partial loss in audience attention for niche products assigned mainstream categorizations. Finally, Azoulay et al. (2014) studied the accumulation of scientific reputation after researchers received prestigious prizes. In line with my results on the effectiveness of valuation conditional on product familiarity, award effects on subsequent citations were significantly larger for young researchers and for low-ranking journal publications.

My analysis also generalizes to other phenomena of social interaction. The mechanism of observational learning and its potentially adverse consequences are highly prevalent in daily living. Examples include various situations of uncertainty, such as crowd behavior (Helbing et al., 2000), financial investment (Kelly, 2008), management practices (DiMaggio

and Powell, 1983), medical prescription (Coleman et al., 1957), norm violation (Keuschnigg and Wolbring, 2015), and political protest (Siegel, 2009). In most of these applications, the imitation of high-status actors, as opposed to the general population, is particularly relevant. High-status role models benefit from the ascription of superior market knowledge (Katz and Lazarsfeld, 1955), represent agents of legitimate culture (Bourdieu, 1996), serve as nuclei of crystallization in the presence of coordination benefits (Clark et al., 2006), or simply exhibit larger personal networks (Watts and Dodds, 2007).

Building on classical contributions, such as Bourdieu’s (1996) analysis of ‘consecration’ and DiMaggio’s (1987) account on ‘classification in art,’ research on product legitimacy has become an important branch of the sociological study of culture (Baumann et al., 2009). All the same, heuristic systems of categorization play an important part in structuring markets in general (Hannan, 2010). Receiving a legitimate identity determines the resources available to organizations (Meyer and Rowan, 1977) and contributes to the creation of new markets (Negro et al., 2010).

While my empirical work tackles some methodological challenges of cultural research, three drawbacks remain. First, the limitation to Top 50 products prevents the study of early dissemination of previously unknown ‘cultural innovations.’ Second, typically for studies of diffusion, my analysis ignores the dissemination of less-successful products. Although I cannot fully rule out biased estimates due to endogenous sample selection, sensitivity analyses corroborate my finding according to which, at least among Top 50 newcomers, negative reviews have positive consequences. Third, my results rely in part on a disputable quantification of artistic ‘quality.’ Surely, given the multi-dimensionality of the concept as well as high interpersonal variation as to what constitutes a ‘good’ cultural offering, the idea of measuring artistic value objectively itself requires fundamental questioning. However, so long as we interpret ‘quality’ as the match of product characteristics with individual preferences, the chosen approximation seems acceptable.

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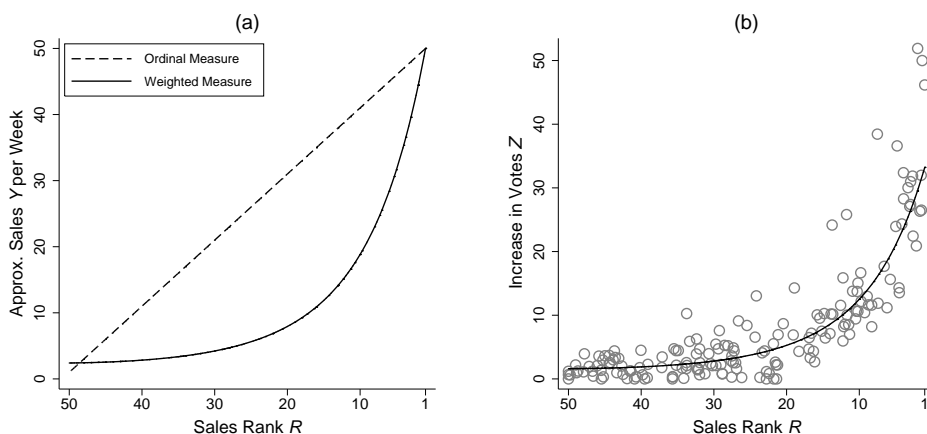
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A1 Measuring sales volumes

To avoid manipulations, *Buchreport* (2008) does not report absolute weekly sales volume data. The simple specification of weekly ‘sales volumes’ as a book’s inverse rank ($51 - R_i$) rests on the unsatisfactory assumption of a proportional rank-volume relationship: Sales differences are strictly 1 across the full range of R (see the dashed line in Figure A1 (a); see Clement et al., 2007 for a similar measure of book market success). Hence, I weighted the ordinal rank data to model a more realistic parabolic rank-volume relationship.

Figure A1: Approximation of weekly sales volumes



The online seller *Amazon* provides a suitable metric for factoring weekly rank data into a skewed distribution of sales. Online customers can easily rate books by assigning ‘stars’ of valuation. Using the company’s German website, I recorded weekly increases in the number of votes per book for 57 fiction titles listed in the *Amazon Top 50* over a period of four weeks in February and March 2010. (These titles are not in the original dataset). Under the mild assumption that weekly increases in votes associate linearly with actual shifts in sales, the frequency of new votes Z per *Amazon* sales rank R can weight the ordinal rank data. I estimated the association between Z and the corresponding rank R (see the scattered circles in Figure A1 (b)) with a negative binomial model of the form $Z = \exp(\beta_0 + \beta_1 R + \beta_2 R^2)$. After rescaling the estimates to preserve the original range of $R \in [1, 50]$, the equation $Y_{it} = \exp(4.032 - .121R_{it} + .001R_{it}^2)$ returns the approximate sales volume of book i in week t . This specification effectively models a highly unequal allocation of book market success. A 5.6-unit difference separates the 1st and 2nd rank, while ranks 49 and 50 differ only by 0.01 (see the solid line in Figure A1 (a)).

A2 Measuring expert evaluations

Scholars of literature typically distinguish five dimensions of evaluation for fiction books (e.g., Heydebrand and Winko, 1996): formal characteristics, the story’s originality, its sufficiency, its cognitive appeal, and its overall hedonic effect. Alongside this categorization, literary research has identified the expressions most critics use in characterizing a book’s readability. The present content analysis employs a dictionary of German words, assembled by Köhler (1999), which includes the expressions critics from *Frankfurter Allgemeine Zeitung*, *Süddeutsche Zeitung*, and *Die Zeit* use most frequently to assess literary content. I generated a list of 608 expressions (the full list is available upon request) covering all five dimensions of evaluation. Each signal word relates either positively or negatively to one dimension of literary value. For generality, I reduced each word to its minimum decisive length (e.g., ‘entertain’ instead of ‘entertaining’). Using specialized software, I marked the passages in each text containing signal words. For validity, I excluded all references in negated sentences, leaving a total of 17 583 findings (23 per review). For each review, I subtracted the findings of negative signal words from the number of positive findings. I interpret the resultant difference as representing the review’s basic notion. Since the dictionary includes more positive than negative expressions, I z -standardized the indicator (mean=0, standard deviation=1).

To assess the validity of review scores, I gathered additional data from *Südwestrundfunk* (SWR), a radio and television broadcaster which publishes a monthly list of ‘highly readable’ books recommended by 30 professional critics. 82 (10%) of the sampled books received mention, providing a binary measure for ‘literary value.’ The correlation between review scores and the alternative dummy is moderate but highly significant ($r = .218; p < .001$).

For the present study, literary reviews are positive (best 25%), negative (worst 25%), and neutral (intermediate 50%) judgments. Alternative specifications, such as splitting categories at the mean and omitting the neutral group or allowing three equally sized groups, lead to results similar to those in Table 2. Altogether, I considered all reviews released during a book’s Top 50 lifecycle. If several newspapers reviewed a book simultaneously, I used the average rating of the opinions expressed.

A3 Measuring consumer evaluations

I refer to ‘quality’ as the match of cultural content to individual preferences (e.g., Kovács and Sharkey, 2014). Quality, individually perceived, determines the pleasure of consuming the product but does not necessarily correspond to an objective ranking of cultural value. I am aware of the difficulties arising from any attempt at measuring artistic value objectively. For the present purpose, I define ‘quality’ as the average pleasure an audience derives from reading a book. By asking members of a specific cultural offering’s target audience how much they enjoyed it, this consumer evaluation accounts for varying aesthetic dispositions across social strata and cultural genres (Bourdieu, 1984).

Data on such an operationalization are easily obtainable from *Amazon’s* star rating system. At the time of data collection (January 2007, using the online seller’s German website), the average vote for each sampled book was displayed in full and half stars, providing a 9-step variable (see Table 3). On average, I computed each evaluation from 33 individual votes.

It is important to note that the dependent variable excludes online sales. Hence, I interpret *Amazon* votes as a measure of ‘quality’ rather than a stimulus to sales. Still, since I gathered the votes in retrospect, consumer evaluations may be endogenous to product popularity. Kovács and Sharkey (2014) report deteriorated ratings from readers after a book received a literary prize: Increases in audience attention enlarge the pool of potential evaluators, including not only devotees of a narrow niche but also a broader, more sceptical sample of the general population. To test whether the popularity of books affects their evaluation among online customers, I regressed the average valuation per book on the (log) volume of votes. It shows that a 10% increase in volume reduces the average evaluation by .009 stars. The effect is highly significant, yet small enough in size to reject a substantial endogeneity bias.

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