

The Price of Launching a New Product: Empirical Evidence on Factors Affecting the Relative Magnitude of Slotting Allowances

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Slotting allowances are a relatively recent trend, particular to the retail food industry. These allowances are lump-sum, up-front transfer payments from manufacturer to retailer when the manufacturer launches a new product. The practice has attracted some scrutiny because of uncertainty about its purposes and consequences. We draw from the extant literature to identify factors that potentially influence the relative magnitude of slotting allowances. Based on analysis of primary survey data from retailers and manufacturers, we observe that charging and paying of slotting allowances are affected by the relative strength of the players. Among retailers, the relative magnitude of slotting fees increases with retailers' informational advantage over the manufacturer about the likely success of the new product, even when retailers recognize that the product is likely to be successful. Additionally, and consistent with the first finding, retailers with lower costs (i.e., potentially more efficient and powerful retailers) received higher slotting allowances. Furthermore, retailers charge higher slotting fees, even when concerns about manufacturers' fulfilling postlaunch advertising commitments are minimal, implying that relatively powerless manufacturers are asked to provide credible commitments regarding postlaunch activities *and* are asked to pay relatively high slotting fees. Among manufacturers, the relative magnitude of slotting fees paid is lower for those who have a strong market share position. We discuss the theoretical, managerial, and public policy implications of our findings.

(Slotting Allowances; Information Asymmetry; New Product Introductions; Retail Food Industry)

• On November 8, 1995, the Federal Trade Commission held hearings to determine if antitrust and consumer protection regulations needed updating in light of the recent emergence of a phenomenon known as "slotting allowances," a lump-sum advance payment that manufacturers pay grocery retailers to stock new products. One expert economist testified that slotting allowances (estimated at between \$6–\$9 billion a year, which could represent up to a third of new product marketing budgets) could both promote and stifle competition. They promote competition by forcing firms to only launch products that are

likely to be successful, and stifle competition by limiting the ability of small manufacturers to enter.

• On November 10, 1995, ABC News aired a special report on its 20/20 program. Using a hidden camera, the show documented conversations between an entrepreneur and buyers for two food retailers, during which the buyers indicated that "slotting fees" were more important than sales presentations in gaining shelf space. One buyer indicated that the typical slotting fee was \$5,000 per item, while the other buyer indicated that the price was closer to \$8,000–\$10,000.

• In September 1999, a United States Senate committee on Small Business held hearings on slotting fees. Witnesses included two small-business owners who were shrouded in black hoods because they feared retaliation from powerful retailers. In voices that were electronically altered, they spoke of the chilling effect of slotting allowances on their ability to compete.

1. Introduction

Manufacturers often pay slotting allowances to retailers when they launch new products. These fees are lump-sum, up-front payments that retailers allegedly demand to stock the new product. Although these fees have been reported to have surfaced as early as 1979, they appear to be reemerging with a vengeance. The magnitude of the fee charged can be quite high; consequently, the topic generates strong reactions from those who pay them, from those who charge them, and from those who are contemplating regulation of the players. Based on recent testimony at a Federal Trade Commission-sponsored workshop, as well as on Congressional testimony, it appears that some manufacturers abhor them because they impose additional costs on them, some retailers and wholesalers claim that they are necessary in light of the "excessive" rate of new product introductions by manufacturers, and regulators appear puzzled as to whether the fee is (a) "anticompetitive" because it may discriminate against small firms, (b) inflationary because it may raise manufacturer's costs, or (c) efficient because it may ration scarce shelf space and screen out potentially weak new products.

As the opening vignettes suggest, slotting allowances are a substantial, growing, yet controversial phenomenon whose purposes and consequences are not entirely clear. Specifically, although it is widely speculated that slotting allowances are, among other things, a consequence of retailer power (suggesting that these allowances are likely to become common in other industries populated by powerful retailers) or an efficient response to the proliferation of new products that compete for scarce retail shelf space (again, suggesting that such allowances will become popular in industries in which new product introductions are frequent and shelf space is scarce), the limited available evidence is some-

what ambiguous about the purposes that slotting allowances serve. There are several analytical models (e.g., Chu 1992, Lariviere and Padmanabhan 1997, Shaffer 1991) that speak to the issue, many of which have appeared in this journal. On the empirical front, as the phenomenon grows in importance, researchers have recently started to gather evidence on slotting allowances. Sullivan (1997) uses secondary data and speaks indirectly to some of the prevailing theories in the marketing literature. Bloom et al. (2000) report the opinions of manufacturers and retailers, and find that the opinions of these players are often at odds with some existing theoretical perspectives and with each other. White et al. (2000) examine the new product adoption decisions in a single chain and, among other things, find some preliminary evidence that is consistent with an anticompetitive story.

Given the apparent importance of the topic and the relative paucity of direct evidence on what drives the magnitude of slotting allowances, the next logical step appears to be the collection and formal analysis of primary data from a cross-section of the players involved in the charging and payment of these fees. Such data will likely add valuable insights and some resolution to the somewhat conflicting conclusions in the extant literature. That is the purpose of the research reported here. As Shugan (2002) observes in a recent editorial, such research that "... with the use of empirical quantitative methods, produce important general substantive findings..." (p. 7) is of considerable value to the discipline. In this work, we begin by drawing from the existing literature to identify factors that have been implicated in the slotting allowance decision. We then report on two studies. In the first study of retailers, we identify characteristics of the exchange relationship between manufacturers and retailers that have an impact on the tendency to charge and pay slotting allowances. Among other things, we find that the retailer's informational advantage over the manufacturer can raise the tendency to charge slotting allowances even when the retailer expects the product to succeed, a finding that is potentially at odds with a signaling story. In a second study, we survey manufacturers and observe that their tendency to pay

slotting allowances declines as their relative market share position improves. These empirical efforts provide the basis for a discussion of the implications of our research for theory, practice, and public policy. We next turn to a review of the literature and describe the various extant theoretical perspectives.

2. Literature Review and Hypotheses

Recently, empirical investigations of secondary data (Sullivan 1997), the opinions of practitioners (Bloom et al. 2000), as well as the practices of a single grocery chain (White et al. 2000), have begun to shed some light on the payment of slotting allowances. However, the conclusions from these papers are somewhat conflicting. Although Sullivan's broad-brush macroeconomic analysis of secondary data is supportive of a "procompetitive" conclusion for the emergence of slotting fees, White et al. (2000) offer some speculation that manufacturer size might attenuate slotting allowances (an "anticompetitive" story), and Bloom et al. (2000) provide data from manufacturers and retailers that yield conflicting evidence on why the practice exists.

Bloom et al. (2000) offer an excellent summary review of the extant perspectives and literature on the topic of slotting allowances. They identify two schools of thought: (a) the "efficiency school," according to which slotting allowances are a useful mechanism that screen new products that are likely to fail out of the system, allocate scarce shelf space, and apportion new product risk correctly; and (b) the "market power school," according to which slotting allowances are "extorted" by powerful retailers (or are paid by powerful manufacturers); consequences of the fees paid include discrimination against small players, reduced innovation, and potential harm to consumer welfare. These two schools of thought are conceptual and empirical opposites, in the sense that support for one would imply a refutation of the other school of thought. Thus, although slotting allowances may serve multiple purposes, they cannot simultaneously be efficient *and* harm consumer welfare.

Consistent with Bloom et al. (2000), our review of the literature focuses on two broad categories

of explanations based on the efficiency school that account for the emergence of slotting allowances. They are: (a) solving information asymmetry between manufacturers and retailers and (b) equating the demand for and supply of new products (Sullivan 1997, Lariviere and Padmanabhan 1997).

2.1. Solving Information Asymmetry

Information asymmetry occurs when one party to a transaction has pertinent information that the other party lacks. Two types of information problems, *adverse selection* or *hidden information* and *moral hazard* or *hidden action*, have been studied in the literature (Bergen et al. 1992, Rao and Monroe 1996, Mishra et al. 1998, Kirmani and Rao 2000). Adverse selection problems occur when one party is uncertain about the claims that the other party makes regarding its *capability* to fulfill contractual obligations. For instance, a buyer may be unsure if a seller has the requisite skills to manufacture and deliver a high-quality product, or, in our context, a retailer may be unsure about the likely success of a new product being offered by a manufacturer. Moral hazard problems occur when one party is uncertain about and therefore *concerned about the intentions* of the other party. For instance, a buyer may be afraid that a seller will reduce quality after the contract has been signed, or, in our context, a retailer may be afraid that a manufacturer will not fulfill commitments to support a new product after it has been launched. We examine mechanisms to solve both these information problems in the retailer-manufacturer setting.

Solving Adverse Selection. With the explosion in new product introductions, and a commensurate increase in the number of new product failures, the economic consequences of a decision on whether or not to carry a new product are nontrivial, and grocery retailers are therefore forced to exercise considerable circumspection in the choice of which of several new products to stock (Sullivan 1997). Thus, the retailer is faced with an adverse selection problem. Some new products will likely be successful, whereas others will not, and simply examining prelaunch projections, marketing research data, and the like frequently does not provide an accurate indication of future demand.

As Chu (1992) observes, manufacturers may misrepresent their pretest or other market research information, emphasizing positive and favorable information, in part because they expect the product to succeed as a consequence of postlaunch adjustments to the marketing mix (p. 329). The retailer's problem, therefore, is to determine the *type* of the new product (high or low demand), so as to minimize his risk if the new product fails.

To persuade retailers who are skeptical about the new product's success, manufacturers who are confident about the prospective demand for their new product can *signal* their confidence by putting their economic interests at risk; manufacturers who are not confident about their new product's prospective success will incur such a cost at their economic peril.¹ One signal that can resolve this information asymmetry problem is for the manufacturer to pay a fee (a slotting allowance) that would not have been paid under full information (i.e., if there had been no uncertainty about demand for the new product). By doing so, a manufacturer can credibly communicate that she is relatively certain that her new product will have *high* demand; manufacturers who are uncertain about the prospective demand for their new product would be less sanguine about the likelihood of recovering these fees from future sales, and therefore would be less likely to incur such an expenditure (cf. Kirmani and Rao 2000). Thus, the slotting fee signal can solve the adverse selection problem and generate a "separating equilibrium," such that retailers can separate manufacturers who are certain about the

prospect of their new product from those who are not certain about their new product's success.² In other words, slotting fees should be observed when retailers are uncertain about a new product's success, but manufacturers are certain that the product will succeed (Chu 1992).³

However, retailers may often be well informed about the likely success of a new product. Modern retailers in the food industry frequently have sophisticated marketing research abilities—access to scanner data as well as proprietary data based on frequent shopper card purchases (Fisher et al. 2000). Thus, their ability to discern future demand may, in some cases, be *better* than that of a relatively unsophisticated manufacturer. In such a circumstance, the signaling role of slotting allowances should not be operative; retailers should compete for the product if their private information reveals that it will succeed, as a consequence of which the tendency to use slotting fees as a signal should fall. If their superior information suggests that the new product will likely not succeed, retailers should simply not adopt the new product.

These two factors, the retailer's uncertainty about new product failure and the retailer's information disadvantage over the manufacturer, should interact on the use of slotting allowances as a signal. When manufacturers have private information about the success of a new product *and* retailers are skeptical about the new product's success, slotting allowances should emerge as a signal. In other words, when

¹ Technically, low-demand firms will not mimic this signal only if the associated cost cannot be recovered through first period margins (see Kirmani and Rao 2000 for a nontechnical explanation of the requirements for a signal to work). If the first-period margin compensates for the cost of the slotting allowance, then low-demand manufacturers will willingly pay the slotting fee and suffer the downstream consequences of no repeat sales. This behavior generates a pooling equilibrium, and slotting allowances fail to signal. In survey research, it is difficult to assess whether the conditions for separation do indeed hold. Therefore, as we will discuss later, the absence of support for a signaling story may be a consequence of conditions that are consistent with a pooling equilibrium. In other words, under appropriate conditions, slotting allowances *could* be used to signal even if the empirical evidence suggests that they are not being used to signal.

² An anonymous reviewer made the astute observation that the decision to pay a slotting fee, not its magnitude, constitutes the signal. As we discuss shortly, in light of the fact that new products frequently fail (suggesting that slotting fees may not signal perfectly), the magnitude of the slotting allowance is a good proxy for the signal.

³ The choice of a slotting allowance over other types of signals (such as advertising, or a generous return policy, which is the equivalent of a performance guarantee) is driven by two factors. *First*, offering a generous return policy may result in the retailer not exerting the effort necessary for the success of the new product, a type of moral hazard problem (Chu 1992). Consequently, even though it may be an inexpensive signal (Kirmani and Rao 2000), manufacturers prefer not to use it. *Second*, a slotting allowance provides a direct economic benefit to the retailer; therefore, retailers prefer that manufacturers pay slotting fees rather than engage in excessive advertising.

the retailer is at a relative informational disadvantage and is uncertain about the new product's success, slotting allowances should be observed to a greater degree than when retailers are uncertain about the new product's success. Conversely, when the retailer has an informational advantage over the manufacturer, and the new product is not expected to fail, slotting allowances should not be charged.

As noted previously, the theoretical argument simply stipulates that a slotting fee serves as a signal in some circumstances. The relative magnitude of the fee is likely driven by numerous factors, including the cost of mimicry by a low-demand manufacturer. Therefore, in an ideal world, if slotting allowances were perfect signals, examining whether or not they were charged would be a good test of the signaling story. Clearly, however, despite the emergence of slotting allowances, new products continue to fail at an alarming rate. Therefore, we choose to examine not just the existence of slotting fees (i.e., the binary variable of whether or not a fee was charged), but the richer concept of the *relative magnitude* of the slotting fee. We assume that the magnitude of the slotting fee should be a reflection of information asymmetry and other theoretically defensible factors that will be discussed shortly. Therefore, examining variations in the magnitude of slotting allowances should provide evidence regarding the signaling argument, because higher degrees of information asymmetry should increase the need for signaling, and thus (potentially) increase the magnitude of the slotting allowance necessary to signal successfully.

Our first refutable prediction emanates from this signaling argument (Chu 1992, Lariviere and Padmanabhan 1997, Desai 2000):

HYPOTHESIS 1. Slotting allowances should be observed to the greatest degree when the retailer is at an informational disadvantage and is uncertain about the new product's success.

Solving Moral Hazard. In addition to the adverse selection problem associated with the likely success of the new product, the retailer is faced with another complexity. Retailers need to assess if a product has sufficient support behind it to generate demand (Mendelson 1996). Clearly, the success or failure of the

new product is often contingent on postlaunch actions that the manufacturer needs to undertake, such as advertising, coupon drops, and other forms of in-store support. Therefore, a second dimension of information asymmetry in the retailer-manufacturer setting is the likelihood that the manufacturer will renege on postlaunch commitments (Chu 1992). For instance, as noted previously, new product launch success is often contingent on postlaunch advertising support. To the extent that the retailer is uncertain that the manufacturer will fulfill her obligations, the retailer will attempt to cover the risk associated with a new product failure. One possible device to cover the risk associated with the manufacturer's potential failure to fulfill postlaunch commitments is to charge a slotting fee.⁴ Such a fee can serve the dual purposes of (a) providing a hostage that the manufacturer will try to recover through margins associated with post-launch sales, which would likely be facilitated by fulfilling postlaunch commitments, and (b) mitigating the retailer's losses should the new product fail because of inadequate postlaunch support. Therefore, when the retailer is concerned that the manufacturer will engage in moral hazard, the tendency to charge slotting allowances should increase. Thus:

HYPOTHESIS 2. Slotting allowances should be observed to the greatest degree when the retailer is uncertain about whether the manufacturer will fulfill postlaunch support commitments.

2.2. Equating Demand and Supply

According to a second class of explanation, slotting allowances are a response to increases in the rate of new product introduction relative to consumer demand for those products. If consumer demand for new products was consistent with the supply of new products, there should be no fee necessary to induce retailers to stock the new products, because the costs of new product introduction would be covered by margins associated with sales. However, if demand lagged supply, then to compensate for the retailer's costs associated with holding inventory while new

⁴ Other fees, such as "failure fees" or "buy-back guarantees," may also be used, but may not always be enforceable.

product demand materializes, manufacturers need to pay a slotting fee.

Sullivan develops a model based on this rationale. She considers the role of slotting allowances as a mechanism to "... equate the retail demand for new products with ... supply" (Sullivan 1997, p. 463). According to Sullivan's model, the retailer's optimal quantity and number of products carried is a function of the retailer's operating costs, and these costs increase in the number and quantity of products stocked. In particular, for new product introductions, retailers require compensation for costs such as the one-time fees associated with entering stock-keeping unit (SKU) information into the store's computer system, warehouse placements, shelving costs, as well as the opportunity cost of the shelf space (Freeman 1986, Hall 1988).

Whereas Sullivan's data are supportive of a pro-competitive argument (that slotting allowances are explained principally by an escalation in new product activity), the level of aggregation in her data makes it difficult to tease out *variations* in the tendency to charge slotting allowances. Specifically, it is unclear if slotting allowances vary by the operating costs of the individual retailer. Therefore, although she is able to dismiss several rival explanations at the macrolevel, it is feasible that a more microlevel analysis will reveal additional insights. For instance, one logical implication of her line of reasoning is that slotting allowances should be higher when the retailer's costs are high. In particular, costs such as placing new products on shelves, the time required to shelve new products, and the opportunity cost of shelf space could vary by retailer, and these costs should be systematically related to the relative magnitude of slotting allowances charged. Because we examine microlevel data, we will be able to speak to the direct relationship between costs and slotting allowances.⁵ Our

⁵ As one anonymous reviewer noted, it is also possible that retailer costs will vary by product category or SKU. To adequately analyze this possibility, it is desirable to obtain SKU-level margin information. However, as we discuss in the empirical section, such information is difficult to obtain. We therefore focus on the retailer's operating cost as a first approximation to assess how retailers' costs affect the tendency to charge slotting allowances.

next refutable prediction emanates from this demand-supply argument (Sullivan 1997). According to this perspective, retailers who have high product-carrying costs should seek slotting allowances to a greater degree to compensate for their costs. Specifically:

HYPOTHESIS 3. *Slotting allowances should be observed to a greater degree when retailer's operating costs are high.*

Note that, unlike in the case of the earlier hypotheses, Hypothesis 3 does not invoke the notion of new product success or failure; slotting allowances merely compensate the retailer for costs associated with the new product launch. However, it is likely that high-cost retailers are more sensitive to the consequences of new product failure, and therefore are likely to charge higher slotting fees when their expectation of new product failure is high.⁶ This suggests the following interaction hypothesis:

HYPOTHESIS 4. *Slotting allowances should be observed to a greater degree when retailer's operating costs are high and the retailer is uncertain about the new product's success.*

A final interaction hypothesis is inspired by Lariviere and Padmanabhan (1997). Their model starts with the default position that the manufacturer's wholesale price alone is generally sufficient to signal unobservable demand when the manufacturer is better informed than the retailer about new product demand. However, when the retailer's costs increase beyond a certain level, the increase in wholesale price necessary to create a separating equilibrium is unprofitably high for the manufacturer with high unobservable demand. She therefore has to reduce her wholesale price, but that then makes it possible for the manufacturer with low unobservable demand to mimic the wholesale price signal. "Consequently, as the high demand manufacturer reduces the (wholesale) price... she simultaneously offers a slotting allowance equal to the low demand manufacturer's profits" (p. 119). This slotting allowance prevents the low-demand manufacturer from mimicking. This reasoning suggests that the signaling role

⁶ We are indebted to an anonymous reviewer for suggesting this hypothesis.

of slotting allowances should only be observed when retailer's costs are high, as captured in the following hypothesis.⁷

HYPOTHESIS 5. Slotting allowances should be observed to a greater degree when retailer's operating costs are high and when the retailer is at an informational disadvantage.

In summary, the literature offers several explanations and predictions for the role that slotting allowances play in manufacturer-retailer transactions when new products are launched.⁸ The tendency to pay slotting allowances may signal unobservable demand and shift the risk associated with new product introduction to the more informed party (the manufacturer). However, this tendency may vary depending on which of the two players is better informed; retailer uncertainty and the manufacturer's informational advantage should interact (Hypothesis 1). Furthermore, slotting allowances may serve to mitigate moral hazard problems associated with enforcing postlaunch commitments on the part of the manufacturer (Hypothesis 2). Also, slotting allowances may compensate retailers for the costs associated with their role in new product introductions (Hypothesis 3), and this effect may be exacerbated by the retailer's uncertainty about the new product's likely success (Hypothesis 4). Finally, slotting allowances should be the manufacturer's preferred signal of unobservable demand when the retailer's costs are high (Hypothesis 5).

⁷ In the interest of brevity, we provide only a sketch of the intuition behind Lariviere and Padmanabhan (1997). A detailed and informative explanation is available on pp. 116–120 of that paper, particularly Figures 1 and 2.

⁸ Another explanation suggests that slotting allowances are a facilitating device (Shaffer 1991). However, because this perspective does not offer an explanation for the drivers of slotting allowances, we do not consider it in this paper. Other perspectives on the role and consequences of slotting allowances discuss the possibility that slotting allowances may be illegal. Retailers may be in violation of the Robinson-Patman Act for accepting fees that are not available to all retailers. Furthermore, large manufacturers may be guilty of predatory promotion, because they could hypothetically take control of an "essential facility" by paying the fee (see Cannon and Bloom 1991). This second argument, however, is contrary to the charge that large manufacturers frequently do not pay the fee (see Footnote 9, pp. 462–463 in Sullivan 1997).

To test these predictions, we next report on a systematic, broad-based primary data collection exercise of retailers designed to speak to the various underlying theoretical rationales for variations in the charging and payment of slotting allowances. Based on the results of this study, we then survey manufacturers to assess whether their slotting allowance payments are consistent with the results of our survey of retailers. Our contribution can be assessed based on calls for future research from other prominent scholars. For instance, Sullivan (1997) observes, "... testing ... a signaling hypothesis is a challenging topic for future research" (p. 492). Bloom et al. (2000) recognize that their research is based on single-item measures of practitioner opinions, and they "... advocate additional studies of slotting fees to fully understand their nature and implications for the marketplace" (p. 106). Similarly, White et al. (2000) acknowledge the limitations of their examination of a single chain and call for a "... deeper understanding of the numerous issues regarding slotting-fee size ... it would be interesting to determine how the range of (slotting fees) varies across ... retailers. In particular, it is unknown whether our findings would be comparable for retail chains ... with different levels of market power (pp. 297–298, emphasis added)." Our research addresses these calls by using multiple-item indicators that have desirable psychometric properties on a broad sample of respondents, and by testing a variety of theoretical perspectives, including the dominant signaling argument (Chu 1992; Lariviere and Padmanabhan 1997). Next, we turn to a description of the study of retailers.

3. Methodology for Study I

The retailer study was conducted in three phases.

3.1. Phase I

Several one-on-one and group meetings with 15 buyers and managers of a large grocery store chain in the upper Midwest revealed that, whereas respondents were likely to be concerned about responding to questions on a topic that was potentially illegal, they would be willing to respond as long as (a) we were

able to ensure their anonymity, (b) the questionnaire was relatively short, and (c) the questions did not ask for confidential financial data. This last concern had obvious implications for our ability to collect information on the magnitude of fees charged, prices, margins, and the like. (These pretest respondents turned out to be prescient on the issue of financial information; we did attempt to collect data on wholesale prices, margins, and the like, but received limited data with questionable psychometric properties, and hence we do not address this issue any further.) After we described the constructs of interest, their conceptual underpinnings and their hypothesized interrelationships, respondents suggested several scale items and offered input on items that we had already developed. This procedure allowed us to develop a questionnaire for pretesting on a larger and more diverse sample in Phase II.

3.2. Phase II

From Phase I, it was evident to us that collecting objective dollar figures on slotting fees paid by particular manufacturers would be difficult, if not impossible. Despite assurances of anonymity, our respondents indicated that retailers would be reticent because of the fear that aggregation of those dollar figures would reveal the magnitude of the transactions and might invite even more regulatory scrutiny than they were already facing. In light of our existing fears about a low response rate, we therefore used a psychometric approach in our empirical study.

Multiple-item scales were developed for the following constructs: receipt of slotting allowances (SA), retailer's expectations of new product success or failure (FAIL), relative market expertise (INFOR), retailer's costs (COST), and concern about fulfillment of postlaunch advertising commitments (i.e., concerns about manufacturer moral hazard, MHAZ). The questionnaire comprised two major sections. Respondents who indicated that they had received a slotting allowance from their last vendor provided responses to several five-point Likert scale items about that particular vendor and that particular interaction. The interaction referred to the occasion on which they had received a slotting allowance. Respondents who had

not received a slotting allowance from their last vendor provided opinions on several other items, including the role of slotting allowances, technology, new product introductions, and the like, in their industry. Finally, all respondents provided demographic information and responded to an open-ended debriefing question.

The *Directory of Supermarket, Grocery and Convenience Store Chains* (1997) was used to establish initial telephone contact and solicit participation from respondents across the United States. A quota sampling technique ensured that respondents from every state were contacted in proportion to the number of grocery retailers in that state. Those agreeing to participate were then sent a mail questionnaire with a cover letter on university letterhead, a reply paid envelope, and a postcard inviting them to request a "PAR REPORT" that would describe how their response compared with others in the sample. Reminder postcards were sent out two weeks later.

Of the 600 people contacted, 260 agreed to participate and 58 questionnaires were returned from this set, yielding a response rate of 22.31%. Psychometric analyses of scale items followed. Qualitative responses were examined for any potential insights.⁹ Based on these analyses, several changes were made to the instrument, which increased the length of the survey, but were deemed essential for measurement rigor.

3.3. Phase III

The procedures used in this phase were identical to those used in Phase II. Twelve hundred potential respondents were contacted using a quota sampling procedure, and 748 agreed to participate. A total of 116 responses were received from this set before a prespecified cutoff date, yielding a response rate of 15.51%.

Modifications to the questionnaire were as follows. First, in an attempt to boost the number of responses available for analysis, any respondent who had *ever* received a slotting fee was asked to provide responses

⁹ In the interest of brevity, we do not provide details of our analysis of pretest data. The psychometric properties of our scales can be evaluated from our Phase III survey.

to the variables of interest. These items pertained to the transaction in which the slotting fee was paid and included questions about the vendor, the product, the retailer, the competitive environment, expectations of new product success, relative (to the manufacturer) level of market information and marketing research capability, cost of stocking shelves, opportunity cost of space, and slotting allowances received.¹⁰

The conceptual rationale for our measures was based on respondent input, as well as the theoretical content of the constructs. Slotting allowances, defined as the *relative level of slotting allowances charged*, were measured by asking respondents to judge the amount of fee received in one particular interaction relative to other products, other vendors, and the fee other retailers may have received. Similarly, the degree to which the new product was expected to succeed or fail, defined as the *likelihood of new product failure*, was measured based on perceptions about the vendor's prior success or failure, as well as retailer perceptions of likely success and perceptions of uncertainty of success. Our measures included expectations and uncertainty, because expectations of success are probably causally influenced by uncertainty associated with success. The measure of informational advantage, defined as the *relative level of information*, comprised a battery of six items designed to assess whether the retailer or manufacturer had greater information regarding consumer segments, price sensitivity, marketing research capability, general market knowledge, and demand. The cost measures, defined as the *retailer's cost of doing business*, included time and money costs of labor, as well as opportunity cost of shelf space. Concern about manufacturer moral hazard, defined as the *retailer's concern that the manufacturer would engage in postlaunch moral hazard*, was measured through a single-item measure regarding retailer expectations of the likelihood that the manufacturer would fulfill postlaunch advertising commitments.

¹⁰ A copy of the questionnaire, key constructs, and associated statistics for this study, as well as for the survey of manufacturers described later in the paper, may be obtained by writing to the first author.

Respondents who had never received a slotting fee before were directed to a section of the questionnaire that asked for their opinions on several issues pertinent to the retail food industry. Finally, demographic information regarding the respondent, as well as descriptive information regarding the retailer, was collected from all respondents. After a prespecified cutoff date, those requesting "PAR REPORTS" were provided mean and standard deviation data on all scale items with a cover letter in which these data were interpreted in lay terms, and key results were described.

4. Analysis and Results of Study I

4.1. Descriptive Information

Of the 116 respondents, 82 (71% of our sample) indicated that they had indeed received slotting allowances.¹¹ A comparison of the demographic characteristics of those who had received slotting allowances and those who had not indicates that other than the number of years employed with the current employer (recipients of slotting fees had slightly, though statistically significantly, less tenure (16 vs. 18.39 years, $p < 0.05$)), the two groups did not differ significantly on any other demographic factors. An analysis of the categorical data on age, management level, and type of organization suggests that respondents in the two groups were not significantly different from each other (because some cells had less than five data points, all χ^2 tests are approximate, but none approached significance at $p < 0.20$). Respondents also provided information on the volume of purchasing with which they were involved in the previous year. Purchasing volume dollar figures indicated that respondents who did not receive slotting allowances were involved with purchases that averaged \$7.1 million the previous year, whereas the group that received slotting allowances was involved

¹¹ The only response that arrived after the cutoff date was found to be an outlier (based on hat diagonal (>0.11) and studentized residual (>2.22) values) and was therefore not included in the analysis. Including this data point in the analysis does not change any of the results substantively, however.

with purchases that averaged \$112 million, a figure that is roughly 16 times higher than the first group's purchases. Because the two groups did not differ based on the type of organization they represented, it is likely that respondents who received slotting allowances were reporting their purchase involvement for a large store or chain, whereas those who reported not receiving slotting allowances were reporting their purchase involvement for smaller stores or chains. The discrepancy in the dollar volume of purchases with which the respondents were involved is substantial. Consequently, we present summary information on the dollar volume of purchases made in the previous year by respondents who did not receive slotting allowances (I) or did (II), categorized by the type of organization below.

Type of Organization	N		\$	
	I	II	I	II
Large national chain	0	2	N/A	222,500,000
Regional chain	8	18	12,956,250	293,222,222
Wholesaler	0	1	N/A	180,000,000
Retailer	16	30	4,242,145	10,939,666
Other	0	5	N/A	8,000,000

Note: N/A = not applicable.

As we noted previously, whereas the data do not yield statistically significant differences because of small sample sizes and empty cells, for the cells that are comparable, we conducted *t*-tests. The dollar values associated with the recipients of slotting allowances for the "retailers" category is significantly higher than that associated with nonrecipients ($p < 0.05$), and this difference is not significant for any other comparison. We therefore speculate that the group that did not receive slotting allowances consisted disproportionately of small, owner-operated stores, and, consistent with the retailer power argument, their small size reduced their ability to extract slotting allowances from manufacturers.

According to the qualitative responses they provided, the recipients of slotting allowances received these fees from a large variety of firms, ranging from *Fortune 100* consumer products companies to relatively obscure regional manufacturers. The magnitude of slotting allowances received per store (respondents

could provide the information as dollar figures or as free cases), assuming an average sales volume commitment of 50 cases per week per store, is reported in the following frequency table.

	\$101- <\$100	\$501- \$1,000	\$1001- \$5,000	<5 Cases	6-10 Cases	11-15 Cases	>21 Cases	Don't Know/ Can't Share Information
	31	24	2	1	4	3	1	1
								10

This data suggest that cash (rather than kind) is the predominant method of slotting fee payments and the fees tend to be substantial, with nearly half of the respondents receiving cash indicating a fee of between \$2 and \$10 per case.

To assess concerns regarding nonresponse bias, we performed two analyses (Armstrong and Overton 1977). First, we compared early and late respondents on the demographic criteria discussed previously and found no statistically significant differences between the two groups on any demographic dimensions. Second, we compared the data on dollar value of purchases in our overall sample with that of the population from which we drew. That analysis suggests that our respondents were at the high end of the spectrum. In the population, the average store in a chain that comprises more than 201 stores (the category with the highest per-store sales volume) had an annual sales volume of \$10.5 million. Our respondents were, on average, involved with purchases of more than \$78.6 million. However, as we noted previously, our measure is a measure of the *respondent's* involvement with purchases (which may include purchases for multiple stores). We therefore do not interpret this difference further. However, we do caution that our results may not generalize to the population of retail stores nationwide, but because our inquiry is focused on the drivers of slotting allowances and not on channel behavior in general, this issue is not a cause for concern. In fact, the relative magnitude of purchases with which our respondents were involved suggests that we received data from people who had major responsibility with purchasing and are therefore more informed about strategic issues, such as the degree to which slotting allowances are charged across multiple stores. Our data may generalize to one segment of the population (large stores and chains),

and our results should therefore be interpreted as the behavior of that segment of retailers.

4.2. Measures

We began by performing standard scale purification procedures for our measures (Churchill 1979). The process of scale purification involved an examination of interitem correlations, an assessment of interitem reliability, and an attempt to establish discriminant validity through exploratory factor analysis. Our sample size precludes the use of confirmatory factor analysis (Bentler and Chou 1987); Boomsma (1982) and Marsh et al. (1988) warn against the use of confirmatory factor analysis (CFA) when the sample size is less than 200. Our attempt at generating multiple-item measures for our principal theoretical constructs was successful (multiple-item scales each for slotting allowances (SA), retailer's information advantage (INFOR), retailer's cost (COST), and retailer's expectation of the new product's success or failure (FAIL)).¹² Finally, as discussed earlier, we used a single-item measure of the retailer's expectation that the manufacturer will fulfill her postlaunch advertising commitments (manufacturer moral hazard; MHAZ).

A correlation matrix (which includes the log-transformed dollar value of purchases with which the respondent was involved (\$)) and the output of the factor analysis for these measures are provided in Tables 1 and 2, respectively. The correlation matrix indicates that all items correlated better with items designed to measure the same construct. A four-factor solution (lowest eigen value = 1.47, % of variance explained = 61.29) appears appropriate. The factor pattern reveals that, other than one item for slotting allowances, all other items loaded highest on the latent construct. The one questionable item for slotting allowances (SA2) loaded well on

its intended construct, but also loaded on a couple of other constructs. An examination of the reliability (Cronbach's α) figures and the semantic content of the scale item suggest that the inclusion of this item under a measure of slotting allowances is justified. This process of scale purification yielded multiple-item measures of slotting allowance charged (SA), Cronbach's $\alpha = 0.77$; informational advantage of the retailer relative to the manufacturer (INFOR), Cronbach's $\alpha = 0.85$; the retailer's costs (COST), Cronbach's $\alpha = 0.72$; and perceptions of new product success or failure (FAIL), Cronbach's $\alpha = 0.63$. In general, all items satisfy the 0.60 cutoff level for Cronbach's α prescribed by Nunnally (1967).¹³

In addition, we provide the correlation among the key constructs below ($p < 0.10$, *italicized*). Note the high correlation between FAIL and MHAZ, suggesting that the prospect of failure and concerns about moral hazard go hand in hand. Additionally, these concerns seem to be more salient for high dollar-volume respondents. Finally, correlation between FAIL and INFOR suggests that the two constructs are related, and relatively informed retailers tend to have higher concerns about the failure of the new product.

	INFOR	FAIL	COST	LOG (\$)	MHAZ
INFOR	1.00000				
FAIL	<i>0.20638</i>				
COST	0.00736	0.06359	1.00000		
LOG (\$)	0.00521	<i>0.27246</i>	<i>-0.24660</i>	1.00000	
MHAZ	0.01131	<i>0.41906</i>	0.08718	<i>-0.29725</i>	1.00000

4.3. Tests of Hypotheses

To assess support for the hypotheses, we estimated a regression equation that incorporated main and interaction effects as specified in the hypotheses. All main effects were included to prevent omitted variable bias. We reasoned that the size of the retailer may have some impact on their ability to extract slotting allowances. Therefore, in addition,

¹³ The slotting allowance measure combines cross-retailer, as well as cross-product variations. Because these are highly correlated, we are not concerned about the possibility of confounding two independent sources of variation.

¹² Louie (1999) and her colleagues (Louie et al. 2000) discuss the problem of hindsight bias, according to which an actor's current judgment of a past event is influenced by the known outcome. In our case, such a bias should have led to extreme evaluations—failed products would have yielded low ratings, whereas successful products would have yielded high ratings—resulting in a bimodal distribution on FAIL. However, our data are unimodal and normally distributed (mean = 2.88, median = 3.000, mode = 3.000).

Table 1 Correlation Matrix for Principal Constructs (Retailer Responses)

	SA1	SA2	SA3	INFOR1	INFOR2	INFOR3	INFOR4	INFOR5	INFOR6	COST1	COST2	COST3	FAIL1	FAIL2	FAIL3	FAIL4
SA2	<i>0.46</i>															
SA3	<i>0.53</i>	<i>0.62</i>														
INFOR1	0.08	0.11	<i>0.24</i>													
INFOR2	0.12	0.15	<i>0.25</i>	<i>0.53</i>												
INFOR3	<i>0.29</i>	0.12	0.06	<i>0.34</i>	<i>0.46</i>											
INFOR4	0.11	0.07	0.09	<i>0.36</i>	<i>0.59</i>	<i>0.54</i>										
INFOR5	0.20	0.11	0.09	<i>0.37</i>	<i>0.47</i>	<i>0.47</i>	<i>0.50</i>									
INFOR6	0.09	0.09	0.04	<i>0.43</i>	<i>0.44</i>	<i>0.44</i>	0.33	<i>0.63</i>								
COST1	0.07	0.13	0.10	0.06	-0.09	-0.08	-0.15	-0.03	0.05							
COST2	0.19	<i>0.31</i>	<i>0.39</i>	0.19	0.18	-0.10	0.00	0.08	0.02	<i>0.28</i>						
COST3	0.07	0.22	0.17	0.15	-0.03	-0.16	-0.04	-0.01	0.08	<i>0.40</i>	<i>0.67</i>					
FAIL1	0.00	-0.09	-0.06	0.07	0.05	-0.18	-0.11	0.03	0.08	0.19	-0.03	-0.07				
FAIL2	0.02	-0.04	0.15	<i>0.24</i>	<i>0.24</i>	-0.03	0.05	0.15	0.14	0.15	0.08	-0.04	<i>0.34</i>			
FAIL3	-0.10	0.14	-0.06	0.17	0.04	0.16	0.04	0.22	0.21	0.25	0.08	0.10	0.02	<i>0.33</i>		
FAIL4	0.01	-0.12	0.01	<i>0.35</i>	<i>0.25</i>	0.01	0.17	0.10	0.13	0.19	0.04	0.12	<i>0.30</i>	<i>0.46</i>	<i>0.37</i>	
MHAZ	0.21	0.07	-0.00	0.10	-0.01	-0.15	-0.08	-0.01	0.04	-0.03	-0.11	-0.10	0.12	<i>0.50</i>	<i>0.32</i>	-0.22

Notes. Column and row labels refer to scale items. Items are reverse-coded as appropriate. *Italics* indicate correlation significant at $p < 0.05$.

we included the log-transformed value of the dollar volume of sales with which the respondent was involved, as a proxy for size. (The log transformation was necessary to normalize the dollar values, which were highly skewed in the raw form (skewness = 7.32, kurtosis = 54.21)). Consequently, the regression

equation we estimated was:

$$\begin{aligned}
 SA = & \beta_0 + \beta_1(FAIL) + \beta_2(INFOR) + \beta_3(COST) \\
 & + \beta_4(INFOR * FAIL) + \beta_5(FAIL * COST) \\
 & + \beta_6(INFOR * COST) + \beta_7(MHAZ) \\
 & + \beta_8(LOG \$).
 \end{aligned}
 \tag{1}$$

Table 2 Factor Loadings for Principal Constructs (Retailer Responses)

	Factor 1	Factor 2	Factor 3	Factor 4
COST1	-0.07491	<i>0.67135</i>	0.21252	0.28849
COST2	0.28127	<i>0.71738</i>	-0.22533	0.22805
COST3	0.06024	<i>0.70029</i>	-0.17691	0.52931
SA1	-0.38567	-0.27099	0.30894	<i>0.41987</i>
SA2	-0.36975	-0.49937	0.25431	<i>0.34819</i>
SA3	-0.41772	-0.51190	0.23394	<i>0.55381</i>
INFOR1	<i>0.65877</i>	0.17767	0.24108	0.07489
INFOR2	<i>0.76652</i>	-0.18374	-0.05471	-0.13930
INFOR3	<i>0.61622</i>	-0.44678	-0.30578	0.17479
INFOR4	<i>0.59939</i>	-0.37250	-0.18831	0.04129
INFOR5	<i>0.74301</i>	-0.21800	-0.02953	0.23278
INFOR6	<i>0.6539</i>	-0.12988	0.08978	0.31840
FAIL1	-0.05558	0.11168	<i>0.66605</i>	-0.14483
FAIL2	0.29594	0.03611	<i>0.71071</i>	-0.14288
FAIL3	0.36396	0.12095	<i>0.50609</i>	0.31253
FAIL4	0.28280	0.08534	<i>0.67539</i>	-0.31157

Notes. Items reverse-coded as appropriate. A fifth factor emerged, but loadings are not reported here because none of the items loaded higher on that factor than the first four.

Variables used in the models were the composite measures generated by computing the average value of the purified scale items except for the single-item covariate (MHAZ), and the log-transformed value of dollar volume. The key factors hypothesized to explain variations in slotting allowances were: (a) the interaction between expectation of failure and the retailer's informational advantage (Hypothesis 1), (b) the concern about manufacturer moral hazard (Hypothesis 2), (c) retailer's costs (Hypothesis 3), (d) the interaction between the retailer's costs and expectation of failure (Hypothesis 4), and (e) the interaction between retailer's costs and the manufacturer's informational advantage (Hypothesis 5).

Our analysis of multicollinearity diagnostics suggests that ϕ , the ratio between the largest and smallest eigen value of 436.94, is within the range of acceptability (Myers 1990). However, there are, as expected, linear dependencies between the interaction term and

the individual regressors that were used to create the interaction terms (variance inflation factors of 20 and above for all terms involved with the interaction terms). This model is significant ($F_{(8, 43)} = 3.19$, $p < 0.01$), and the fit statistics are reasonable ($R^2 = 0.37$, $R^2_{\text{adj}} = 0.26$). Model prediction (PRESS = 22.58) is good, and a test for heteroscedasticity reveals no cause for concern ($\chi^2_{(41)} = 43.11$, $p > 0.38$, for White's test). The parameter estimates (*italicized* terms are significant at $p < 0.05$) associated with Equation (1) are provided here (*t*-values and standard errors associated with each estimate are provided in parentheses below that estimate):

$$\begin{aligned}
 \text{SA} = & \textit{-3.64} + \textit{1.63}(\textit{FAIL}) + \textit{1.78}(\textit{INFOR}) \\
 & (-1.66, 2.19) \quad (1.55, 0.73) \quad (2.03, 0.55) \\
 & -0.90(\textit{COST}) - 0.42(\textit{INFOR * FAIL}) \\
 & (-1.74, 0.52) \quad (-2.78, 0.15) \\
 & -0.10(\textit{FAIL * COST}) - 0.17(\textit{INFOR * COST}) \\
 & (-0.54, 0.18) \quad (-1.57, 0.11) \\
 & -0.23(\textit{MHAZ}) + 0.02(\text{LOG \$}). \quad (2) \\
 & (-1.96, 0.012) \quad (0.06, 0.04)
 \end{aligned}$$

In light of our concerns about multicollinearity and the two nonsignificant interaction terms (FAIL * COST and INFOR * COST), we re-estimated a reduced model (effectively pooling the nonsignificant interaction terms into the error term) and interpret support for the hypotheses accordingly. Although the remaining interaction term still has a relatively high variance inflation factor (>20), other collinearity diagnostics (e.g., $\phi = 110.73$) reduce to an eminently acceptable level. Despite the inflated variance, the interaction term and associated main effects are significant, so we proceed with interpreting this model. This model does not change the sign of the estimated parameters on any of the other terms (as reported in Equation (2)), but the COST term, which was marginally significant at the ($p < 0.10$) level in the original model, now achieves acceptable significance ($\beta = -0.24$, $p < 0.01$, standard error = 0.08). Seemingly, the linear dependencies between COST, COST * INFOR, and COST * FAIL damaged the coefficient for COST in the original model estimation.

Information Asymmetry Predictions. According to Hypothesis 1, the prospect of new product failure should raise slotting allowances when retailers are

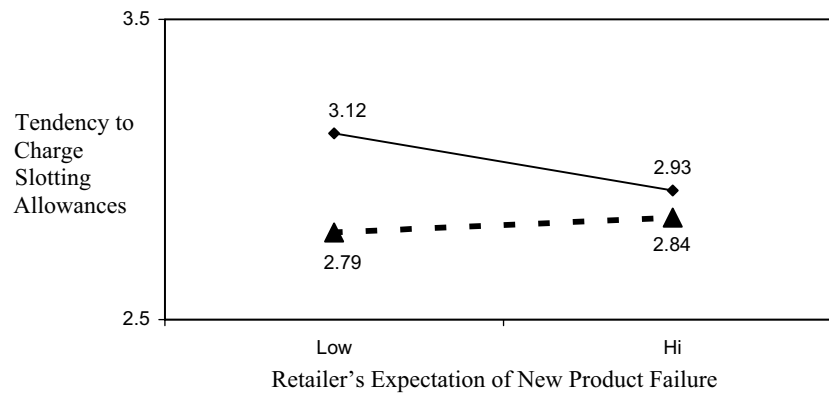
uncertain about new product success. This effect is captured in the significant interaction term (INFOR * FAIL). (In light of this significant interaction, we do not interpret the significant main effects of INFOR or FAIL.)

To examine the interaction we performed a median split on the data on the two variables of interest and present the resulting means in Figure 1.¹⁴ The pattern of this interaction is surprising and inconsistent with a signaling story. The significant interaction is driven by relatively high values of SA when FAIL is low and INFOR is high. When the retailer realizes that a product is likely to be *successful*, and this information is *private to the retailer*, the tendency to charge slotting allowances increases. This implies that there are conditions under which the retailer perceives that he is better informed than the manufacturer about the likely success of the new product, and when this circumstance prevails, the retailer is likely taking advantage of his better information and the relatively uninformed manufacturer pays the slotting fee when faced with better-informed (and perhaps more powerful) retailers. When the retailer's private information suggests that the product will likely fail, slotting allowances are not extracted to the same degree. Presumably, the retailer is simply unwilling to take on the product or uses other devices to protect himself from the risk associated with holding unsold inventory.¹⁵ When the manufacturer's information dominates that of the retailer, the retailer's expectation of new product failure does not change the degree to which slotting allowances are charged, again suggesting a role for informational advantage or power. Well-informed manufacturers are probably more able to negotiate from a position of strength, and relatively uninformed

¹⁴ Irwin and McClelland (2001) caution against examining interactions through median splits of continuous variables. Consequently, we split the data at the 33rd and 67th percentiles as well, to see whether there were additional insights that could be obtained from such a split. The resulting imbalance in cell sizes across the nine resulting cells made any meaningful statistical comparisons impossible, though the substantive interpretation remains the same.

¹⁵ Additionally, as Shaffer (1991) argues, slotting allowances are likely accompanied by higher wholesale prices, and these higher wholesale prices would likely make the product even less likely to succeed.

Figure 1 Interaction Between Informational Advantage and Expectation of Failure



Note. Thin line = Retailer has informational advantage; dashed line = Manufacturer has informational advantage.

retailer's concerns about new product failure do not influence the degree to which slotting allowances can be charged.

This result is consistent with the finding regarding moral hazard (Hypothesis 2). Note that the coefficient for that term is significant and negative. Thus, as concerns about moral hazard decrease (i.e., a manufacturer may not fulfill her promises about postlaunch support), the tendency to charge slotting allowances increases. One circumstance under which this result may occur is when powerful manufacturers do not provide strong commitments about fulfilling postlaunch support, and such powerful manufacturers also do not accede to retailer requests for slotting allowances. Conversely, less-powerful manufacturers are coerced into providing meaningful assurances about postlaunch support and are also charged slotting allowances. In other words, the retailer's power over unsophisticated manufacturers may allow them to extract slotting allowances (as suggested from the test of Hypothesis 1) and also extract credible commitments regarding the fulfillment of postlaunch advertising support (as suggested from the test of Hypothesis 2).

In sum, an informational-advantage-based power story is more consistent with the data than an information asymmetry story. When retailers have an informational advantage and anticipate the ability to profit from it, they charge relatively high slotting allowances. When manufacturers have an informational advantage, they do not vary the terms of trade based on retailer skepticism.

An alternative interpretation of this data is that the belief about new product success is shared by both retailers and manufacturers. In light of this expectation, retailers extract slotting allowances to a greater degree from manufacturers whose products are likely to succeed (i.e., such potentially successful manufacturers are expected to have "deep pockets"), because such manufacturers are willing and able to pay more.¹⁶ Further light will be shed on this issue when we discuss the results of our manufacturer survey. In that study, we examine the effect of the manufacturer's industry leadership position on the tendency to pay slotting allowances. If the "deep pockets" explanation is operative, then leading manufacturers should pay higher slotting allowances, because they have the ability to do so; conversely, if the relative power of the players drives the fee, then leading manufacturers should pay lower slotting allowances.

Cost Prediction. In the original model (Equation (2)) the nonsignificant interaction terms (COST * FAIL and COST * INFOR) and the marginally significant main effect of COST suggest that the retailer's cost does not affect slotting allowances payments

¹⁶ However, this explanation does not support the observed interaction effect. Conceptually, if this explanation was operative, then highly informed manufacturers with new products that are expected to succeed should also pay higher slotting allowances. But, it is only when manufacturers are relatively less informed and retailers expect the new product to succeed that the tendency to charge a slotting allowance increases, not otherwise.

as hypothesized in Hypothesis 3, Hypothesis 4, and Hypothesis 5. However, as we noted previously, because of possible multicollinearity concerns, and because the interaction term was not significant, we re-estimated our regression equation. This yielded a significant effect for COST.

Contrary to extant theory, COST is *negatively* related to slotting allowances. This finding suggests that when retailer costs are low, the tendency to charge slotting allowances *increases*. Seemingly more efficient retailers tend to have lower costs and are also more savvy. It is these savvy retailers who are able to extract higher slotting allowances. Once again, this finding is consistent with a retailer power story; apparently, less powerful retailers who have higher costs are less likely to be able to extract slotting allowances from manufacturers who pay them. More efficient retailers who have lower costs are more likely to extract higher slotting allowances.

Dollar Volume of Purchases. Recall that we had included the log-transformed value of the dollar volume of purchases with which the respondent was involved as a proxy for the size of the retailer. This variable had no effect on the slotting allowances charged. Because variations on this variable may be a reflection of the respondent's level in the organization (i.e., responsibility for a store versus responsibility for a chain) and may not address the retailer's relative power over the manufacturer, the insignificant relationship is unsurprising.

4.4. Summary of Study I

This data set offers preliminary but persuasive evidence that retailers extract slotting allowances from manufacturers when they are able to. Even though our conclusions are based on retailer perceptions (recall that it is virtually impossible, short of a subpoena from the Federal Trade Commission, to gather objective information on slotting allowances), our conclusions are the first ones that are based on primary data that is amenable to formal statistical analysis. However, the power story we offer—that powerful retailers who are better informed are able to extract slotting allowances from less-informed (possibly less powerful) manufacturers—is the sound of

one hand clapping. To gain a better understanding of whether more powerful manufacturers who are leaders in their respective markets (and are thus potentially better informed than retailers) are forgiven slotting allowances when they launch new products, it is necessary to investigate the slotting allowance *payment* behavior of differentially powerful manufacturers. To address this issue, we conducted a survey of manufacturers of products carried in typical grocery stores, and we turn to a description of that study next.

5. Methodology for Study II

The purpose of this study was not simply to replicate the efforts of the first study. Rather, we were also interested in examining the power story that appeared to be the key insight that emerged from Study I. In other words, we were particularly interested in assessing whether the manufacturer's standing in her product category and in the industry had an impact on the slotting allowances paid. Recall the possibility that we discussed earlier, that a retailer will demand and a manufacturer may be willing to pay slotting allowances when both are reasonably assured about the potential success of a new product. We argued against this possibility on empirical grounds, because we observed that higher slotting allowances were observed only when retailer information dominated that of the manufacturer for a new product that was likely to be successful. However, it is possible that our measure of INFOR was flawed because it relied on retailer perceptions of manufacturer's information. If the concern about our measure of INFOR is justified, then either because of signaling or because of the potential "deep pockets" associated with the manufacturer of a new product that is likely to be successful, manufacturers with sure winners may be more likely to agree to pay slotting fees, regardless of the relative information advantage of the retailer. Consequently, resolving the issue of manufacturers' leadership position (MLEAD) was a key goal in this second study. In addition, consistent with Study I, we were also interested in assessing the role of information advantage (INFOR), new product success or failure (FAIL), retailer's cost (COST), potential for manufacturer moral hazard (MHAZ), and the

degree of the respondent's involvement in purchasing (\$) in the payment of slotting allowances.

Our approach in this second study was similar to that used in the first study. We discussed the topic with executives of food companies to gain qualitative insight into their perspective. (In addition to the usual caveats, we were frequently told that legal concerns would likely limit responses.) We then acquired a list of potential respondents from Cahners Direct Marketing (cf. Bloom et al. 2000), contacted a quota sample by telephone to solicit participation, mailed questionnaires and reminder postcards, and received a total of 148 responses by a prespecified cutoff date (yielding a response rate of 12.04%). Our low response rate is probably a function of the length of the questionnaire (eight pages), the sensitivity of the topic, and the fact that several of our initial contacts who agreed to participate were channel intermediaries who did not deal with retailers.

The questionnaire format was similar to that used in the retailer study. Respondents who indicated that they had paid special fees as part of a new product launch were directed to a section of the questionnaire that comprised multiple measures of independent variables and potential covariates ($n = 108$). A subset of these ($n = 72$) reported having paid up-front slotting fees. Respondents who reported never having paid a special fee when launching a new product ($n = 40$) were directed to another section of the questionnaire in which their opinions about a series of retail practices was solicited.

An examination of early versus late respondents showed no significant differences on any demographic characteristics. A comparison between those who paid slotting allowances and those who did not indicated that slotting allowance payers tended to be involved with sales that were roughly twice as large as those who did not pay slotting allowances (\$96,160,000.40 vs. \$43,701,555.56); there were no other differences between the two groups. Consistent with the results in Study I, this discrepancy is substantial and suggests that respondents involved with large transactions tended to pay slotting allowances.

5.1. Measures

We used several measures that were mirror images of the measures that were used in the first study.

We also developed additional new measures in an effort to correct for failures in the first study. One particular measure that we added was the manufacturer's opinion about the retailer's perception of the new product's success. We reasoned that this measure would be a more accurate representation of retailer uncertainty that the manufacturer would have had to address, possibly through the offer of slotting allowances. Thus, when faced with a skeptical retailer, the manufacturer may have resorted to signaling. Finally, we added new items to measure the degree to which the manufacturer held a dominant market position (MLEAD). In addition to the insights that emerged from the results of Study I, this construct had also been drawn to our attention in qualitative responses in Study I, discussions with food manufacturers, and presentations of the results of Study I at two conferences. It was repeatedly noted that there was a profound difference between the treatment meted out to market share leaders in a category, relative to other players. In addition, it was noted that firms who were not market share leaders tended to use monetary inducements (sometimes indiscriminately) in an effort to gain shelf space so as to achieve market share leadership, because of either a real or imagined benefit to market share leadership. A two-item scale to measure the respondent's perception of market leadership was constructed. Based on the argument that the relative power of the players will affect the payment of slotting allowances when new products are launched, we hypothesize that:

HYPOTHESIS 6. The relative magnitude of slotting allowances paid should decline with market share leadership of manufacturers.

We followed scale purification and validation procedures that were identical to those used in Study I (see Footnote 10). Based on exploratory factor analysis and reliability analysis, we were able to generate multiple-item scales for SA, MLEAD, COST, and INFOR. The measures for perceptions of product failure were not successful, perhaps because manufacturers' respondents were unwilling to admit that they would have attempted to launch a product that was anything other than a sure success,

Table 3 Correlation Matrix for Principal Constructs (Manufacturer Responses)

	SA1	SA2	SA3	INFOR1	INFOR2	INFOR3	INFOR4	INFOR5	INFOR6	MLEAD1	MLEAD2	COST1	COST2	MHAZ
SA2	<i>0.65</i>													
SA3	<i>0.45</i>	<i>0.54</i>												
INFOR1	0.06	0.03	0.05											
INFOR2	-0.16	-0.11	-0.04	<i>0.55</i>										
INFOR3	0.03	-0.04	-0.07	<i>0.59</i>	<i>0.48</i>									
INFOR4	0.04	0.05	0.07	<i>0.57</i>	<i>0.59</i>	<i>0.58</i>								
INFOR5	0.13	0.05	-0.12	<i>0.59</i>	<i>0.44</i>	<i>0.62</i>	<i>0.59</i>							
INFOR6	0.07	0.18	-0.08	<i>0.40</i>	<i>0.44</i>	<i>0.43</i>	<i>0.63</i>	<i>0.50</i>						
MLEAD1	<i>-0.30</i>	<i>-0.30</i>	-0.23	<i>-0.28</i>	-0.15	<i>-0.31</i>	<i>-0.41</i>	<i>-0.41</i>	<i>-0.41</i>					
MLEAD2	-0.22	-0.19	-0.23	<i>-0.27</i>	-0.16	-0.19	<i>-0.35</i>	<i>-0.23</i>	<i>-0.31</i>	<i>0.73</i>				
COST1	0.01	0.03	0.06	-0.02	-0.07	0.03	-0.06	-0.19	-0.07	0.13	0.03			
COST2	-0.02	-0.02	0.19	0.04	-0.06	-0.05	-0.05	-0.05	-0.14	0.16	0.18	<i>0.47</i>		
COST3	0.13	0.03	0.11	0.06	0.04	-0.03	-0.02	-0.00	-0.03	0.04	0.06	<i>0.35</i>	<i>0.73</i>	
MHAZ	0.10	-0.05	-0.01	-0.04	-0.04	0.01	0.08	-0.02	0.11	-0.01	-0.04	<i>-0.23</i>	<i>-0.24</i>	<i>-0.23</i>

Notes: Column and row labels refer to scale items. *Italics* indicate correlation significant at $p < 0.05$.

yielding very little variance on that measure. Therefore, we elected to use the measure of perceptions of retailer expectations of new product success or failure as our independent variable for FAIL. The correlation matrix for our principal constructs and results of our factor analysis procedure are available in Tables 3 and 4. A four-factor solution (lowest eigen value = 1.21, % of variance explained = 71.67) appears appropriate. The factor pattern reveals that all items loaded as expected. An examination of the reliability (Cronbach's α) figures suggest more-than-acceptable interitem reliability (Nunnally 1967), yielding multiple-item measures of slotting allowance charged (SA, Cronbach's $\alpha = 0.78$), perceived informational advantage of the retailer relative to the manufacturer (INFOR, Cronbach's $\alpha = 0.87$), perceptions of retailer's costs (COST, Cronbach's $\alpha = 0.77$), and manufacturer's perceptions of leadership (MLEAD, Cronbach's $\alpha = 0.85$).

In addition, we provide the correlation among the key constructs below ($p < 0.10$ italicized).

	INFOR	FAIL	COST	MLEAD	MHAZ	LOG (\$)
INFOR	1.00000					
FAIL	0.15170	1.00000				
COST	-0.04539	-0.07699	1.00000			
MLEAD	-0.37633	-0.13373	0.12926	1.00000		
MHAZ	-0.00969	-0.05413	0.28734	-0.00817	1.00000	
LOG (\$)	-0.31933	0.05690	0.01938	0.30005	-0.20727	1.0000

Note that, unsurprisingly, manufacturers' perceptions of retailer information advantage declines with manufacturer leadership, and leadership position increases with dollar volume. Additionally, that the manufacturer may engage in moral hazard is positively correlated with perceptions of retailer costs. Finally, moral hazard possibility is negatively correlated with dollar volume. We do not interpret these pairwise correlations further and turn instead to a

Table 4 Factor Loadings for Principal Constructs (Manufacturer Responses)

	Factor 1	Factor 2	Factor 3	Factor 4
SA1	0.09390	<i>0.71746</i>	-0.26589	0.33515
SA2	0.11348	<i>0.71392</i>	-0.29516	0.41499
SA3	0.07933	<i>0.67994</i>	-0.20117	0.31306
COST1	-0.22227	0.36328	<i>0.61080</i>	0.00057
COST2	-0.19950	0.42693	<i>0.80736</i>	-0.07079
COST3	-0.09773	0.46728	<i>0.70464</i>	-0.14312
INFOR1	<i>0.75230</i>	-0.05223	0.25375	0.23005
INFOR2	<i>0.71290</i>	-0.30672	0.20585	0.20118
INFOR3	<i>0.80512</i>	-0.12028	0.18216	0.13567
INFOR4	<i>0.84351</i>	-0.02900	0.14065	0.02449
INFOR5	<i>0.83214</i>	-0.07499	0.02610	-0.05741
INFOR6	<i>0.75083</i>	0.04414	0.05722	-0.03561
MLEAD1	-0.45329	-0.51722	0.27940	<i>0.55659</i>
MLEAD2	-0.40767	-0.44964	0.24742	<i>0.61559</i>

Note. Items reverse-coded as appropriate.

formal multivariate analysis that will speak to our hypotheses.

5.2. Analysis

We estimated a regression equation that included effects for MLEAD, INFOR, COST, FAIL, MHAZ, and a log-transformed value for the dollar volume of transactions with which the respondent was involved, as well as three interaction terms: INFOR * FAIL, INFOR * COST, and COST * FAIL. Our analysis of multicollinearity diagnostics suggests that whereas $\phi = 473.26$ is acceptable, all the variance inflation factors associated with terms involving interactions were substantially higher than 20. These linear dependencies between the interaction terms and the individual regressors that were used to create the interaction terms are to be expected, but do damage the ability to find significant relationships. Model prediction (PRESS = 34.34) is good, and a test for heteroscedasticity reveals no cause for concern ($\chi^2_{(42)} = 32.00$, $p > 0.86$, for White's test). The model approached significance ($F_{(8, 48)} = 2.06$, $p < 0.06$) with acceptable fit statistics ($R^2 = 0.26$ and $R^2_{adj} = 0.13$). The results of the estimation procedure are reported herein (*italicized* terms are significant at $p < 0.05$) (*t*-values and standard errors associated with each estimate are provided in parentheses below that estimate):

$$\begin{aligned}
 SA = & -0.99 + 1.47(\text{FAIL}) - 0.10(\text{INFOR}) \\
 & (-0.33, 2.96) \quad (1.76, 0.84) \quad (-0.14, 0.69) \\
 & - 0.85(\text{COST}) + 0.15(\text{MHAZ}) - 0.27(\text{MLEAD}) \\
 & (-1.38, 0.62) \quad (1.05, 0.14) \quad (2.66, 0.10) \\
 & - 0.05(\text{LOG } \$) - 0.11(\text{FAIL} * \text{INFOR}) \\
 & (0.64, 0.08) \quad (-0.66, 0.17) \\
 & - 0.10(\text{COST} * \text{INFOR}) + 0.30(\text{FAIL} * \text{COST}). \\
 & (-0.68, 0.15) \quad (+1.67, 0.18)
 \end{aligned}
 \tag{3}$$

However, because of possible multicollinearity concerns, as in Study I, we re-estimated our regression equation, pooling the nonsignificant interaction terms into the error term. This procedure yielded significant estimates only for MLEAD ($\beta = -0.31$, $p < 0.10$, standard error = 0.10). All other terms were not significant ($p > 0.20$ or worse). The findings from the reduced model are consistent with the

estimation reported in Equation (3); therefore, we adopt a conservative approach and only interpret the one clearly significant effect. The manufacturer's perceived leadership position (within the product category and industry) significantly affects their tendency to pay slotting allowances. Consistent with a power argument, and contrary to a "deep pockets" story, the stronger the manufacturer's market position, the less its tendency to pay slotting fees. Strong manufacturers (market share leaders) are seemingly able to successfully negotiate slotting allowances down, relative to their weaker counterparts. Apparently, the argument that powerful manufacturers devised slotting allowances as a means of erecting a barrier to entry is no longer true.

5.3. Discrepancy Between Retailer and Manufacturer Results

Several of the effects observed in the retailer data set were absent in the manufacturer data set. Although there were no significant findings that ran counter to each other, this seeming absence of consistency is worthy of some discussion. Note that perceptions of failure, relative informational advantage, and retailer's cost were the variables that did not yield significant effects in the manufacturer data set, while they did yield significant effects in the retailer data set. It appears that these are all variables that exist within the retailer. The manufacturer is unlikely to be accurately aware of the level of these variables. Specifically, social desirability issues may have affected manufacturer's perceptions of informational advantage—manufacturers are unlikely to acknowledge that retailers dominate them on marketing research expertise. Manufacturers may not have a good sense of the retailer's true expectation of new product success or failure; in the retailer data set, these perceptions were probably more accurate. Similarly, most respondents indicated that they would never renege on postlaunch advertising commitments (mean = 1.54, median and mode = 1, on a five-point scale, where 1 is the socially desirable response). Finally, manufacturer's information about a retailer's cost structure may not be accurate. Consequently, there probably was a considerable amount of error associated with these measures, or the range

of responses was limited, attenuating the ability to detect an effect. Nevertheless, our finding that the manufacturer's market leadership leads to a reduction in their tendency to pay slotting allowances is a robust finding that is entirely consistent with the power story that emerged from the study on retailer behavior. Specifically, as one anonymous reviewer observed: (a) leading manufacturers who enjoy an informational advantage pay lower slotting allowances, a result borne out in both data sets, and (b) the significant FAIL*INFOR interaction in the retailer data set, but not in the manufacturer data set, is supportive of the claim that slotting allowances are charged when the retailer is sure that the product is likely to be successful. Next, we turn to an expanded discussion of the results of both of our studies.

6. Discussion

6.1. Summary

The trade press is rife with anecdotal evidence on the prevalence and variation in slotting allowances (Boehning 1996, Neff 2000, Teinowitz 2000). The pragmatic significance of the phenomenon is borne out by the sheer magnitude of the monetary expenditure alleged to be associated with slotting allowances; estimates range from 4.2% to 30–55% of trade promotion expenditures (see Sullivan 1997, Footnote 2). The theoretical significance of the issue is apparent from an examination of the variety of explanations for why slotting allowances have emerged, and what causes them to vary from one setting to the next (cf. Shaffer 1991, Chu 1992, Lariviere and Padmanabhan 1997, Sullivan 1997, Desai 2000). Yet, despite the importance of the topic and the abundance of interesting and insightful theoretical arguments that inform the issue, there is an empirical lacuna about actual industry practice. The difficulty with and expense of procuring reliable primary data on the topic is no doubt largely responsible for this void. Bloom et al. (2000) were able to finesse this problem by surveying retailers and manufacturers at large about their general opinions about the practice, but did not collect data on the actual practice and how it varied as a consequence of theoretically defensible drivers. We sought to perform this task.

Our results suggest that the operative explanation is a power explanation. Well-informed retailers extract slotting allowances from *relatively uninformed* manufacturers when the expectation of new product success is high; when this information advantage disappears and manufacturers have the upper hand, any variation in slotting allowances caused by expectations of new product success disappears. In fact, manufacturers who are market leaders are seemingly able to negotiate more favorable terms and thus pay *lower* amounts as slotting allowances. Additionally, retailers with lower costs (presumably more efficient retailers) extract *relatively higher* slotting allowances.

Substantively, our findings are at odds with the signaling argument according to which *well-informed manufacturers* will attempt to credibly reveal their private information about high unobservable demand by posting a slotting allowance as a bond (Kirmani and Rao 2000). Additionally, contrary to the "procompetitive" demand/supply apportionment logic, retailers' costs are *negatively* related to the tendency to charge slotting allowances. However, there seems to be some evidence in support of the charge that these fees are "discriminatory" (i.e., potentially in violation of the Robinson-Patman Act); the fees being charged are clearly not uniform across transactions between different parties.

6.2. Implications

Theoretical Implications. Based on these data, it is tempting to dismiss the information asymmetry perspective in favor of the power argument for the emergence and continued existence of slotting allowances. However, such a conclusion may be premature. In fact, it may be possible to interpret some of our findings from an information asymmetry perspective. For instance, one information-asymmetry-based interpretation of our results is that when the retailer has more information (because of superior market data) about the likely success or failure of the new product than the manufacturer, the information asymmetry favors the retailer. This informational advantage may accrue because some sophisticated retailers routinely conduct research on their store and chain patrons. They examine existing databases comprising frequent-shopper-card-based information to assess

price sensitivity, coupon proneness, and responses to new product concepts (Fisher et al. 2000). Consistent with other information asymmetry models, the party with the informational advantage is able to capitalize on resulting price distortions, and thus receive a slotting fee. However, note that this argument is fundamentally different from the original signaling story, according to which well-informed manufacturers communicate their unobservable demand to relatively uninformed retailers.

Second, signaling theory offers a normative prescription for how firms *should* behave. Our data simply suggest that firms do not behave in a manner consistent with the signaling story; we are, however, silent on whether firms would do better if they did behave in a manner consistent with the prescriptions of signaling. It is also quite possible that the fairly stringent conditions for slotting allowances to effectively generate a separating equilibrium may not exist currently in the marketplace; alas, survey methods are unlikely to yield definitive answers to that question.

Third, the particular slotting allowances paid for each transaction in our data may in fact be entirely consistent with a signaling story. Thus, higher slotting fees may reflect that manufacturer's beliefs about that retailer's costs or the likelihood of mimicry by a competitor in that industry. Hence, each data point in our study may be the consequence of particular levels of information asymmetry that are specific to that transaction. Only dyadic data would allow us to assess whether signaling is in fact occurring.

Managerial Implications. There are at least four implications for practitioners. *First*, retailers do charge and manufacturers do pay slotting allowances (71% of our sample) as the default option when asked to stock a new product. Manufacturers can, however, reduce the tendency to charge the fee by coming armed with convincing market research data that demonstrates their superiority over the retailer on this dimension.

A *second* implication of the results is that manufacturers can substitute slotting allowances for the costs associated with gaining information about the likely success of the new product (i.e., the conduct of market research). They can rely on the retailer to conduct the market research for them and determine whether the

new product will be successful. If the retailer establishes that the product will be successful, they will demand a slotting allowance to carry it, and the manufacturer perhaps should pay it. If the retailer establishes that the new product will not be successful, then he will not be willing to carry it, regardless of the presence of a slotting allowance. Thus, the request for a slotting fee may be interpreted as evidence that the retailer has developed private information that the new product will likely be successful.

Third, manufacturers can elect to refuse to pay a slotting allowance if they are willing to suffer the consequences of more limited distribution. Smaller stores that comprised nearly 30% of our sample do not receive slotting allowances. This strategy may be particularly appropriate for radically new products (such as genetically modified items or organically produced products), whose success is uncertain. Small stores can serve as inexpensive test markets because they do not charge slotting allowances.

Finally, manufacturers clearly benefit if they are market leaders. Such firms tend to pay lower slotting allowances, perhaps by virtue of their reputation and prior success, or simply because they are perceived to be powerful.

Public Policy Implications. Several important issues that are currently engaging public policy officials as evidenced by topics discussed at the previously-cited Federal Trade Commission workshop include (a) whether slotting allowances are exclusionary in their intent and effect (i.e., the antitrust issue); (b) whether they are discriminatory and therefore anticompetitive (and thus in violation of the Robinson-Patman Act); and (c) what their effect is on prices to end consumers, product quality and variety available to end consumers, and innovation among manufacturers. As one economist on a panel observed, one way to think of the question of whether such fees are exclusionary is whether the retailer demands them or the manufacturer offers them. If the manufacturer offers them, one effect of slotting allowances will be to raise the costs of competing for other manufacturers, thus reducing competition among manufacturers and damaging consumer welfare. Our data do not suggest that large manufacturers offer slotting fees to exclude small manufacturers. To

the contrary, it appears that retailers extract slotting fees from less-informed (potentially small) manufacturers. Because retailers should prefer to deal with multiple manufacturers rather than a single manufacturer, and because charging of a slotting allowance may result in reduced competition among manufacturers, it is unlikely that retailers will charge slotting allowances to such a degree as to eliminate all but one vendor. So, unless retailers engage in free riding (hoping that other retailers will ensure the availability of an abundance of manufacturers), it is not in the retailer's long-term self-interest to charge slotting allowances and thus reduce competition in the vendor marketplace.

Our data also speak to the second question and suggest that there is considerable variation in slotting fees charged and that this variation favors better-informed manufacturers. It does appear that there is some merit to the concern that these fees are "discriminatory" and fall disproportionately on manufacturers who do not have market research capability and are likely not in a dominant position in the market. Our data do not speak to the third issue: that of the impact of slotting fees on consumer welfare. Clearly, this is a profitable area for future research.

6.3. Limitations and Future Research

Limitations. Much like other survey research that focuses on perceptual measures, our research is subject to several limitations. Conceptually, rigorous tests of signaling predictions are difficult even in experimental settings (cf. Boulding and Kirmani 1993, Rao et al. 1999). The need to specify the precise circumstances under which separating equilibria will be observed make survey-based tests of signaling predictions particularly difficult. Therefore, as noted, the observation that variations in slotting allowances are not easily explained by information asymmetry does not necessarily mean that slotting allowances cannot be used to signal. Our observation that the magnitude of slotting allowances are apparently not used to signal is a descriptive finding; the normative claim that slotting allowances can be used to signal may nevertheless be true, because the mere payment of a slotting fee of any magnitude may signal unobservable demand.

Although most of our scales performed admirably, we were forced to use single-item measures on a couple of occasions (e.g., the measure of MHAZ and the measure of FAIL in the manufacturer data set). This does raise some psychometric concerns about how robust the findings are regarding those particular constructs.

Our response rate is relatively low. However, given the sensitive nature of the data that we were collecting, this was to be expected. The low response rate restricts the generalizability of our findings, but as Morgan and Hunt (1994) suggest in their survey of tire retailers, generalizability is less pertinent to exploratory research. If our response rate had been higher (in the order of 20%, which appears to be the standard for most channels research in marketing), it would have been deemed representative of the population at large; the slightly lower response rate nevertheless does generalize (in a statistically significant manner), albeit to a limited population (relatively large retailers and manufacturers), and suggests that at least for a portion of the marketplace, an informational advantage story is operative. We should note that generalizability is not our goal. We test for whether predictions that emerge from existing theories are consistent with the behavior of players and find that may not be the case. That it may be the case in some other segment of the population is certainly possible. However, it appears from our data that the generalizability of the existing theory is in question, and establishing that is an important first step in generating new and more powerful theories for the phenomenon.

Future Research. In the literature, solutions to the moral hazard or postcontractual hidden action problems emphasize incentives (Klein and Leffler 1981). For instance, it has been demonstrated that price premiums (a price over marginal cost) coupled with repeat purchase provides sellers with an incentive to not debase quality (Klein and Leffler 1981). In addition, theoretical arguments (Rao and Monroe 1996), as well as empirical tests (Montgomery and Wernerfelt 1992, Rao and Bergen 1992), suggest that seller reputation can attenuate the need for such premiums. In other words, reputable sellers are less likely to engage in moral hazard and are thus less likely to

receive a premium to assure honesty. In a channels context, manufacturers can offer retailers exclusive territories, which increase retailer profits and thus motivates them to provide desired services (Klein and Murphy 1988). In our setting, it is the *retailer* that may need to provide manufacturers with an incentive (analogous to a price premium) to assure that the manufacturer expends adequate postlaunch effort (Pelton et al. 1997). One option available to the retailer is the offer of exclusive dealing, an option that is not observed in the grocery industry.¹⁷ Another option is the offer of a relatively high wholesale price. By providing manufacturers with “supernormal” margins (over a repeated number of purchases), retailers can motivate manufacturers to support the new product. Consistent with the role that reputation is likely to play, such incentives should only be offered to firms who are likely to engage in “hidden action.” Such firms are likely to be less reputable. This is a topic worthy of further scrutiny.

Additionally, as we indicated earlier, the question of whether and how slotting allowances are related to wholesale prices (that then impact retail prices and potentially, price collusion) as suggested by Shaffer (1991) is worthy of rigorous empirical scrutiny. The obvious difficulty associated with procuring reliable objective information is, however, a significant hurdle.

Third, as previously noted, our data only speak to the degree to which slotting allowances are charged or paid. We do not examine the decision to charge or not to charge (or pay or not to pay) and the factors that may drive such a decision. In future research, a selection model that looks at both the binary decision regarding the charging and payment of slotting allowances, as well as the degree to which they are charged, may yield interesting insights regarding the signaling story.

Finally, examining the choice of offering slotting allowances in cash versus “free cases” or other assurances of success such as “failure fees,” and low wholesale prices, all of which have different profit implications for manufacturers and retailers, would benefit from analytical and empirical scrutiny. Slotting

allowances in cash benefit retailers without requiring any sales effort on their part, unlike free cases or low wholesale prices, which are valuable only if sales occur. Failure fees are akin to warranties—unlike slotting allowances, they are never paid if the product is successful, and therefore should be attractive to manufacturers who know they have a successful new product on their hands, *unless they wish to use slotting allowances to exclude competitors*. With the advent of Web-based shopping and retailers’ ability to stock products in a “virtual” manner, the reshelving-cost-based justification for slotting allowances may diminish and be replaced by other costs of new product introduction, a topic worthy of further scrutiny.

7. Conclusion

New product launches are hazardous. Some estimates place failure rates in the grocery industry to be as high as 80% (Wolfsenberger 1991). This failure rate, coupled with the observation that the number of new product introductions increased about fivefold between 1978 and 1987 whereas the amount of available space barely doubled (Sullivan 1997), has forced retailers to exercise great circumspection in selecting which new products to stock, because they are unable to tell a priori which new product is likely to succeed. This circumspection is a source of considerable tension between retailers and manufacturers in the food industry, and therefore represents a nice setting in which to study the mechanisms that emerge to resolve uncertainty about future demand for new products. Our research sheds some light on the factors that influence the charging and payment of slotting allowances and raises additional questions about the public policy implications of the practice.

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¹⁷ We are indebted to George John for this observation.

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