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Author(s): Joel M. Podolny

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# A Status-based Model of Market Competition<sup>1</sup>

Joel M. Podolny  
*Stanford University*

This article explores the significance of status processes for generating and reproducing hierarchy among producers in a market. It develops a conception of a market as a status order in which each producer's status position circumscribes the producer's actions by providing a unique cost and revenue profile for manufacturing a good of a given level of quality. An examination of pricing behavior among investment banks in the underwriting of corporate securities provides empirical support for this status-based model of market competition. Extensions are discussed.

## INTRODUCTION

That there exists a distinction between an actor and an actor's position in the social structure and that rewards are largely a function of position is one of the fundamental insights of the sociological perspective (Simmel 1950). The distinction between actor and position has been applied with much success in the field of stratification research (White 1970; Sørensen 1983). It often figures prominently in sociological critiques of economists' claims that a wide range of economic, social, and political phenomena result from the aggregation of individual preferences (Baron and Hannan 1991), and it underlies the skepticism of the psychologists' claim that behavior can be explained with reference to an actor's personality or disposition (Davis-Blake and Pfeffer 1989).

This article attempts to extend the scope of this insight by applying a particular variant of the distinction between actor and position to market producers. As sociologists have expanded their arena of inquiry to include

<sup>1</sup> I am indebted to Steve Andrews, Bill Barnett, Jeffrey Bradach, Carolyn Boyes-Watson, Cynthia Cook, Karl Eschbach, Meyer Kestnbaum, Peter Marsden, Debra Minkoff, Paul Myers, Jeffrey Pfeffer, Aage Sørensen, and several anonymous *AJS* reviewers for helpful comments on earlier versions of this paper. I am also grateful to Paul DiMaggio for relaying comments from Yale University's Complex Organizations Workshop and to Robert Eccles and William Goode for insights related to the central themes of this work. Correspondence may be directed to Joel Podolny, Graduate School of Business, Stanford University, Stanford, California 94305-5015.

economic institutions, the market has received increased attention, and some steps have been taken to specify the mechanisms through which the market is shaped by noneconomic factors (Burt 1983; Baker 1984, 1990; Granovetter 1985). More specifically, the idea that market producers occupy socially defined positions in the context of the market was introduced by White (1981*a*, 1981*b*), whose primary concern was to elaborate a typology of markets as role structures. The importance of roles in market contexts has recently been extended by Baker and Faulkner (1991).

Like White, I conceptualize the market as a structure that is socially constructed and defined in terms of the perceptions of market participants, but my focus is not so much on roles as it is on status positions. Winship and Mandel's (1983) distinction between roles as classifications across social structures and positions as locations within social structures helps distinguish my endeavor from earlier work. I do not explore how dynamics differ across markets; I examine how a producer's position in the market affects the relative opportunities open to that producer in comparison to those available to its competitors.

My first objective is to elaborate a general framework that makes explicit the connection between status and economic variables such as cost, revenue, and price. In doing so, I proceed from the micro to the macro level. I begin with a definition of status and, from the definition, build a conception of an isolated status position. From there, I move to the conception of a status order and then discuss how the economic constraints and opportunities that confront a producer are very much contingent upon the producer's position in the status order. Having laid out the framework, I then illustrate its utility by applying it to a particular case: pricing dynamics in the primary securities markets.

#### WHAT IS STATUS?

I define a producer's status in the market as the perceived quality of that producer's products in relation to the perceived quality of that producer's competitors' products.<sup>2</sup> There are two lenses through which status may be viewed. On the one hand, a producer's status, or more accurately, the association with that status, can be considered something that non-producing market participants (i.e., consumers, investors, and brokers

<sup>2</sup> When colloquially used with reference to markets, the word *status* is applied primarily to luxury goods. Here, I wish to avoid this implicit association. Words like *prestige* seem particularly awkward when applied to products, and the phrase *perceived quality* fails to convey the sense of an implicit hierarchy or ranking which is central to my understanding of markets.

of exchange) generally value in its own right. Whether considered an end in itself (Frank 1985) or a means toward enhanced power over other individuals (Weber 1978; Veblen 1953), greater status increases the utility derived from the association with or consumption of a good.<sup>3</sup> While this view of status is not inconsistent with the framework I will develop, the assumption that nonproducing market participants value status is not necessary either.

More critical is a second view of market status as a *signal* of the underlying quality of a firm's products. If an actor is uncertain of the actual quality of the goods that confront her in the market, or if she is unwilling or unable to bear the search costs of investigating all the different products in the market, then the regard that other market participants have for a given producer is a fairly strong indicator of the quality of that producer's output.

This conception of status is compatible with the formal economic understanding of signals. According to Spence (1974), a signal is any observable indicator, of a quality or qualities, that meets two criteria: (1) the indicator must be at least partially manipulable by the actor and (2) the marginal cost or difficulty of obtaining the indicator must be nonzero and inversely correlated with the actor's level of quality. A college diploma is a signal of productivity because its attainment is at least partially within an individual's control and because it is more difficult for those who lack organizational skills (or other such attributes that help constitute productivity) to obtain a college degree. A warranty is a signal because its terms are at the discretion of the producer and because the cost of a given warranty is inversely related to quality; the lower-quality producer, almost by definition, will have to make good on the promise specified in the warranty with greater frequency.

Similarly, status meets the two criteria for signals. Even though a producer's status depends largely on the expressed opinions and actions of others, the producer nonetheless exercises at least some control over its status since its own past actions are important determinants of how it is perceived. Moreover, the difficulty of acquiring a reputation for superior quality is inversely associated with the general quality level of the producer.

Economic models of signaling activity are primarily concerned with equilibrium behavior or comparative static analyses of different equilib-

<sup>3</sup> Note the proposition that nonproducing market participants value status does not imply that a desire for status is an overarching motive for producers as an alternative to profit maximization. Throughout, I assume that producers are interested in profit maximization, but that they realize that the means for realizing profits is contingent upon the status position occupied in the market.

rium conditions. A formal condition of equilibrium in signaling models is that the actual distribution of a producer's quality must be equal to the distribution of quality that constituents expect on the basis of the signal. In assuming an equality between what exists and what is expected, these economic models necessarily give less attention to those factors that may undercut this equality and engender only a *loose linkage* between a signal and that which it is supposed to represent.

For the relationship between status and actual quality, this loose linkage originates primarily from four sources: (1) the necessary time lag between changes in the quality of a product and changes in consumer perceptions, (2) the stochastic nature of the link itself, (3) the nature, content, and extent of a producer's relations with others in the market, and (4) the second-order nature of status. Of these four factors, the time lag contributes least to complicating the relationship between actual and perceived quality. Were the time lag the only relevant factor, then the relationship between quality and perceptions could be easily established; the quality at some time  $t$  would perfectly determine perceptions at some time  $t + 1$ .

A second and more significant source of the decoupling is the fact that information diffusion is necessarily a stochastic process. Not every shift in quality of a given level will be detected, not every detected shift will be communicated to the same number of potential future users, and not every communication between users will occur at the same rate.

These first two factors, of course, are not unique to the relationship between status and quality, but are endemic to the link between nearly any signal and that which the signal is supposed to represent. Indeed, they are implied by the signaling framework in which quality must be unobservable for signals to be relevant to market actors' decisions. What at least partially distinguishes the signal of status is that the loose linkage between status and quality is mediated by a producer's ties to others in the market.

A producer's network of relations mediates the link between quality and status in two ways. First, the embeddedness of action in social relations prevents contact between a producer and consumer that could potentially change the latter's opinion of the former. If a low-status producer's good is not even considered a reasonable substitute for those perceived to be of high quality, purchasers of high-quality goods will most likely remain unaware of any changes in the good because of a lack of contact. Conversely, loyal purchasers of a high-status producer's product may not discern a relative decline in the quality of their preferred product if they do not compare it with the array of choices that confront them in the market. Such dynamics have been at work in the automobile industry. In the late 1960s and early 1970s, Japanese automobiles under-

went considerable improvements in quality, but most Americans did not consider these foreign cars as an option because they did not regard the imports to be of comparable quality to domestic automobiles. Only the exogenous shock of the oil embargo broke the inertia underlying the pattern of exchange relations in the market (Halberstam 1986). Throughout the late 1980s and early 1990s buying patterns have crystallized in a different way, with many Americans not even considering a domestic car as a credible alternative to Japanese imports.<sup>4</sup> Thus, one way that social relations or social networks contribute to the linkage between status and quality is by serving as access constraints, inhibiting contacts which could potentially alter perceptions by bringing them into conformance with changes in the underlying quality of products.

Social relations also mediate between status and quality because status flows through the “interlinkages” between individuals and groups (Goode 1978; Blau [1964] 1989). Ties to higher-status actors enhance the prestige with which one is viewed, while ties to lower-status actors detract from it (Faulkner 1983). Accordingly, the formation and dissolution of social relations necessarily influence how the producer is perceived. In product markets, there are several types of ties that affect perceptions of a producer’s status: exchange relations with consumers, ties to third parties associated with the market, and affiliations with other producers.

To the extent that buyers observe not only the products and actions of other buyers, the formation and dissolution of exchange relations with prominent customers has a strong “spillover” effect for a producer. Network-based studies of innovation adoption provide good examples of how a producer’s relations with prominent buyers affect other buyers’ perceptions of a product. Coleman, Katz, and Menzel (1957) and Burt (1987) have shown that an individual’s propensity to adopt an innovation is influenced by whether or not prominent others in that individual’s network have done the same.

Ties to third parties are relevant especially when producers and consumers do not meet directly in the market. In such markets, the distribution channels used by a producer can have a powerful effect on the perceived quality of the producer’s product (Bonoma and Kosnik 1990).

Examples of interproducer ties relevant to status are joint ventures, individuals who depart from one firm to work for another, or common membership in trade associations (Benjamin 1992). In all three of these cases, status flows through the linkages between market actors in the manner described by Goode (1978). The transfer of individuals between firms is a particularly common conduit of status. By drawing a major

<sup>4</sup> See “The Japanese Borrow Detroit’s Favorite Ploy: Rebates,” *Business Week* (June 17, 1991).

figure away from a highly respected competitor, a firm can improve its status. These status-enhancing effects represent an additional contribution to the acquiring firm beyond the human capital that it may gain from the transfer. A familiar example is the mobility of academics between institutions; drawing a prominent member from a highly respected department is a rather typical means for augmenting a department's status.

Thus, there are three types of ties that serve as intermediate signals of quality: ties to prominent buyers, ties to third parties, and ties to other producers. Although this relational component to status is not necessarily inconsistent with economic conceptions of reputation (e.g., Kreps and Wilson 1982), it is equally true that this relational component has not received explicit attention in such work.<sup>5</sup> Of course, to the extent that the recipients of the producer's ties are concerned with their own status, the producer's ability to maintain ties to a particular actor will be inversely correlated with the producer's own quality. Accordingly, these ties to high-status actors are not components of product quality, but are to some degree signals within the larger signal of status. The existence of such ties thus does not eradicate the link between actual quality and status; rather, such ties simply serve to further blur or loosen the relation.

This discussion of ties as intermediate signals can be generalized to suggest a fourth and final reason for the loose linkage between quality and status. Because status is defined in terms of perceptions and because quality is, by definition, unobservable before the transaction, the perceptions through which status is constructed can only be indirectly based upon quality and are directly based upon other signals, of which a producer's network of relations may be only one. In an examination of status among *Fortune 500* corporations, Fombrun and Shanley (1990) observe several factors that seem to affect a corporation's status, including profits, total assets, charitable donations, and market share. Though their work is concerned more with status at the level of the interorganizational field than at the market level, it does nonetheless highlight the fact that status derives from other observables, which can themselves be interpreted as signals. Status, thus, may ultimately be a more multifaceted and encompassing signal than an attribute such as education or a product warranty insofar as it denotes a producer's position relative to its competitors; yet, at the same time, the linkage between status and quality is probably looser than that between quality and other signals.

Because of the loose linkage between status and quality, it becomes possible to draw a distinction between a producer and a producer's position in the market in much the same way that the distinction can be

<sup>5</sup> The closest parallel in the economic literature seems to be the work of Montgomery (1991) on job search.

drawn in organizational contexts (Simmel 1950; White 1970; Sørensen 1983). If quality shifts were recognized immediately, then the status position would be inseparable from the present actions of the producer and, therefore, would not be analytically useful. However, the greater the decoupling, the more the status position insulates and circumscribes the producer's action and the more the producer's reputation becomes external to itself. In short, due to the loose linkage of quality and status, a niche emerges as a given constraint that the producer must confront in trying to decide upon an optimal course of action.

#### FROM STATUS POSITION TO STATUS ORDER

I listed above a variety of factors that can contribute to the loose linkage between status and quality. But not all of these need be present in a given context for the loose linkage to exist and thus for a producer's status position to manifest itself as a constraint. Like the assertion that consumers value status as an end in itself, certain claims and assumptions may be and perhaps even ought to be included in this discussion because they provide a more accurate characterization of status dynamics in particular markets; these claims, however, are not necessary elements of the status-based model. To be clear, the only assumptions regarding producer quality and the relationship between producer quality and market status that are to be regarded as essential to the model are:

ASSUMPTION 1.—Producer quality is an unobservable prior to the consummation of a transaction.

ASSUMPTION 2.—Market status is a signal of quality on which consumers can and do rely for their decisions.

ASSUMPTION 3.—A producer's relations with others in the market mediates the relationship between status and quality by creating inertial tendencies in the formation of exchange relations and by biasing evaluation in the direction of the status of those to whom the producer is tied.

It will soon be apparent that, when coupled with the implicit behavioral assumption that producers are (boundedly rational) profit maximizers, these three assumptions form the core of the status-based model. Indeed, it should soon be clear that these assumptions are sufficient to derive the loose linkage between status and quality and, accordingly, the conception of the isolated status position.

One can analytically shift from the microlevel conception of isolated status positions to the macrolevel view of the market as a tangible status order if one then makes the additional assumption that market producers can be ordinally ranked along just one dimension. Such an assumption is not as restrictive as it may first appear. The validity of the assumption

is supported by the fact that buyers are in fact able to discriminate between producers. In order to choose between the various products in the market, buyers must implicitly assign cardinal weights to the various characteristics of products. If they were unable to combine separate characteristics into an assessment of each product's overall quality, then it is not clear how they could rationally select one product over another. Granted, different buyers may express different preferences, but these preferences can be combined such that they confront producers as one aggregate buyer with a set of weights that is simply the sum of individual consumer preferences (White 1981*a*; see also Berger and Fişek [1974] on the aggregation of status characteristics).

Moreover, this recognition of a status ordering is not incompatible with the fact that producers often divide the buyer side of the market into distinct geographical or demographic segments in which each segment has a different criterion for discrimination. The acknowledgment of a status ordering simply requires a redefinition of the market to reflect divisions on the demand side. If the market is divided, each segment can be treated as its own market and, within each segment, the significance of status can be examined. For example, Coser, Kadushin, and Powell (1982) observe that the publishing industry is divided into several distinct segments, such as trade publications, college texts, and scholarly works; in a more detailed analysis of the latter of these three segments, however, Powell (1985) notes a rather well-defined status order that is largely unique to that segment. If preferences systematically differ across segments, then a producer's status position with respect to one sector need not be the same as its position with respect to another. While the boundary questions raised by the acknowledgment of market segments may make the empirical analysis of a market more difficult, the existence of market segments does not raise any conceptual obstacles to the vision of a status order as defining the market.<sup>6</sup>

<sup>6</sup> The model would only be inapplicable to multimarket firms if the existence of firm attributes, which either transcend individual markets or which derive from behavior in a market other than the one of interest, violate the second assumption that a producer's market status is a signal of (and accordingly correlated with) market quality. In other words, if a firm could ignore quality and relational concerns within the focal market and build and maintain status solely on the basis of activities or attributes that stand outside that market, then there would no longer be a loose linkage between market status and market quality but in fact a complete break. Ultimately, it is an empirical question as to whether or not this break exists for multimarket firms, making it especially important to study status processes in markets where such firms exist. Accordingly, the empirical analysis of this article will focus on one market—the investment grade debt market—in which the actors of interest—investment banks—have a presence in multiple markets. Yet, even before such an analysis, it is noteworthy that one can point to examples such as the publishing industry, where firms may

The loose linkage between actual quality and perceptions of individual producers means that the status order exists as a structural entity. In the extreme, positions persist even in the absence of an occupant. The saying "They don't make things like they used to" underscores the fact that consumers frequently evaluate goods not just with reference to the actual goods in the market, but with reference to their perceptions of past goods. Consumers remain aware of upper-end status positions that have been vacated because of the decline in the quality level of one or more producers.

A second consequence of the loose linkage between status and quality is that access to certain rewards in the market becomes entirely mediated by the position one occupies in the status order. Just as access to the highest salary in a firm is contingent upon occupying a position at the top of the organizational hierarchy, so access to the highest quality manuscripts in the academic book market, for example, is contingent upon occupying a position high in the status order.

#### THE SIGNIFICANCE OF STATUS

Having elaborated the basic definition of market status, I now turn to a discussion of how the constraints and opportunities presented by a status position affect the producer's gross revenue and costs. *For a producer of a given level of quality*, additional status is most likely to translate into increased revenue, either in the form of higher prices or greater market share. This claim follows from the view of status as something valued in itself and, more important, that status is a signal of quality (see assumption 2). As Veblen (1953) makes clear in his discussion of conspicuous consumption, higher status increases what people are willing to pay because of the power that a good provides in the social sphere. At the same time, to the extent that status serves as a signal that implicitly lowers the risk that the good is below a given quality threshold, individuals are also willing to pay more for the higher-status good.

The probable impact of status on costs is obscured by the fact that higher-status producers are generally of higher quality and higher-quality goods are often more costly to produce. Therefore, the zero-order relationship between status and costs is often positive. However, *if one controls for the quality of the good*, it follows from the view of status as a signal of quality that the effect of status on costs is negative. If consumers

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occupy a high-status position in one market and a low-status position in another. Such different identities across markets seems to suggest that a multimarket presence does not give rise to an identity that completely transcends individual markets and thus does not eradicate the loose linkage between status and quality within a given market.

and relevant third parties to a transaction perceive status to be a signal of unobservable quality, then they will be more reluctant to enter into a transaction with a low-status producer than they would be with a high-status producer even if both claim to manufacture the same quality good and sell it for the same price. Empirically, this greater reluctance to accept the quality claims of lower-status producers manifests itself in several cost advantages for the higher-status producers.

First, for the higher-status producer, advertising costs for attracting a given volume of business are lower. More customers simply flow to the producer without the producer actively seeking them out, and often the higher-status producer receives “free advertising” that the lower-status producer is unable to obtain. Examples of this free advertising abound. Publications from highly regarded academic presses are more likely to receive reviews in academic journals than publications from less highly regarded presses (Powell 1985). Business journalists are more prone to ask the employees of prominent firms within a market to offer insights into market trends than they are to ask employees of a less prominent firm (e.g., Kadlec 1986).

More important, if the risk-averse consumer or relevant third parties—such as retailers—require “proof” that the product confronting them is of a given level of quality, status lowers the transaction costs associated with the exchange between buyer and seller. Implicit and explicit promises of a higher-status producer regarding product quality are more likely to be accepted; therefore, the higher-status producer need not devote as much time or expense to convincing the buyer or relevant third parties of the validity of its claims.<sup>7</sup>

A particularly clear example of this inverse relationship between status and transaction costs was provided in an interview with the head of a middle-sized investment banking firm about procedures for underwriting. In primary securities markets, investment banks underwrite the security issues of corporations and political entities that desire to raise capital. In other words, banks assume the risk of buying new security issues from companies or governmental agencies and publicly or privately

<sup>7</sup> Recently, Williamson (1991) has attempted to incorporate status-related concerns into the transaction cost framework by conceptualizing reputation as a shift parameter that lowers the transaction costs associated with conducting market exchanges. Williamson argues that in markets where actors are not anonymous, the concern with reputation will bolster actors' ex post commitments to ex ante promises. While Williamson's conception of reputation as something that is more or less present in certain markets is different from my conception of status as a property differentially distributed across producers within a market, it is noteworthy that the inverse relationship between reputation and transaction costs is similar to the inverse relationship between status and transaction costs laid out here.

reselling them to investors. Despite intense competition among investment banks for the opportunity to lead a security offering, often an investment bank does not place the entire offering itself. Rather, it forms and leads a syndicate of banks.

When asked about the advantages of status, the executive replied:

Typically, if you hear that Goldman Sachs or Salomon or whatever is doing an underwriting, they usually have pretty stringent requirements, and it is usually a plus for the company that they are doing work for that Goldman Sachs wants to be their investment banker or underwriter or whatever, [that is] a plus with reference to the market place. Half the time, if Goldman Sachs calls or Solomon calls us and says [they] are going to be an underwriter for Ford Motor or whatever and asks, "Do you want to be part of the underwriting group?" we almost don't have to do any diligence; you just say yes. On the other hand, if a smaller firm which just doesn't have the credentials calls us, we will probably do more diligence and will probably be less likely to follow suit.<sup>8</sup>

A third type of costs lowered by status are financial costs. Fombrun and Shanley (1990) note how status enhances a firm's ability to obtain capital from either commercial banks or from issuing securities in the financial markets. The terms for acquiring credit significantly favor the higher-status firms.

These advantages in advertising, transaction costs, and financial cost, which accrue from status, all derive solely from the view of status as a signal that reduces the reluctance of market participants to enter into an exchange relationship with a particular producer. However, if one is willing to draw on Frank (1985) and make the additional and arguably very realistic assumption that employees are willing to accept lower monetary compensation in exchange for higher status, then one can specify a fourth source of lower costs. If an employee does indeed value the status of her workplace, she should be willing to accept a lower wage or salary to work for a higher-status firm than for a lower-status one. Of course, a higher-status firm may actually offer higher salaries than lower-status competitors because it wishes to have employees (perceived to be) of higher quality. However, controlling for the (perceived) quality of the

<sup>8</sup> Despite the competition among investment banks to lead an offering, the bank frequently does not underwrite the offering itself. Rather, it forms and leads a syndicate to distribute some of the risk. In forming the syndicate, the lead manager, along with the issuer, may participate in what could be quite a number of "due-diligence" meetings, where syndicate members "kick the tires" of the corporation to assess the viability of the offering. They hold these meetings as a way of maintaining financial responsibility to investors.

potential employee, the higher-status firm should be able to acquire the individual at a lower cost.<sup>9</sup>

In short, the consideration of these four factors suggests the following: given two producers at a particular point in time, the costs for a given quality output will be lower for the higher-status producer than the lower-status producer as long as the second core assumption—that status is indeed a signal of quality—is valid.

The inverse relationship between status and costs is in some sense the economic flip side of the argument that social networks represent access restraints that inhibit shifts in opinion. Were the demand for high-status goods completely inelastic, then the low-status producer could do nothing to overcome the access restriction. There is no amount of advertising or no size of warranty that the producer could offer to break the established buying patterns and establish the contact that would be necessary to alter perceptions. The cost difference for manufacturing and distributing a given quality good would for all practical purposes be infinite. However, except in the extreme case of complete inelasticity, the differential access of producers to purchasers of high-quality goods means simply that it will be more costly to manufacture and distribute a given volume of the same quality good.

Though status strongly influences both revenue and costs, most of my discussion has focused on its cost-related benefits. The reason for this focus is not only that the cost-related benefits are less intuitive than those pertaining to revenue, but that the cost-related benefits can actually be of greater significance to the high-status producer. These cost-related benefits afford the producer insulation from the competitive pressure of lower-status producers even in the context of intense price competition, as is perhaps best demonstrated by Stevens's (1991) account of competition among the "Big Six" accounting firms for the audits of major for-profit and nonprofit corporations. While price competition among the six highest-status accounting firms often drove competing bids for the business of the most significant clients to the range of costs and thus effectively eliminated most if not all positive rents from status, the lower-status firms were still unable to compete for the audit opportunities in the high-status niche. In one instance, Stevens details how SBO Seidman, a sec-

<sup>9</sup> While highlighting Frank's (1985) observation that individuals are willing to exchange money for status, I wish to distinguish my view from Frank's analysis of intrafirm differences in compensation. Frank argues that, because individuals value status, those in a higher position in the firm are willing to accept less than their marginal productivity. Conversely, those in the lower-status position demand a salary or wage in excess of their marginal productivity. In contrast to Frank, I perceive the individual's "pond" not as a single firm, but as either all firms or a subset of firms within the market.

ond-tier accounting firm beneath the so-called Big-Six, attempted to compete for the audit of a major charitable organization. Even though SBO Seidman was fully capable of performing the audit, its request to present a bid to the corporation was denied. Only the Big Six were invited. As Stevens comments, “The charity’s selection committee limited its competition to the Big Six not because the Big Six stand for superior professional standards . . . , but because the world has stamped a ‘Good Housekeeping Seal of Approval’ on their audits” (1991, p. 237). In effect, SBO Seidman could not pay transaction costs high enough to compensate for the status differential between it and the highest-status firms.

#### THE MATTHEW EFFECT AND THE CONSTRAINTS OF STATUS

This observation that status lowers the cost of producing and selling a good of a given quality has several implications. First, it rearranges the relationship between costs, signals, and quality initially posited by Spence (1974). Recall that, according to Spence, the marginal cost of a signal is by definition inversely associated with quality. However, at least for status, it is the marginal cost of quality that is inversely associated with the existence of the signal. The greater one’s status, the more profitable it is to produce a good of a given quality. More simply put, whereas the economic view of signals begins with differences in quality between producers and then derives as signals those attributes for which the marginal cost of the signal is greater for the low-quality producer than the high-quality producer, the sociological view takes as its point of departure the reality of the signal and then derives the differences in quality on the basis of who possesses the signal and who does not. Both components are obviously important, but the substantive implication of the sociological view is that not only does actual quality determine perceived quality, but the latter has a reciprocal effect on the former. Because the costs and returns for investment in quality are differentially distributed across producers, the firms in a market have dissimilar incentives to make this investment.

A second implication of the status-cost relationship is the operation in markets of what Merton (1968) termed the Matthew effect. This phrase derives from the first book of the New Testament, which contains the line: “For unto everyone that hath shall be given, and he shall have abundance; but from him that hath not shall be taken away even what he hath.” Merton applied the expression to the considerable discrepancy in esteem accorded high- and low-status scientists for similar accomplishments. For example, the likelihood that an article will be widely read and cited is positively correlated with the author’s status. More generally, however, the Matthew effect refers to the fact that higher-status actors

TABLE 1  
 INTERYEAR CORRELATIONS IN THE DEBT MARKETS, 1982-87

Correlations	Investment Grade Debt	Non-Investment-Grade ("Junk") Debt
Coefficients .....	.91*	.87*
<i>N</i> .....	191	393

SOURCE—Securities Corporation Data Base.  
 \*  $P = .0001$ .

obtain greater recognition and rewards for performing a given task and lower-status actors receive correspondingly less. The term has been applied to a diverse set of social phenomena, such as education (Walberg and Tsai 1983), intraorganizational power (Kanter 1977), and the life course (Dannefer 1987).

The cost and revenue implications of status reveal that the phenomenon is equally applicable to markets. Just as the likelihood that an article will be read and cited is positively correlated with its author's status, so the recognition and rewards that accrue to a higher-status producer for manufacturing a good of a given level of quality is greater. The nonproducing market participants expect that the high-status good is of superior quality and that the low-status good is the opposite. These differing expectations create dissimilar returns on investment for manufacturing a given product that greatly favor the higher-status producer.<sup>10</sup>

The apparent applicability of the Matthew effect raises the important question of why one or a subset of the highest-status producers do not dominate the market. For example, we have noted that, in the primary securities markets, the higher-status banks have lower transaction costs for issuing a security of a given quality. However, despite the fact they have lower transaction costs, the higher-status banks do not dominate the market. Table 1, which is based on data from the Securities Data Corporation (SDC) data base, lists the correlation of market share between year  $t$  and  $t - 1$  for the years 1982-87 in two of the primary securities markets: the market for investment grade debt and the market for non-investment-grade debt. In the former market, the correlation is .91; the correlation in the later is .88. Figure 1 shows the macrolevel consequences by depicting the Herfindahl indices for these two markets

<sup>10</sup> One consequence of this fact is that a high-status producer's position is invariably its own to lose. A change in the status order depends at least as much on poor performance from those at the top as the exceptional performance of those on the bottom; this has been most convincingly demonstrated by the shift in positions occupied by automobile manufacturers in the 1970s (Halberstam 1986).

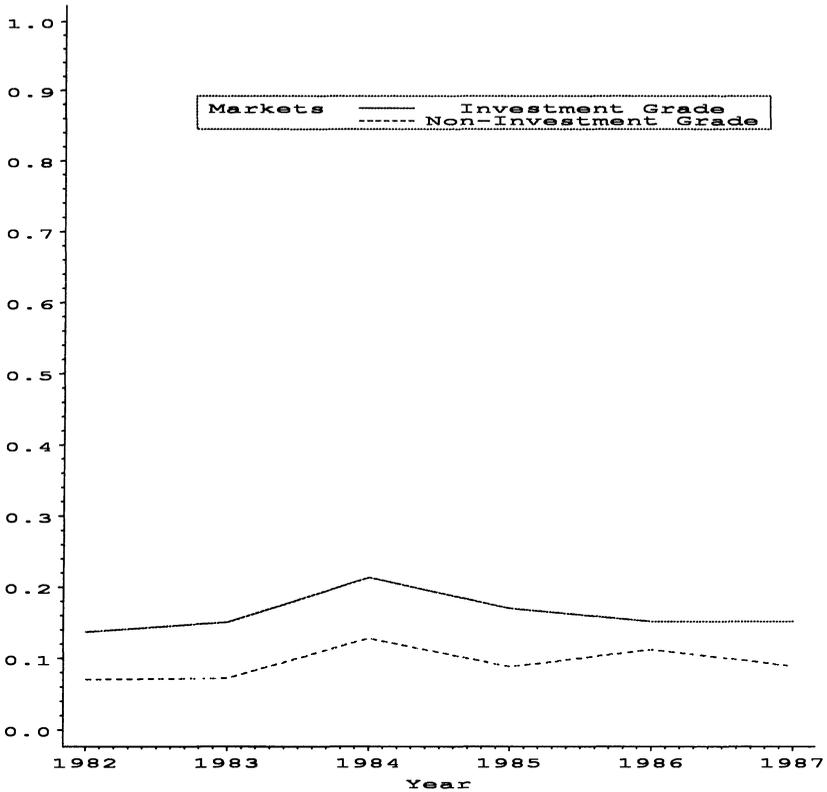


FIG. 1.—Herfindahl indices for debt markets

over this period. The measure approaches zero as the market nears a perfectly competitive situation with an infinite number of producers possessing an infinitely small market share. The measure approaches one as the market becomes a perfect monopoly. Except for a rise in concentration in 1984, the index reveals no consistent trend toward increasing concentration in either market.

Price theory offers only one possible theoretical reason why the higher-status firms would not corner the market if they could command a higher revenue and lower costs across all levels of quality. If the higher-status firms exhibit long-run diseconomies of scale as they expand into the market such that price per unit rises above the market value of the good, then there may be constraints on the expansion of the high-status producer. Possible sources of long-run diseconomies of scale are inherent

limitations on a factor of production or loss of managerial control. However, one of the earliest results of the industrial organizations literature was the lack of evidence for long-run diseconomies of scale with respect to production costs (Bain 1956; Johnston 1960). Therefore, at least within the production ranges of these studies, there is no empirical grounding for the assertion that limitations on the high-status producers emerge from diseconomies of scale.<sup>11</sup>

As a result, it is difficult to explain in light of price theory why the second half of the quote from Matthew cannot be taken more literally, why “from him that hath not shall be taken away even what he hath.” If a higher-status producer can manufacture a given quality good at a lower cost and even command a potentially higher price, what prevents the higher-status producer from completely dominating the market either through underbidding the lower-status producers at all quality ranges or taking over the lower-status producer’s operation and attaching its name to the operation? To resolve the apparent anomaly, it is necessary to reconsider the third core assumption of the status-based model, which specifies the relational bases of status.

Since the relationship between actual and perceived quality is mediated by the producer’s ties to others in the market, the producer invariably changes how it is perceived if it broadens relations with others in the market. Even relations that may be only indirectly connected to the actual quality of the product have a similar effect. As noted earlier, ties to buyers, third parties, and even other producers all affect how one is perceived, and status necessarily implies a certain exclusivity in the formation of exchange relations (Goode 1978). Even if there is no differentiation in the perceived quality of the actors to which producers have ties, the same dynamics apply. The only difference is that status will depend more on the number than on the identity of these other actors. As White (1981*a*) observes, a producer’s volume affects how common its product is perceived to be in comparison to others.

If the reputation of the highest-status actor declines to the point where its status is just equal or below that of its nearest competitor, its niche in the status order becomes vacant, opening the opportunity for this previously lower-ranked actor to display more selective standards and thus fill the vacated niche. The lower-ranked producer no longer faces a

<sup>11</sup> It is important to distinguish diseconomies of scale from growth within a particular market from diseconomies of scope, which might accrue from growth through mergers across markets. The dismantling of corporations in the 1980s has been taken by some as evidence that there are managerial inefficiencies that result from combining firms producing in separate markets. However, this trend does not call into question the basic conclusion from Bain (1956) and Johnston (1960) that within a particular market, there is no evidence for diseconomies of scale.

relative disadvantage in competing for business in the higher-status niche. Rather than being driven from the market, it has the opportunity to occupy the now-vacant position of what was the higher-status producer. Or, if the lower-ranked producer does not attempt to move into the niche, the opportunity is available for an entrepreneur in the wings to do the same. To the extent that a higher-status producer attempts to expand into the position of a lower-status competitor, it changes its reputation and thus alters the cost-and-revenue profile that provided it with the initial advantage. As a result, just as status processes help reproduce inequality by constraining those at the bottom of the status hierarchy, so status processes also place limits on the higher-status producer's expansion into the lower end of the market.

Recognition of this fact leads producers to construct different identities to the extent that they wish to compete in different ends of the market. For example, Hart, Schaffner, and Marx, the nation's leading manufacturer of branded men's tailored clothing in 1980, sold suits under three different labels, each confined to a specific price range (Tedlow 1982). In constructing separate identities, a producer forgoes any short-run advantage in costs or revenue that would accrue to the lower-status product from its association with the higher-status product. The producer realizes that ultimately such an association tarnishes the image of the high-status product as much as it might improve the image of the low-status product. This lower status in turn leads to less net revenue and hinders the degree to which the firm can profitably invest in high quality. Expansion, therefore, requires that the firm enter the market as two distinct actors. It should be noted, however, that this type of expansion does not represent a "solution" to the constraint imposed on the high-status actor since this actor does not derive any competitive advantages from status in the low-quality end of the market. It faces basically the same cost-and-revenue profile as the other low-status actors when manufacturing the low-quality product, since its low-end product is perceived to be identical to the rest; it perhaps derives cost advantages in the low end of the market from improved economies of scale, but not from status.

It is, of course, possible that the producer may be able to quietly alter its quality without strongly influencing market perceptions. Implicit in the idea of loose linkage is the fact that the causal connections between actual quality, market relations, and perceived quality are not completely determinate. However, the recognition that reputation may not diminish is in fact indicative of the general problem faced by the producer seeking to alter its niche. To change positions is to immerse one's production decisions in the vagaries surrounding the relationship between actual and perceived quality. Instead of optimizing within a given cost-and-revenue profile of which one is fairly cognizant, one instead opens oneself up to

high uncertainty about these profiles because one cannot predict how perceptions on the demand side and actions on the producer side will be affected by a shift in quality.

By cultivating a distinct position or identity in the status order, the producer reduces the unpredictability that confronts the nonproducing market participants' selections of goods. While quality will always remain an unobservable before the consummation of a transaction, a distinct reputation nonetheless constitutes a tangible signal by which consumers can compare producers. At the same time, the occupancy of a distinct status position reduces the unpredictability confronting the producer. An awareness of its own position in the market allows the producer to minimize mistaken production decisions. Even lower-status producers have an incentive to reproduce the status order to the extent that it allows for a minimization of such mistakes.

As Leifer and White (1987) observe, rational producers are aware that their success in a market is a function of their distinct identity, and the reproduction of this identity is a fundamental principle guiding market behavior. Status, thus, becomes an important explanatory variable in understanding the stable inequality of markets in light of the Matthew effect. Status, or, more accurately, the loose linkage between status and actual quality, constrains the profitability of invading either a lower or higher niche.

In emphasizing the features of the market that are conducive to reproducibility, the model developed here is structural, as the term has been classically applied in both sociology and anthropology. Yet, such structural analyses are necessarily incomplete. I ignore such questions as the provocative one raised by White (1981*b*): "Where do markets come from?" It seems clear that the same stress on reproducibility cannot apply prior to the existence of a tangible structure. I also ignore the dynamics of mobility that occur even after the market structure is established. Even though most markets are stable in the sense that a producer's position in the market one year is invariably a good predictor of its position in the next, mobility clearly occurs. Though all producers benefit from the existence of the status order, all do not benefit equally. Hence, there is reason to believe that lower-status producers may either attempt to enhance their mobility within the status order or change the status order entirely, even if doing so exposes them to vagaries and uncertainties that they would not otherwise have to face. The model is far from a complete account as it does not directly address such dynamic issues. However, even as it stands, the model can be defended on the grounds that it provides a relatively well defined sociological lens with which to view market phenomena.

At a general level, the theoretical framework provides insights into many features of real-world markets that are either unexamined by or in tension with neoclassical theory. The sustained inequality of positions in markets in light of the fact that higher-status producers can make a given quality good at a lower cost is probably the most important, but there are others. For example, Ijiri and Simon (1977) observe that most producers halt production volume at a point before marginal costs begin to rise beyond price. Such an observation is clearly in tension with the central predictions of neoclassical theory, but it is quite compatible with the notion that status positions provide severe constraints on production decisions. Recognizing that profitability is bound to identity, producers halt production before it reaches a level that threatens that identity.

Another important observation in apparent tension with conventional economic theory is one made by Buzzell and Gale (1987). In a comparative study of firms across markets, they find that returns on investment are positively associated with perceived quality. Such an observation violates neoclassical economic theory's prediction that profits should be driven to zero over the long run. If profits are higher in the higher-quality ranges, then more producers should enter those quality ranges until profits become identical across the full quality spectrum.

In contrast, such a relationship is not only consistent with the status-based model, it is a characteristic of markets that the status-based model predicts *must be present* in a stable market if one assumes (as I do) that producers are indeed profit maximizers. Otherwise, the higher-status producers would constantly be tempted to "cash in" their status and seek to cultivate a lower-status niche.<sup>12</sup>

Nevertheless, in order to develop more substantial support for this particular alternative to the neoclassical view, I move from the general to the particular: an examination of pricing dynamics in the primary securities markets. While it is of course difficult to generalize on the basis of any one case, it is worth noting that there are several features of the investment banking context that would seem to minimize the significance of status processes. Hence, if the relevance of status can be demonstrated in this context, we may presume that it should be relevant in other contexts as well.

<sup>12</sup> This observation leads to the hypothesis that markets in which status is positively correlated with profits will be more stable than markets in which status is inversely correlated with profits. For the purposes of testing such a hypothesis, stability can be defined in terms of factors such as shifting market share, changes in relative product quality, or differences in buying patterns.

INVESTMENT BANKING

As underwriters of securities in primary securities markets, banks enter into relations with three sets of exchange partners—issuers, investors, and competing banks. Here, I will focus primarily on the exchange relationship between issuer and bank, though it is not possible to consider this relation in complete isolation from the others. The service that the bank sells to the issuer is the ability to effectively price and place the security at terms as favorable as possible to the issuer and to “make a market” for a given issue.<sup>13</sup> Placement ability is contingent upon the extent of its connections to investors and often to other banks, which are willing and able to join a syndicate to distribute the security. With strong and varied connections to these two groups, the bank is better able to gauge supply and demand and thus price and place the offering more effectively. In short, what the bank “produces” as underwriter is a mobilized syndicate of banks and an array of investors willing to purchase the security.

The “price” that an investment bank charges a corporation for underwriting a security is called the gross spread. The gross spread is the difference between the dollar value that a corporation pays an investment bank for the offering and the dollar value at which the bank resells the offering to the market.

There are two broad classes of securities that banks underwrite in the primary securities markets: equity and debt. Equity, which is alternatively referred to as stock, represents an ownership stake in the corporation. Debt, of which the most common type is a bond, constitutes a legally binding obligation of the issuer to pay the holder of the debt a sum of money at clearly demarcated points in time.

Relying on divisions that are frequently made in the trade publications (e.g., *Investment Dealers' Digest [IDD]*), it is possible to further divide these broad categories of securities into different markets. For example, one special type of equity market is the market for initial public offerings. An initial public offering, or IPO, is a company's first distribution of stock to the public. There are two major corporate debt markets: the market for investment grade debt and the market for non-investment-grade debt. What distinguishes investment grade from non-investment-grade debt is the financial history and soundness of the issuing firm.

The analysis here will focus on the market for investment grade debt. Unlike equity issues, debt issues are evaluated by major ratings agencies, and the ratings provide a strong guideline for the price at which the bond

<sup>13</sup> To “make a market” is to announce a bid price at which it will buy the security and an ask price at which it will sell the security.

is offered to investors. Moreover, corporate bonds are almost exclusively purchased by institutional investors and are accordingly less frequently traded in secondary markets than equity issues. Because of the pricing guidelines and the comparatively small need for making a market on a given issue, there is comparatively little room for banks to distinguish themselves in issuing debt.

In comparison to non-investment-grade debt, the underwriting of investment grade debt would seem to be especially insulated from status concerns because of the low probability of default that defines investment grade issuers. This type of security is colloquially referred to as “vanilla debt,” a label that reflects the lack of complications involved in underwriting the issue. One ex-Shearson broker commented to me that he personally could successfully execute a typical investment grade issue even after he had left the firm. All such an issue would require would be a few phone calls to major institutional investors.

One should not take this somewhat facetious comment to mean that there is *no difficulty* involved in the placement of investment grade debt. Particularly as issues get larger, the challenge of placement becomes greater and requires a more extensive knowledge of and connections to the demand side of the market. Two bankers associated with a much smaller firm than Shearson noted the size of an issue as a reason why their firm would be neither willing nor able to underwrite a given issue. Nevertheless, apart from the factor of size, which is relevant in any of the primary securities markets, the comment is illustrative of the low level of difficulty that bankers attribute to underwriting in this particular market.

Finally, the importance of price in an issuer's selection of an investment bank, especially in the market for investment grade debt, can probably not be overstated. Eccles and Crane (1988) note that the phrase “Loyalty is a basis point” was particularly common among investment bankers in the mid-1980s. A basis point is .01% of the value of the offering. Though the phrase was probably an exaggeration, it reflected the bankers' strong belief that price (i.e., spread) was an extremely important factor in the exchange relationship between issuer and underwriter. An issuer would switch investment banks if it could find a slightly lower price in the market. Such a strong preoccupation with price would seem to imply that status exerts a minimal effect upon the market decisions of issuers and thereby provides some justification for the primary securities markets as a difficult test case for the status-based model.

To frame this assessment in terms of the three assumptions critical to the status-based model of market competition, this context is a challenging one because it is at best only weakly consistent with the assumption that quality is an unobservable; it is implicit, therefore, that the context

is only weakly consistent with the assumption that consumers (in this case, the issuers) should use status as a signal of quality. To balance the assessment, it is also a market in which interpersonal and interorganizational networks are critical to doing business (Eccles and Crane 1988; Baker 1990). This network nature of investment banking has two consequences. First, it means that the third assumption—that social relations mediate between status and quality—is more easily met in investment banking than in markets where social relations are less critical. Second, the significant role of interpersonal and interorganizational networks in conducting transactions opens the possibility for transaction costs to play a larger role in outcomes than they otherwise would, and to the extent that the advantages of status are contingent upon reductions in transaction costs, status can play a larger role in this market than one in which there are effectively no transaction costs. Thus, there are clearly aspects of the case that are conducive to the importance of status processes, though, on balance, there seem to be a sufficient number of countervailing factors to make this a challenging case for the basic model.

#### DATA

Data for an examination of the investment grade debt market are drawn from the SDC data base between 1982 and 1987.<sup>14</sup> These data contain extensive information on all of the corporate security offerings underwritten by investment banks over that period. In particular, for each issue, data are available on the type of offering, type of registration, spread, volume, bond rating, and the lead manager and comanagers. The primary purchasers of the SDC data are the investment banks themselves, who use the data mostly to assess their share of the market and their penetration into particular industrial sectors.

#### THE DYNAMICS OF THE PRICING MECHANISM

The status-based model draws our attention first and foremost to the role of costs and price in sustaining the hierarchical pattern of exchange relations in the market. Because the higher-status producer can manufacture a good of a given quality at a lower cost, it can effectively underbid the lower-status producer seeking to enter the higher-quality niche.

As has been repeatedly emphasized, price is very important in the issuer's selection of an investment bank in the investment grade market. Intense price competition necessarily implies no revenue advantages (i.e.,

<sup>14</sup> These data were graciously made available to me by Robert Eccles and Dwight Crane.

positive rents) from high status on a given transaction. If issuers are choosing primarily on the basis of price, then the banks should not be able to command a premium for status. Even if issuers would prefer an extremely high-status firm to a comparatively low-status firm, they may be indifferent between those five or six banks at the top of the hierarchy, leading these top banks to compete among themselves on the basis of price in much the same way that the highest-status accounting firms competed with one another in an earlier example.

However, the lack of benefits on the revenue side does not preclude benefits on the cost side. As previously noted, higher status leads to lower transaction costs in forming syndicate and investor relations. The reputation for having stringent requirements means that it is less difficult and less costly for a bank to lead a given offering, and there is some limited qualitative evidence from the industry, such as that regarding Merrill Lynch (e.g., Kadlec 1986), that a higher-status firm can retain an employee of a given level of quality at a more favorable compensation arrangement for the firm. The Matthew effect, therefore, manifests itself in the investment grade market primarily in the form of low transaction costs and perhaps in the form of lower salaries as well, while having little or no effect on revenue.

Given the minimal impact of status on revenue but the advantages on cost, I hypothesize that the price that an investment bank receives for underwriting a given issue should be inversely related to status. In the bidding context in which banks confront issuers, the higher-status banks should take advantage of their lower cost to underbid their competitors for the bonds that they wish to underwrite.

To clarify this hypothesis, it is helpful to refer to a hypothetical scenario. Assume that there are only four investment banks in the industry that compete with one another for every issue. Assume further that the banks are aware of each others' costs (though we will drop this assumption momentarily). Figure 2 depicts such a situation. The vertical axis denotes increasing status; the horizontal axis indicates dollar values expressed in some arbitrary unit. The horizontal line for each bank represents its costs. If a bank successfully bids a dollar amount that falls to the right of the point where the horizontal line ends, then it earns a profit. Thus, if bank 4 makes a bid at D, it earns a profit; an expected bid at C, however, would result in losses. In a situation where all four banks desire the deal, bank 1 can practically guarantee that it will win the deal by issuing a bid at point A, just below bank 2's costs. Another firm will be able to win the deal only if it takes a loss.

Assume now the four banks are considering a second deal. Bank 1 decides that it is not worth the investment, but the other three banks desire the deal. In this case, bank 2 bids at point B and wins the deal to

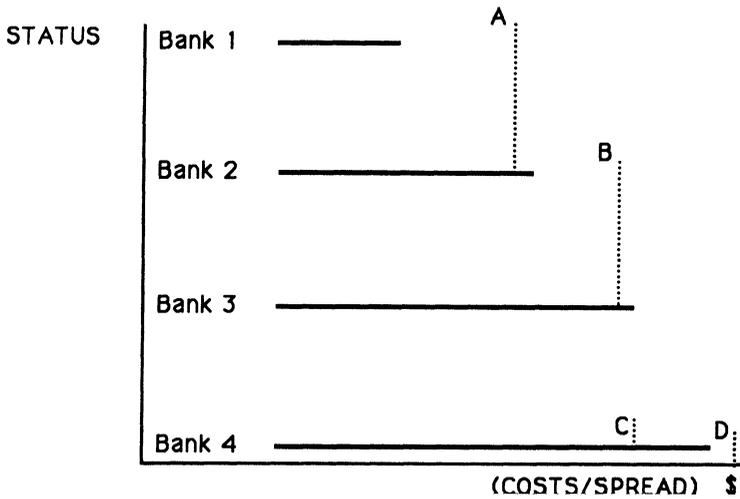


FIG. 2.—Hypothetical scenario of four banks

the extent that other firms are not willing to take a loss. If we make the reasonable assumption that firms cannot consistently take losses on their offerings, then this competitive situation in the context of a different cost structure results in the observed negative relationship between status and spread.

Dropping the assumption that producers are aware of each other's costs does not affect the expected relationship between quality and price. The only consequence of uncertainty about competitors' costs is that producers will make bids closer to their own costs and anticipated risk. Since they cannot be certain about the degree to which they are able to undercut their competitors' bids, they are forced, if they truly want the offering, to lower their bids to compensate for this uncertainty.

If bank 1 tries to corner the market by taking advantage of its lower costs, it will cease to have the reputation for "stringent requirements." Its costs will necessarily increase since it will have greater difficulty obtaining investors and syndicate members for a given quality of security. If these costs rise to the point that bank 1's costs are higher than bank 2's, bank 1 essentially loses the highest-status position in the market and its ability to outbid 2 for future business.

Despite the fact that the actual industry is more complicated than this model, the same dynamics should apply. One major conceptual difference between the imaginary four-bank market and the actual market is that there are probably several groups of banks that are of roughly equivalent status and therefore have essentially identical cost profiles. The five

or six highest-status firms presumably all face similar costs for performing a given issue. However, the only consequence of this similarity is to drive the banks of equal status to bid as closely as possible to costs when competing against one another. The negative relationship between status and price remains. Another difference is that not every bank is asked to bid on a given issue. But, again, this should not change the fact that of those bidding, the highest-status bank should be able to win the deal by just underbidding the competitor closest in status.

It should be underscored that the status-based model does not predict that price will be negatively associated with status in all markets. Rather, it predicts only that the costs for producing a given quality product are negatively associated with status. The reason that we expect the negative relationship between price and status in the investment grade market is that the advantages of status are primarily on the cost side. However, this situation is simply a special case of a more general relationship that can be easily represented with minimal formalism. If  $p_h$  and  $p_l$  are the prices charged by a high-status producer and a low-status producer,  $s_h$  and  $s_l$  are the status of the two producers, and  $\Theta$  is the premium that a buyer is willing to pay for each unit increment in status, then the pricing mechanism reproduces the hierarchical ordering in the market to the extent that

$$p_h < p_l + \Theta(s_h - s_l). \quad (1)$$

If advantages are strictly on the cost side, then  $\Theta$  equals zero, and the inequality reduces to  $p_h < p_l$ .

## ANALYSIS

For the purposes of this analysis, I use percentage spread as the dependent variable to denote the price charged by an investment bank. The percentage spread is the gross spread divided by the dollar amount of the offering. Use of percentage spread rather than gross spread allows for greater comparability across issues. Of the 3,541 investment grade offerings listed in the SDC data base between 1982 and 1987, information is available on percentage spread for 2,782 of the issues. Careful inspection of the data suggests that the pattern of missing information is not random; the likelihood that data are missing is frequently correlated with the size of the issue and the revenue of the issuer. Because of this significant missing data on the dependent variable, selectivity bias is a potential danger in the analysis. Following Berk (1983), I correct for selectivity bias via a two-stage procedure. Using a dichotomous logistic model, I construct a "selection equation," which estimates the probability that an

observation has information on spread. Then I incorporate the predicted probability (PREDPROB) as a regressor in the main equation.

The independent variable of greatest theoretical significance is, of course, status. My measure of status derives from what are called "tombstone advertisements." Tombstone ads are the announcements in major financial papers and trade journals that list the issuer, content, and syndicate members of a given security offering. Figure 3 depicts an example of a tombstone ad drawn from the February 19, 1985, issue of *IDD*. At the top of the advertisement is the name of the issuer and the information about the issue. The lead manager of the issue is always the first bank to be listed, followed by one or several comanagers. In figure 3, the lead manager is Salomon Brothers, Inc. The comanager is Merrill Lynch Capital Markets. The rest of the banks are syndicate members.

Tombstone ads have been in existence since before the turn of the century. Before the emergence of an electronically integrated market, these ads presumably did serve a conventional advertising purpose of informing investors of the existence of the security. However, they no longer serve any such function. They most often appear in publications one or two days after a security has been issued on the market, while the vast majority of institutional investors have been aware of the offering since minutes after it was released for issue.

While the lead management and comanagement positions are highly coveted because they are the highest-status positions on a tombstone, occupancy of these positions does not necessarily mean that a bank is of higher status than all those that appear below. Higher-status banks may agree to join a syndicate that is managed or comanaged by an equal or lower-status bank.

However, in agreeing to be part of the syndicate, banks are extremely conscious of the status ordering within that syndicate. Syndicate banks are arranged hierarchically into what are called brackets; the higher brackets are more prestigious. Like the number of banks, the number of brackets will vary from offering to offering; the quantity can be as small as 1 and not infrequently as large as 9 or 10. Within each bracket, banks are listed alphabetically; there are, therefore, no status distinctions within brackets, only across brackets. In figure 3, the first bracket begins with the First Boston Corporation and concludes with Morgan Stanley; the second bracket begins with ABD Securities and concludes with Dean Witter Reynolds.

Notably, if the lead manager places the bank in a lower bracket than the bank believes is appropriate, the bank will withdraw from the syndicate. Conversely, if the bank is placed higher than is considered proper, members of the syndicate who have been improperly placed below the bank will withdraw from the offering. A particularly prominent example

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**The First Boston Corporation**

**Goldman, Sachs & Co.**

**Lehman Brothers**

Shearson Lehman/American Express Inc.

**Morgan Stanley & Co.**

incorporated

**ABD Securities Corporation**

**Bear, Stearns & Co.**

**Alex. Brown & Sons**

incorporated

**Deutsche Bank Capital**

Corporation

**Dillon, Read & Co. Inc.**

**Donaldson, Lufkin & Jenrette**

Securities Corporation

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**E. F. Hutton & Company Inc.**

**Kidder, Peabody & Co.**

**Lazard Frères & Co.**

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**PaineWebber**

incorporated

**Prudential-Bache**

Securities

**L. F. Rothschild, Unterberg, Towbin**

**Smith Barney, Harris Upham & Co.**

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**Swiss Bank Corporation International**

Securities Inc.

**UBS Securities Inc.**

**Wertheim & Co., Inc.**

**Dean Witter Reynolds Inc.**

**American Securities Corporation**

**Daiwa Securities America Inc.**

**A. G. Edwards & Sons, Inc.**

**Interstate Securities Corporation**

**McDonald & Company**

Securities, Inc.

**Moseley, Hallgarten, Estabrook & Weeden Inc.**

**The Nikko Securities Co.**

International, Inc.

**Nomura Securities International, Inc.**

**Thomson McKinnon Securities Inc.**

**Tucker, Anthony & R. L. Day, Inc.**

**Yamaichi International (America), Inc.**

FIG. 3.—Example of a tombstone advertisement

of the latter occurred in 1987 on a \$2.4 billion bond offering by the Farmers Home Administration; 10 banks withdrew from the offering when 13 regional and small minority-owned firms were listed before them on the tombstone (Eccles and Crane 1988).

Major shifts in bracket position are rare events. One is not likely to observe more than one or two shifts in the higher-bracket positions over any given five-year period. Informal observation of the tombstones over the 1980s seems consistent with this claim.

Because syndicate position is such a close reflection of a bank's status in the industry, it has been used as a measure of status in other scholarly work (e.g., Carter and Manaster 1990) and is an appropriate measure for the purposes of this paper. The status scores for selected banks in the investment grade market are listed in table 2. Details of how the status scores for the banks were derived from the tombstone ads and further justification of their use are presented in the Appendix.<sup>15</sup>

To assess the effects of status on percentage spread, it is necessary to include several control variables in addition to PREDPROB, the predicted probability of inclusion in the sample derived from the selection equation. One of these is the size of the offering, AMT, which is measured in terms of logged dollars. Though it is more difficult to underwrite a large offering than a small offering, the marginal difficulty of underwriting each additional dollar increment decreases with the size of the offering. As a result, it seems reasonable to expect that the size of the offering should have a negative effect on the percentage spread. In the investment grade debt market, the rating of the bond is also an important determinant of spreads. A higher rating implies lower risk, which results in a lower spread. *Standard and Poors'* ratings for investment grade debt range from AAA to BBB. Rating information is available for all offerings between 1982 and 1986. For these years, dummy variables are constructed for all ratings above BBB+, with BBB+ and below forming a residual category; an additional dummy variable, SPRATMIS, was coded "1" for all offerings in 1987 and "0" for offerings in the other years.

I also control for the recent joint transaction history of the bank and company in all product markets. It seems reasonable to expect that prior or concurrent transactions with a bank will lower the spread due to "client-specific economies." Superior information about an issuer due to prior transactions should allow the bank to underwrite an offering at a lower cost. Two dummy variables, LSIMUL and LHIST1, account for

<sup>15</sup> A full listing of the status scores for all the banks is available from the author upon request.

TABLE 2  
SELECTED STATUS SCORES IN THE INVESTMENT GRADE DEBT MARKET

Bank	Status	Rank
Morgan Stanley .....	3.30879	1
First Boston Corporation .....	3.03206	2
Goldman Sachs .....	2.87465	3
Merrill Lynch .....	2.84215	4
Salomon Brothers .....	2.82667	5
Lehman Brothers Kuhn Loeb .....	2.19846	6
Paine Webber .....	2.10382	7
Prudential Bache Securities .....	2.09874	8
Dean Witter Reynolds .....	2.04583	9
Warburg Paribus Becker .....	2.02556	10
Smith Barney Harris .....	2.01689	11
Dillon Read .....	2.01074	12
Bear, Sterns .....	2.00232	13
Kidder Peabody .....	1.99902	14
Shearson .....	1.99621	15
E. F. Hutton .....	1.99388	16
Donaldson Lufkin & Jenrette .....	1.98863	17
Lazard Freres .....	1.98856	18
Wertheim Securities .....	1.98685	19
L. F. Rothschild, Unterberg .....	1.98629	20
Drexel Burnham Lambert .....	1.98431	21
UBS Securities .....	1.86799	22
M. A. Schapiro and Co. ....	1.68572	23
Bell Gouinlock .....	1.57457	24
Atlantic Capital .....	1.23710	25
Burns-Fry and Timmins .....	.85649	50
Robert W. Baird and Co. ....	.66863	75
Sanford C. Bernstein and Co. ....	.44116	100
Folger Nolan Fleming Douglas .....	.21968	125
Anderson & Strudwick .....	.07925	150

this transaction history. In particular, LSMUL captures whether or not the bank and issuer are involved in another transaction at the time of the deal. I selected a 120-day window around the date of the offering; if the bank leads an offering for the corporation in any of the primary markets or gives merger/acquisition (M&A) advice to the issuer during this period, then LSMUL is coded "1," if not, LSMUL is coded "0." Discussions with bankers revealed that the process of deciding on a particular issue and bringing the offer to market can often take about this length of time. Accordingly, if a bank managed two offerings for the same firm over this time period, I regarded the issues as "simultaneous." If the bank managed an offering or assisted in M&A more than 120 days

but less than 1 year prior to the offering, LHIST1 is coded "1," otherwise LHIST1 is coded "0."

Also relevant to the spread is whether the offering is negotiated or competitive. In the latter, competing banks submit sealed bids to the issuer, and the lowest bid wins the offering. Though this type of offering is not particularly common for corporate securities, many public utilities are required by law to solicit bids in this form. In negotiated offerings, the firm selects a bank on the basis of discussions with one or several investment banks. Price is still an important factor underlying the exchange between corporation and client, though it need not be the only factor which affects the corporation's decision to choose a particular bank. Due to the fact that competitive offerings are awarded strictly on the basis of price, it follows that sealed bids typically have lower spreads. A dummy variable, COMPET, is coded "1" if the offering is competitive and "0" if it is negotiated. Note that even in a sealed bid competitive offering, status can be relevant to market processes to the extent that it leads to a reduction in costs.

Finally, it is important to control for whether or not the security is what is called convertible. Some corporations issue bonds that they are willing to convert into stock at a predetermined conversion rate. This feature reduces the risk of holding the bond and presumably, therefore, also decreases the spread. If the bond offering is convertible, CONVERT = 1; CONVERT = 0 otherwise.

Column A of table 3 presents the results. In discussing these results, I will focus almost exclusively on the effect of status on spread since nearly all the control variables are of little sociological interest. The one possible exception to this rule are the effects of LHIST1 and LSIMUL, which measure client-specific economies. Both variables have a negative effect on spread, though the effect of LSIMUL is not statistically significant. The negative effect is consistent with the view that a firm can derive economic benefits from seeking to embed exchange exchanges in ongoing relations.

Focusing on the variable of main interest, we observe that STATUS has a statistically significant and negative impact on price at the .01 level. A unit change in STATUS leads to a reduction in spread of .080. While the substantive significance of this coefficient may not seem considerable, it is important to evaluate it in light of the phrase that "Loyalty is one basis point" and in light of the difference in status scores across the banks. If we refer back to table 3, we see that the difference in status between, for example, second-ranked First Boston and fourteenth-ranked Kidder Peabody is 1.03 . The difference between these two banks translates into an ability or willingness of the former to underbid the latter by eight basis points.

TABLE 3  
EFFECT OF INTERACTION BETWEEN SIZE AND STATUS ON PERCENTAGE SPREAD IN THE INVESTMENT GRADE MARKET

Variable	A	B	C	D
INTERCEPT	1.244 (.153)	1.221 (.152)	8.608 (.750)	14.298 (2.239)
STATUS	-.080 (.013)	-.062 (.013)	-2.813 (.274)	-2.271 (.287)
STATUS * log(AMT)	...	...	.151 (.015)	.121 (.016)
Log(VOLHIST)	...	-.006 (.0008)	-.006 (.0008)	-.126 (.162)
Log(VOLHIST) * log(AMT)	...	...	...	.007 (.001)
Log(AMT)	-.0116(.008)*	-.007 (.008)*	-.413 (.412)	-.451 (.041)
CONVERT	.679 (.0275)	.679 (.027)	.665 (.026)	.658 (.027)
AAA	.004 (.025)*	-.012 (.025)*	-.018 (.025)*	-.021 (.025)*
AA+	-.101 (.027)	-.105 (.027)	-.124 (.027)	-.134 (.027)
AA	-.086 (.024)	-.093 (.023)	-.090 (.023)	-.096 (.023)
AA-	-.084 (.025)	-.079 (.024)	-.080 (.023)	-.087 (.024)
A+	-.053 (.025)	-.055 (.025)	-.054 (.024)	-.062 (.024)
A	-.086 (.023)	-.090 (.023)	-.089 (.022)	-.093 (.022)
A-	-.045 (.026)	-.044 (.025)*	-.040 (.024)*	-.052 (.025)
SPRATMIS	-.111 (.021)	-.091 (.021)	-.088 (.020)	-.096 (.020)
LHIST1	-.008 (.003)	-.007 (.003)	-.008 (.002)	-.008 (.002)
LSIMUL	-.001 (.003)*	9*10 <sup>-4</sup> (.003)*	-.002 (.003)*	-.002 (.003)*
COMPET	-.186 (.018)	-.178 (.0173)	-.172 (.0170)	-.173 (.0169)
PREDPROB	-.492 (.105)	-.444 (.105)	-.459 (.103)	-.492 (.102)
R <sup>2</sup>	.27	.29	.31	.32

NOTE.—N = 2,787. Numbers in parentheses are SEs.

\* Not significant at the .05 level.

COMPETING SIGNAL: VOLUME

Higher-status banks are able to underbid lower-status banks because status is a signal of quality. The more that the issuer, potential syndicate members, and investors can be assured of the quality that the underwriter will exhibit in managing the offering, the less difficult and less costly it is for the underwriter to put the deal together. However, as noted earlier, status is a second-order signal, and, while more encompassing and multifaceted than other signals, the linkage between status and quality is perhaps looser than the linkage between quality and first-order signals. If the lack of status is to represent a real constraint, then lower-status banks must not be able to compensate for their inferior position in the status order by the cultivation of first-order signals.

The primary first-order signal is the recent volume history of the bank. The link between short-term volume history and underwriting quality is quite tight since a bank's quality with respect to both issuers and investors is contingent upon its insight into the market, which in turn depends on the extent to which it is in the deal stream between a relatively large number of issuers and investors. Insofar as underwriting volume is a quantitative indication of the degree to which a bank is in this deal stream, such volume is clearly a determinant of quality. Volume is also a signal of quality properly defined; the marginal difficulty and cost of underwriting a given issue at a given point in time is inversely associated with recent underwriting volume, since lower volume implies less knowledge. A bank with less knowledge of the market exposes itself to greater risk in seeking to make competitive bids for a given issue.

There are several institutional manifestations of recent volume as a signal. Perhaps the most important are the league tables, which provide annual or quarterly rankings of the banks according to their volume of underwriting activity in the various primary markets. They are published at quarterly intervals in the major trade journals. The ex-Shearson banker quoted earlier commented that the banks are so obsessed with their position in the tables that they call the SDC and *IDD* information service to insure that the services have not forgotten to include a deal that they have managed. While the banker interviewed believed that the ascribed importance to ranks was unjustified, he also pointed out that many bankers perceived that such an omission could lead to a decline in their rank in the league tables and thereby undercut their standing in the eyes of market participants.

Significantly, Hayes (1971) has observed that volume—at least as an indication of the bank's relational position—is also a critical underpinning of status; however, a major difference between volume as a first-order signal and status as a second-order signal is that the latter is rela-

tively insulated from short-term fluctuations in the former. There are at least two reasons for this fact. First, volume, in and of itself, does not affect status; rather, it is the volume that is underwritten well that influences status. Increased volume will cease to have a positive impact on status if it is achieved either through the underwriting of issues that offer less than expected returns on their investment or through the poor execution of offerings. Repeated exceptionally weak returns on investment will cause the bank's status with investors to decline (e.g., Miller 1986). To the extent that a bank's status with investors declines, it is likely that its status with issuers will decline as well, since the lower status on the investor side will mean that the bank will find it more difficult and therefore more costly to effectively place a security.

A second, more important reason for the difference between volume and status is that volume is not the only factor that underlies status. Another, for example, is a reputation for honesty. When one of Morgan Stanley's associates became involved in an insider trading scandal in 1978, the status of the firm suffered even though few at Morgan Stanley were involved (Chernow 1990, pp. 634–35). When E. F. Hutton was convicted for involvement in a large-scale trading scandal in the late 1980s, its status declined precipitously until it was absorbed by Shearson Lehman American Express in a merger to form Shearson Lehman Hutton. Though there is no highly visible, institutionalized ranking of firms in terms of honesty to parallel that which exists for volume, violations of codes of SEC regulations are noticed by market participants and can have an impact on perceptions of a firm.

Given that the status order and volume rankings are two informational orders in which decisions are potentially embedded, the constraining effects of status ultimately depend on the degree to which the status order exerts an independent effect on market outcomes beyond that exerted by short-term fluctuations in volume. In effect, the issue is one of whether the second-order signal of status has an effect on price when the first-order effect of volume is controlled.

There are some compelling reasons to believe that this status effect should be minimal and that the short-term informational order should be most relevant in primary securities markets. We noted earlier that in the debt markets, especially investment grade debt, there is a rather high degree of information to distinguish the abilities of banks and the qualities of securities. However, to the extent that information is differentially distributed across banks, we would expect recent information to be of almost exclusive importance. Rapidly changing, unpredictable conditions endemic to financial markets would at least seem to suggest that it is only recent knowledge that is of any considerable utility to market participants.

If informational decisions are based more on the yearly fluctuations in volume and less on the status ordering in the tombstones, then the time lag between shifts in quality and shifts in perception will necessarily be shorter, and the significance of the Matthew effect for the primary securities markets will be minimal. Recall that it is the lag between shifts in quality and shifts in perceptions that insulates a given producer from the competition of those of lower status. If a low-quality bank can come to be regarded as identical to a high-quality bank simply by increasing its volume over a short time frame, then it faces essentially the same cost and revenue profile as that of the high-quality bank. It may have to absorb some short-term costs to expand at a rapid rate, but ultimately there is no persistent constraint on its ability to invade the high-quality niche. In this case, status would simply be a by-product of underlying economic processes. It is only when the lower-quality bank must confront a relatively disadvantageous cost-and-revenue profile over an extended time frame that the status ordering and Matthew effect can be considered relevant.

More specifically, to the extent that the status ordering is indeed irrelevant to market decisions and behavior, then inclusion of a variable for the more recent volume history should eliminate the direct effect of status upon either the terms of trade of particular exchanges or the observed pattern of relations. I, therefore, repeat the prior regressions including a variable for short-term volume history, VOLHIST. This variable is the volume of offerings for which a bank was lead manager in the 12 months prior to the month in which the deal was issued. Volume history thus is a moving one-year window, which I have updated monthly. Obviously, any particular choice of volume history is at some level arbitrary; I selected one year because the league tables rarely summarize more than a year of information. Due to a positive skew in the distribution of the variable, the variable is converted into logged dollars.

Though volume history is included as the primary signal of the short-term informational order, it is important to note that interpretation of a coefficient for volume history cannot be unambiguous. To the extent that economies of scale are relevant, the volume history measure summarizes such effects; moreover, insofar as the volume measure necessarily implies greater knowledge of the supply and demand conditions at the moment of the offering, these knowledge effects are also bound up in this variable. However, we are not so much interested in clearly interpreting the effect of volume as in determining whether the inclusion of the variable eliminates the effect of status upon the terms of trade.

Column B of table 3 presents the results. The most noteworthy finding is that the effect of status remains significant even after the inclusion of the variable for volume, though the apparent status effect does drop from

-.080 to -.062. The volume coefficient is negative and statistically significant at the .05 level. The relative magnitudes of the volume and status coefficients provide insight into how much a lower-status bank would have to exceed a higher-status bank in annual volume in order to bid the same as the higher-status actor. The status coefficient is 10 times that of the coefficient for volume history, implying that a given bank would theoretically have to underwrite  $\exp(10) = 22026.5$  times the volume of a bank one unit higher in status in order to compensate for the preexisting status differential. When considered in these terms, the .6 unit difference in status between fifth-ranked Salomon Brothers and sixth-ranked Lehman Kuhn Loeb clearly seems impenetrable to a strategy of “eating” deals to signal quality. Even a .005 unit difference in status, such as that between seventh-ranked Paine Webber and eighth-ranked Prudential Bache Securities, seems difficult to overcome simply by increasing volume.

To be clear, volume is a signal of quality that apparently reduces costs and thereby facilitates the bank’s bidding ability; however, the effect of this signal is insufficient to overwhelm even minor differences in the status order. The effect of status, even after the inclusion of the volume variable, means that a lower-status bank cannot simply buy its way into a high-status niche by increasing its volume over the short term.

In addition to allowing us to distinguish the relative importance of the two informational orders (status and volume) confronting market participants, these results, especially the negative relationship between price and status, provide a unique opportunity to compare conventional economic models and the status-based model. Economic models invariably predict that if there is a superior good in the market at a lower price than an inferior good, then the inferior good will be driven from the market. In effect, the results in table 3 suggest that the superior good is less expensive than the inferior good; the higher-status producers underwrite a given offering at a lower price than the lower-status producers, but, as we observed earlier in table 1 and figure 1, there is considerable stability in the investment grade market. There is no trend toward increasing concentration, as we would expect if the higher-status banks were monopolizing the market. Such stability is completely consistent with the status-based model. The higher-status banks realize that their reputation with investors, position in the market, and hence cost structure is contingent on their ability to preserve their ties with high-quality clients. Thus, whereas conventional price theory predicts that the negative relationship between price and status should lead to a domination on the part of the highest-status actor(s), the status-based model anticipates the stability of the market that is actually observed.

Moreover, the status-based model also helps make sense of a similar,

prior finding that emerged in an analysis of innovation in the primary securities markets. In an examination of 58 product innovations in the investment banking industry between 1974 and 1986, Tufano (1989) found that pioneers of an innovation charge underwriting spreads that are 18–25 basis points lower than imitators charge; he concluded that such a finding is anomalous from the point of view of economic theories of differential pricing. He suggested that perhaps innovators may be trying to “buy market share” by charging a lower price (p. 94). Even if true, such a conclusion does not explain why there are limits on the process. Why is the innovator not able to “buy” the whole market? Since boundaries around financial products are always somewhat arbitrary, it is clearly possible to conceive of these product innovations as defining their own markets. As such, the conclusions of the foregoing analysis can be applied to product innovations.

#### THE RELATIONSHIP BETWEEN OFFERING SIZE AND UNDERWRITING SPREAD

So far, the results show that, on average, higher-status banks underbid lower-status banks for a given deal in the investment grade market. Such a result is consistent with the claim that issuers are primarily concerned with price in their selection of an underwriter, whereas potential syndicate members and investors are more concerned with status. These groups have reason to be more concerned with status than the issuer. They are creditors, while the issuer is the debtor. As creditors, they have comparatively more to lose if the issue falls in value because of the poor performance of the bank. The issuer, on the other hand, will make the same interest payments regardless of how the security is placed.

Nevertheless, the issuer still faces some risk. If investors or syndicate members lose money on a particular offering, they will almost undoubtedly be less likely to purchase a security from the same issuer in the future. As a result, a poor performance by the underwriter will make it more costly for the issuer to raise money in the financial markets; the issuer will have to compensate the purchasers of its security for what they perceive to be additional risk.

Consequently, there might be some reason to expect positive return on status, especially for the larger offerings. As previously noted, not all issues are considered to be of the same difficulty; in particular, the larger an issue, the more challenge is involved in its placement and the more questions that there would be about a given bank's ability to successfully accomplish the task. For the RJR Nabisco junk bond offering, Kohlberg Kravis Roberts and Co. (KKR) doubted very much if even Salomon Brothers, a special bracket firm and the bank with the second largest

underwriting volume in the junk bond market, could effectively lead the offering (Burrough and Helyar 1990). While the RJR offering was indeed an exceptionally large offering, it does raise the issue of whether or not there are positive returns to status for increasingly large issues. The fact that large issuers underbid the lower-status issuers on average does not preclude the fact that higher-status banks may be able to derive a premium from underwriting the larger, more difficult issues. In terms of the formalization in (1), it is reasonable to expect that as the issue becomes larger,  $\Theta$  should move away from zero, and  $p_h$  should become greater than  $p_l$ .

This reasoning suggests a hypothesis: there should be a positive interaction between the size of the issue and the status of the underwriter in terms of the regressions on percentage spread. The larger the issue, the greater the returns to status ought to be. More specifically, given the earlier regressions, we would expect a positive interaction between  $\log(\text{AMT})$  and  $\text{STATUS}$ .

Column C of table 3 reproduces the regression in column B with the inclusion of an interaction term for  $\text{STATUS}$  and  $\log(\text{AMT})$ . Column D is the same as C except that it adds an additional interaction term between  $\log(\text{VOLHIST})$  and  $\log(\text{AMT})$ . In both regressions, the interaction between  $\text{STATUS}$  and  $\log(\text{AMT})$  is positive and highly significant. In column D, the effect of status in the investment grade market is

$$-2.27 + .121 * \log(\text{AMT}).$$

Through algebraic manipulation of terms, it can easily be shown that the effect of status becomes positive when the offering is greater than \$140 million. This value is clearly within the range of observed values; the median offering size across all banks is \$100 million. At \$200 million, or the seventy-fifth percentile in terms of offering size, a one-unit difference in status, such as that which existed between First Boston and Kidder Peabody, translates into a four-basis-point benefit for the former over the latter.

Considered in conjunction with the results from columns A and B in table 3, we observe that higher-status banks on average underbid the lower-status banks; however, for the larger issues, the latter must underbid the former, and, as the qualitative evidence suggests, they must do so from a relatively disadvantageous cost structure. The result is significant because it illustrates the fact that for the larger, more difficult issues, status is relevant not only to the investor and potential syndicate members but to the issuer's decision as well.

This result points to at least one factor that may be relevant in establishing scope conditions for the applicability of status to a producer's relations with a particular set of exchange partners, be they consumers

or some other set of actors associated with the market, and in so doing it helps specify when producers will derive positive rents from status and when they will only derive cost advantages. As a constituency's risk from entering into an exchange relationship with a particular producer increases, we would expect that status should become more relevant to their decision. If the risk is almost entirely borne by third parties to the transaction, such as syndicate members or retailers, then the advantages will strictly be on the cost side. However, to the extent that the risk is borne by consumers, producers will also be able to obtain positive rents as well.<sup>16</sup>

Of course, we would need to be careful about drawing any strong inferences about scope conditions on the basis of one case. As articulated at the outset, the applicability of the status-based model is contingent on the validity of three key assumptions: (1) that quality is unobservable, (2) that status is regarded as a signal of quality, and (3) that perceptions of a producer's status are contingent upon the identity of those to whom the producer is tied. The investment grade market is a compelling case because the first key assumption is minimally met, and there are many features of the market which would lead us to believe that the second assumption would be minimally met as well. Nevertheless, the salience of interpersonal and interorganizational networks in investment banking means that assumption 3 has more *prima facie* validity than it might have, for example, in mass consumer markets, where individual buyers are largely anonymous with respect to one another. Of course, this third assumption could apply in such markets. The status that consumers ascribe to a particular car manufacturer may indeed be contingent upon the identity of those who drive that manufacturer's cars, but we must nonetheless be careful about generalizing on the basis of this one analysis.

## CONCLUSION

I have sketched out a conception of the market in which the constructed and maintained reputations of producers provide a tangible basis for decisions. I have attempted to provide a theoretical and empirical justification for removing price theory from the abstract Walrasian auction or even game-theoretic scenarios and situating it in the tangible status order that underlies and circumscribes the actions of producers. In doing so, I have tried to provide a basis for the convergence of economic and sociological work on markets. As economists look increasingly to processes of

<sup>16</sup> It is difficult to imagine a circumstance in which the producer could derive no cost benefits but positive rents since risk on the consumer side would generate both rents and lower transaction costs for the higher-status producer.

retrospection in decision making (e.g., Kreps 1990), they can potentially gain from how social structure enters into the decision-making process. As the examination of the investment banking industry has been intended to indicate, a concern with status is not incompatible with a recognition of the importance of price theory. A "bidding war" exists among the banks, but the bidding war is embedded in a socially defined context. Only by taking this context into account can we understand the stability of markets when a higher-status producer can offer a good of a given quality at a lower cost than can a lower-status competitor. Status is, therefore, not simply an epiphenomenal reflection of quality. Rather, status exerts a strong influence on market outcomes by providing producers with different incentives to invest in quality and placing constraints on their ability to expand outside their niche in the market. Thus, just as status has been shown to affect behavior in interorganizational fields (Galaskiewicz 1985), so we have seen how status can inform our understanding of the market.

Yet, beyond providing insight into the paradox raised by the applicability of the Matthew effect to markets, this conception of market competition represents a point of departure for further sociological work on markets. One question of interest concerns mobility. The fact that preservation of identity is a constraining force does not mean that firms are unable to shift their position in the market. Mobility and a stable structure are no less compatible in a product market than in a labor-market context. Moreover, it is only once the underlying structure is made clear that the actual determinants of mobility can be accurately examined. Therefore, far from being in tension with a concern for mobility, this framework helps make such an examination possible.

A second issue of interest is to more explicitly incorporate the firm into the analysis of the market. As noted earlier, many firms are actively involved not just in one market, but across multiple markets. I hope the examination of the investment banks has indicated that a multimarket identity is not inconsistent with the dynamics posited by the status-based model. Nevertheless, an interesting question for additional analysis is how the status acquired in one market can be transferred to another market, as when IBM entered the personal computer market after being the dominant actor in the mainframe computer market. It seems reasonable to expect, particularly in young markets, where firms have had little opportunity to establish a reputation in that arena, that "imported" status could be particularly relevant to understanding organizational outcomes. More generally, such an examination could help pave the way for a more systematic understanding of change in markets.

A third issue of interest, which is also related to the issue of change, is the complex role of innovation in status-based competition. If investment

banking is representative of other markets, innovation is not only consistent with but partially responsible for the reproduction of the status order. The highest-status banks are the ones that are most able to successfully introduce innovations into the market, and the innovator role contributes to the perception of superior quality. Nevertheless, to the degree that a lower-status bank is able to successfully introduce an innovation into the market, the innovator role is a powerful means of mobility, as revealed most dramatically by the rise of Drexel Burnham Lambert in the 1980s. In extreme cases, innovation may lead to a change in the status order itself.

The incorporation of status processes into the understanding of market competition thus seems to provide considerable ground for the development and extension of a sociological approach to markets. Despite some important insights into market processes, current sociological work on markets has so far lacked any unifying concepts or themes beyond the pronouncements that social relations matter and that actors are not as atomized as specified in the neoclassical model. At a minimum, the theoretical conclusions and empirical findings of this article allude to the importance of status and perceptions as one such theme.

## APPENDIX

### Measurement of Status

For the purpose of this analysis, I collected the tombstone ads which appeared in the *Wall Street Journal* in 1981, the year before the six-year span covered by the SDC data base. During this period, there were 180 tombstones for investment grade debt issues. Having established the status of banks in this initial period, we can explore how the flow of issuers becomes distributed across the status positions in the following years.

One might argue that to assess the effects of status in the later years of our sample, we should collect not just the 1981 data, but also data from the following years. However, there are two reasons not to do so, one practical and the other theoretical. Practically, collection of such additional data imposes considerable cost and time demands, and there are good reasons to suspect that the returns from such additional data collection would be small. The fact that major shifts in status position are relatively rare events means that changes in any given bank's status over this period are likely to be minor. Moreover, we would expect that any bias resulting from the failure to collect the additional years of data would be in the direction of minimizing the observed effect of status. Hence, to the extent that the 1981 data have a significant impact on

economic outcomes in the later years, it would seem reasonable to infer that the effects of status would be no less significant if the later years were taken into account.

Even if the data were easily obtainable, a reliance upon the 1981 status scores is preferable to contemporaneous status scores. Status is relevant to market outcomes because it is decoupled from quality shifts. If status shifts perfectly mirrored quality shifts, then status would, for all practical purposes, be little more than an artifact of economic processes. In this particular case, the status order is relevant only to the degree that it helps to insulate perceptions of banks from shifts in determinants of underlying true quality. So, in the 1980s, the status order is a significant market structure only to the extent to which a bank's initial status insulates it from the beneficial or adverse effects of market changes. To assess how economic changes affect changes in status, we would of course need longitudinal data on the latter; however, if we wish to examine status not as a dependent but as an independent variable, the need for such longitudinal data is questionable.

One might argue that a drawback of this data is that the derived status scores are based more on the banks' perceptions of each other than on the perceptions of the issuers. However, two factors reduce the potential significance of this problem. First, since status manifests itself in the investment banking context in large part by lowering the transaction costs associated with the formation of banking syndicates, the perceptions of the banks themselves are highly relevant. Second, the assumption that perceptions of the competitors are highly correlated with perception of clients seems fairly plausible; but if the assumption does not hold, we should once again expect that poor measurement would weaken rather than strengthen the results.

Banks that made less than three appearances in the tombstones over the year observed were excluded from the analysis; 170 banks appeared in more than three syndicates. Invariably the excluded banks were relatively minor foreign banks that appeared in syndicate offerings because the issuer was based in their country.

If a strong principle of transitivity applied to the status ordering, we could simply rank the banks by those appearing above and below them. However, the facts that (1) the number of brackets varies from tombstone to tombstone and (2) there are minor fluctuations when a bank obtains an unusually small or large share on a given offering means that this simple procedure will not work for data obtained in 1981 even if it may have worked in an earlier period, such as that studied by Carter and Manaster (1990).

In making use of the tombstone data, I apply one of the standard

status measures for relational data on status, Bonacich's (1987)  $c(\alpha, \beta)$  measure. Formally, the measure is defined as follows:

$$c(\alpha, \beta) = \alpha \sum_{k=0}^{\infty} \beta^k R^{k+1} \mathbf{1}, \quad (1)$$

where  $\alpha$  is a scaling factor,  $\beta$  is a weighting factor,  $R$  is a relational matrix, which is 0 along the main diagonal and in which cell  $r_{ij}$  summarizes the relative superiority (or inferiority) of  $i$  with respect to  $j$ , and  $\mathbf{1}$  is a column vector of ones.<sup>17</sup> For the purposes of this analysis, a given cell  $r_{ij}$  is the proportion of times that a bank  $i$  appears above bank  $j$  in the tombstone ads in which they jointly appear.<sup>18</sup> Thus  $\beta$  was set at three-quarters of the reciprocal of the largest eigenvalue, though alternative positive values were examined and yielded no considerable substantive difference in the status scores. The parameter  $\alpha$  is standardized such that

$$\sum_{i=1}^n c_i(\alpha, \beta)^2 = n,$$

where  $n$  is the number of actors in the social system. Both the construction of the matrices and the calculation of status scores were programmed in FORTRAN, with certain IMSL routines being used.

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<sup>17</sup> Bonacich's  $c(\alpha, \beta)$  measure can alternatively be one of centrality or status. Bonacich (1987) notes that the interpretation of the measure is contingent upon the nature of the ties. If the ties are symmetrical, the measure is more appropriately one of centrality; if the ties are asymmetrical, the measure is more appropriately interpreted as one of status.

<sup>18</sup> If two banks did not appear together, an imputation procedure was used that is discussed more fully in Podolny (1991).

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