Pricing structure and structuring price

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Abstract

One of the longstanding problems for sociology is defining a stance towards economics. This is most evident in the way that economic sociology has addressed theories of price and the market. Sociologists have sought to address market behavior by distinguishing market forces from social forces. Here we argue that market forces are social forces that actors construct. To demonstrate this, we study how a firm adjusts price in a setting in which economic theory would predict that the firm members should reduce prices. We use economic and marketing models of pricing as a ground for ostensive routines. We then look at how firm members use those tools to develop performative routines through which they interpret the market. We argue that the need to adjust prices introduces a moment of what sociologists of technology describe as interpretive flexibility. At the moment of adjusting prices, the very process itself is up for negotiation. In response, firm members use the ostensive routines of economics and marketing, though not as an economist or marketer might expect. In the face of the need to respond to market forces, the abstract concepts of economics and marketing are used to interpret the market, define instrumental action, and structure the organization. Though the market outcome is what one would predict from economic theory, understanding price adjustment is best done with the theories and tools of sociology.
One of the challenges for organizational scholars and sociologists is defining a stance
towards economic theory. For example, Ferraro, Pfeffer, and Sutton (2005) have pointed (with
some consternation) to the “theoretical hegemony” of economics, evident in the significant and
widespread increase in the prevalence of economics in higher education and of economic theory
in the social sciences. The effect is that economic theory, whether it is correct or not, has come to
dominate behavior through institutional design, social norms, and the very language used to
describe market action, perhaps to the detriment of practice. Similarly, Ghoshal (2005),
borrowing a phrase from Hayek (1989), objects to the “pretense of knowledge” in management
scholarship, suggesting that economic models are inadequate to explain market behavior. And
Hirsch, Michaels, and Friedman (1987), noting that social scientists prefer clean models, warn of
the dangers of economic imperialism and caution sociologists to avoid imitating economics. In
their arguments, these authors reprise a longstanding set of complaints about both the descriptive
and normative value of economic theory. These complaints recur in the substantivist debates in
economic anthropology (Cook, 1966; Orlove, 1986), in distinctions between economic and
institutional environments (Scott, 1995; Bromiley, 2005), in Granovetter’s (1985) original
embeddedness argument, and even in economics in debates over the use of marginal analysis in
pricing (Baumol, 1959; Friedman, 1953; Hall and Hitch, 1939; Machlup, 1946, 1967).

For economists, the beauty of economic theory is that with a few simple and central
assumptions they can offer analytic insight into market outcomes (Cook, 1966; Gibbons, 1999).
Critics of economic theory consider these assumptions to be inadequate. From the standpoint of
economic sociology, for example, the core assumptions of economics, built around individual
motives and actions, must encounter the limits of economic individualism. Economic actions,
Granovetter observes (1985: 487), are “embedded in concrete, ongoing systems of social
relations.” Such social relations are mediated through political, cultural, and cognitive structures that shape action (Fliqstein, 1996; Zukin & DiMaggio, 1990). For Ferraro, et al. (2005) however, the problem is more than inaccurate theories. They argue that economic theories have become self-fulfilling prophecies, winning in the marketplace independently of their empirical validity. Economic language has become valued such that behavior has come to follow economic theory.

These normative effects on managerial practice are not new to organizational scholars, as the institutional literature demonstrates. Following DiMaggio and Powell (1983), a common claim is that institutional forces supplant competitive forces and firms adopt practices for symbolic rather than instrumental reasons (e.g., Tolbert and Zucker, 1983). A similar tension informs work on the sociology of markets as sociologists have grappled with distinctions between market forces and social forces (Stark, 2000; Krippner, 2001). Indeed, in one of the earliest applications of the institutional isomorphism thesis, Fliqstein (1985) compares different theories explaining the spread of the multi-divisional form, and finds economic explanations lacking in comparison to institutional explanations. Others have demonstrated institutional isomorphism in accounting practices (Mezias, 1990), in the use of CEO compensation plans (Zajac and Westphal, 1995) and in governance structures (Davis and Greve, 1997).

Institutional theory may offer a response to complaints about the increased normative power of economics, but remains at odds with complaints about the effect on behavior in organizations. Institutional theorists argue that managers can respond to competing technical and institutional pressures by decoupling ongoing organizational routines from normatively mandated practices (Meyer and Rowan, 1977; D’Aunno, Sutton, and Price, 1991; Westphal and Zajac, 2001). Yet while institutional theory may predict ceremonial conformance with institutional requirements, Ferraro, et al. (2005) point to empirical evidence that economic theory substantively shapes practice. For example, MacKenzie and Millo (2003) have shown that
the Black-Scholes formula originally was not an effective predictor of options prices; in the first months of options trading, before the use of the Black-Scholes model, deviations of 30 to 40 percent from the predictions of the model were common. The formula became effective for predicting options prices only after traders began to behave as if the theory were true, using the theoretical value sheets generated by the model to determine their bids. A decoupling story cannot fully explain this use of Black-Scholes; the formula clearly affected practice, thereby shaping market behavior in fundamental ways.

Part of the difficulty lies in institutional theory, at least in its received version. The institutional literature is predicated on two important themes. One theme is a tension between the instrumental and symbolic value of a practice. This tension lies at the heart of both the old and new institutional theory, evident in Selznick’s (1957: 17) statement that practices become “infused with value beyond the technical requirements of the task at hand” in contrasts between competitive isomorphism and institutional isomorphism (DiMaggio and Powell, 1983), in distinctions between efficiency and legitimacy (Zucker, 1983), and in distinctions between technical and institutional environments (Scott, 2001). A second theme is the social construction of reality (Berger and Luckman, 1966). As organizations must address increasingly elaborated rationalized beliefs and rules, the social construction process implies ceremonial conformity (Meyer and Rowan, 1977; DiMaggio and Powell, 1983). In combination, these two themes have yielded a sort of prototypical institutional argument, that practices progress from purely technical interventions to increasingly symbolic programs, valuable not for their technical merit, but for the legitimacy they provide. This insight has helped us to see that what we think of as rational or instrumental is socially constructed and has an institutional base (Dobbin, 1994).

But in dealing with economic theory, addressing the relationship between the instrumental and normative aspects of a practice remains a problem. One barrier is the nature of economic
theory, which tends to treat markets as the standard of technical efficiency. This can have a pernicious effect on the scholar seeking to understand the relationship between economic theory and market behavior, because it leads social theorists to take economic theory for granted. For example, Granovetter and Swedberg (2001) propose taking economic sociology to the heart of economics: price adjustment. The interesting research question, they argue, is whether “social forces or the supply-demand forces predominate in the formation of a particular price” (2001: 14). Such an approach subtly maintains the distinction between the technical, market realm, where efficiency explanations dominate, and a social, interpretive realm, where legitimacy dominates (c.f. Krippner, 2001; Stark, 2000).

A second significant barrier is the nature of the data that institutional theorists tend to gather. Field level studies quite clearly demonstrate mimetic isomorphism (e.g. Tolbert and Zucker, 1983) and decoupling (Westphal and Zajac, 2001). We therefore know that the original intent of the practice acquires additional social meaning. But work is both an instrumental and an interpretive activity (Barley, 1988). Field level data contrasting technical and institutional logics cannot help us understand how a legitimate institutional logic (be it existing or new) shapes the instrumental and interpretive elements of ongoing routines in the mind of organizational members. To understand the effects of economic logics (and language) on behavior, we need to understand how people take the language of economics into their behavior. We need to take seriously the problem of social construction and understand what people construct. One approach is to get our hands dirty (Hirsch, et al., 1987) by going into organizations to see that process.

In this paper, we seek to do just that. We enter a large, Midwestern industrial firm that produces parts to maintain machinery to develop a grounded model of how they use economics in adjusting prices. Following existing work in economic sociology (e.g., Baker, 1984; Smith,
1989; Podolny, 1993; Uzzi and Lancaster, 2004), we are interested in how social forces influence market outcomes like price. But we argue that while price is an important market outcome, it also serves as the signal of market forces to which firms must respond. Firm members must interpret that signal. At the heart of our study is a simple question: How do firms adjust prices? We neither seek to pit economic theory against sociology, nor do we seek to pit economic theory against behavior. Rather, we are interested in economic theory in practice. We argue that this is a problem best understood with the theories and tools of the sociologist. Like price theory in economics, we treat price as one—though not necessarily the only—piece of information that informs managers in their decisions about how to allocate resources.

**Price adjustment in theory**

We begin with the most fundamental of economic constructs, price, because much of the analytic power of economic theory stems from the abstract image of markets that generate prices. On the surface, price adjustment might seem like an odd place to understand a process of social construction. Few economic precepts are more taken for granted than the notion that markets determine prices. Moreover, few economic concepts offer so little social content as price. Neoclassical price theory is a highly stylized theory of market behavior. It presumes that social content is unimportant to market outcomes. It offers no theory of how prices work in a firm; simply a notion that they do work. In neoclassical economic theory, firms readily react to changes in market conditions by adjusting prices. A wide variety of changes may take place: changes in costs, supply, or demand, competitive entry or actions, change in technology, and so on. Firms incorporate those changes and adjust prices upward or downward. Classical economics assumes that because organizations are endowed with this ability to adjust prices, industries,
markets and economies can function efficiently. Much of the existing literature in economics takes this ability for granted, assuming this as a kind of innate organizational capability.

To a student of organizations, this seems like an unrealistic belief, and indeed, some economists acknowledge this. In economics the literature on the costs of price adjustment argues that price adjustment can be a complex and costly organizational problem. For example, Caplin and Leahy (1991) argue that price adjustment is a “very difficult, costly and time-consuming process,” Levy, et al. (1997) suggest that changing prices “is a complex process, requiring dozens of steps and a non-trivial amount of resources,” and Ball and Mankiw (1994, p.142) “suspect that the most important costs of price adjustment are the time and attention required of managers to gather the relevant information and to make and implement decisions.” According to Blinder, et al. (1998, p. 21) these costs have become “…one of the main strands of New Keynesian theorizing.” Yet it remains a problem about which, Blinder, et al. (1998: 4) argue, economists know “next to nothing,” even though “a small mountain of empirical evidence testifies to the fact that wages and prices adjust slowly to macroeconomic events.”

We suggest this is an area where sociology and organizational theory can contribute a great deal. Despite the centrality of market language in economics, White argues that “There does not exist a neoclassical theory of the market” (1990: 83, emphasis in original). Rather, economists have produced, very effectively, what White describes as “a pure theory of exchange.” Classical economics treated markets as concrete places, either a marketplace or a geographic region, in which people come together to exchange goods. With the marginalist revolution in economics, however, economists began to speak of a “perfect market,” with perfect competition and perfect information (Swedberg, 2003). In both economic theory and economic sociology, the central
image of markets is the neoclassical market model, whereby prices adjust to arrive at a 
competitive equilibrium between supply and demand (Milgrom and Roberts, 1992).

But dealing with what Krippner (2001: 775) describes as “the elusive market” has been a 
challenge for economic sociology. One approach has been to accept economic models and either 
treat the market as an asocial form of behavior that introduces tensions into other social behavior 
(Mingione, 1991) or treat the idealized image of the market as something that is more or less 
present (Block, 1990). The difficulty with these approaches is that they don’t help us understand 
the nature of market forces. Hence, another response in sociology has been both to make market 
exchange more concrete (e.g., Granovetter, 1974) and to situate market behavior better in social 
relations (e.g., Granovetter, 1985). This literature shows that social relations shape economic 
outcomes like price. For example, Baker (1984) shows that price volatility in option pricing 
varies with the density of social networks. Other research shows how price is affected by 
characteristics of the kind of market (Smith, 1989; Uzzi and Lancaster, 2004) and where one sits 
in the market (Podolny, 1993). These and various other studies have quite clearly demonstrated 
that social relations influence economic outcomes, and price in particular. Still, critics (e.g. 
Krippner, 2001) have argued that network studies have made the structural aspect of social 
relations paramount, such that other social forces are ignored. To understand how social 
structures influence behavior, we need to show how these social forces work.

**Price in practice**

We suggest that, rather than contrasting market forces with social forces or showing how 
sociological variables shape market forces, we treat market forces as social forces. We seek to 
brake down unquestioned assumptions—for example, that market forces, through supply and
demand, drive market behavior—to understand how managers construct those conceptions of control. As Cyert and March (1963: 2) argued, the firm “sees the market through an organizational filter.” Even if we accept that firms encounter market forces in price competition, the need to change prices presents an interpretive problem that firm members must address. For example, White treats production markets as “tangible cliques of producers watching each other” (1981: 543). What do they watch?

Answering that question opens up the problem that Fligstein (1996) addresses in his “markets as politics” metaphor. In Fligstein’s model, market competition creates both power struggle across firms and power struggle within firms. Market actors use “conceptions of control … to erect social understandings” that deal with both the price competition and the internal firm politics. For Fligstein (1996: 658) a conception of control is “a worldview that allows actors to interpret the actions of others and a reflection of how the market is structured.” Organizational members use those conceptions of control to propose actions that will aid in the power struggle across firms, but also as a means to position themselves in the power struggle within the firm.

If we apply this notion of conceptions of control to the question of how firms adjust price, then we introduce three subsequent questions. One question is what these conceptions of control are. Presumably economic theory should be relevant, but our theories of firm behavior have skirted economic theory. For example, in pursuit of a counterpoint to economic theory, Cyert and March (1963) bracket even the most basic economic principles, treating economic theory as a set of file drawers full of economic variables (folders) and factors affecting the variables (the contents of those folders). Their approach has been richly productive in breaking down the notion of the firm as a unitary actor, but neither Cyert and March nor subsequent scholars have opened those folders to see how firms practice economics. Instead, we introduce very stylized
models of economics, without the complexities that economists and marketers try to address. To get at the influence of economics on organizational action, we seek to open those file drawers and consider how the firm members construct and interpret economic variables.

To answer this first question, we use the contrast between ostensive and performative routines drawn from Feldman and Pentland (2003). Ostensive routines, they argue, define the aspects of a performance, while performative routines bring to life the routines in the various actors, actions, and situations. We suggest that marketing and economics professions play a big role in defining the ostensive routines. For example, pricing texts propose models and methods such as price elasticity of demand or price sensitivity, price experiments, conjoint analysis, economic value analysis, market segmentation, price perception, bundling, and Bayesian analysis (see Dolan and Simon, 1996; Nagle, 1987). Moreover, marketing theories of price suggest that firms must also attend to competitor actions, and suggest that managers must anticipate and influence competitor behavior, introducing game-theoretic models of price. In these models and theories, marketing and economics define a kind of ostensive routine (Feldman and Pentland, 2003), a normative model for setting price. That ostensive routine may be defined differently by various members of the organization as they draw on those economic images, each in their own way.

A second question is how those conceptions of control are situated in action. Performative routines are different than ostensive routines. As Hutchins (1995: 176) argues, the social organization has a substantial effect on both “the cognition that is the task and the cognition that governs the coordination of the elements of the task.” This is an important issue in the behavioral theory of the firm (Cyert and March, 1963), which deals with the goal conflict that emerges as different functional groups interpret market behavior. Rather than try to resolve that conflict,
Cyert and March argue, organizations instead “most of the time exist and thrive with considerable latent conflict of goals” (p. 117). The structures, processes, and routines of the firm effectively negotiate around latent conflict, thus sustaining the operating coalition. In this aspect, the behavioral theory comes up short in explaining major market responses. As Cyert and March note, the behavioral theory describes organizational processes appropriate to small adaptive changes; it doesn’t necessarily address more major changes. While the behavioral theory of the firm effectively shows us the contours of the conflict in an organization, it doesn’t help us to get to the substance of the political dynamics behind something like a significant price change.

A third question, then, is how conceptions of control (and hence the performative routines) shift as prices need to adjust. Fligstein argues that the task of responding raises questions about firm action as price competition also threatens to undermine the dominant coalition (March, 1962) that controls the internal politics of the firm. To do this, we draw on the literature in the sociology of technology around negotiated order (Barley, 1986; Orlikowski, 2000). We argue that a price change offers what Barley (1986) describes as “an occasion for structuring.” We want to understand the rules and resources that actors engage when adjusting price. We also want to understand how they engage economic theory as a conception of control. Because there are no physical properties to constrain the use of pricing technology, we are particularly interested in how individuals use the socioeconomic context to either constrain or shape the use of economic theories. Rather than focus on economics as prescribed, like Orlikowski (2000) we are interested in it as a technology-in-practice, a “behavioral template” (Barley, 1988: 49) that actors repeatedly construct and draw on as they engage in pricing activities.

We suggest that by treating economics as a conception of control, we can address both the instrumental and interpretive dimensions of the work of addressing market competition. The
instrumental elements define a logic of action in response to market competition. But while those instrumental models may aid in the science of managerial decision making, a variety of forces may drive them from their original intended purpose (Zbaracki, 1998). The challenge is understanding how conceptions of control work in action in order to understand how they affect both instrumental and interpretive action. For example, different groups in an organization may encounter different parts of the institutional environment (Heimer, 1999). A conception of control that reflects the local knowledge of one group may not fit a second group, leading to conflicting ostensive routines in the two groups. Economic models can also be used as symbolic resources (Espeland and Hirsch, 1990, to signal efficiency (c.f. Carruthers and Espeland, 1991) or to provide abstract knowledge to make claims over professional jurisdiction (Abbott, 1988). These latter effects do not deny the instrumental value of the economic models; they simply suggest that that instrumental effect is embedded in a broader social structure. The challenge is to understand how these instrumental and interpretive elements relate.

The crux of our argument is that if market forces are social forces, then we need to find out how they work, and that with the theories and methods of sociology, we are best equipped to do that. To get at those social forces, however, we need a setting in which they matter. While we agree that it is important to contrast the market with other social settings, to understand the market, we need to go where the market matters. Hence, rather than look for a setting in which market forces are weak, we seek a situation in which they are strong. The ideal situation, we argue, is one in which, given market forces, a firm must change prices. That is what we pursue next.
METHOD AND DATA

As part of a larger project addressing the costs and processes of adjusting prices, we studied the price adjustment processes of a large, Mid-Western industrial firm that manufactured parts used to maintain machinery. We chose the firm for the work that it had already been doing to improve its pricing processes. One of the members of the larger research project had been teaching pricing methods to firm members, and in response a pricing analyst invited us to study their pricing processes. The firm was already considered a national leader in its major product lines.

Data sources

Along with other members of the research team, we studied the firm’s pricing processes over two annual pricing seasons, and between seasons at both the firm and at several of the firm’s customers. We gathered data from multiple sources within the company, seeking themes across different activities in the price setting process. Our three main sources of data were interviews, non-participant observation and records data. Data collection for the first season was retrospective; we interviewed participants and gathered their stories about the pricing process. Data for the second season tracked the price-setting process as it occurred.

Interviews. We began by conducting ethnographic interviews (Spradley, 1979) with the employees directly responsible for defining and implementing the pricing strategy. In these initial interviews, we sought a detailed description of the price-setting process, including the tasks and participants, the data-processing requirements, the routines used, and the participants’ concerns. We then interviewed a broader range of participants, including the vice-president in charge of marketing, the director of sales, the marketing director, and various area managers for
the sales force as well as members of the sales force, various support staff responsible for maintaining pricing information, systems analysts responsible for maintaining the pricing systems, and former employees who had been central to pricing. (See Figure 1 for an organization chart showing the formal relationship between the different actors in the organization.) We also interviewed various customers, from whom we obtained detailed descriptions of how they dealt with price changes made at the focal firm. We sought to understand the relationship between the customers and the focal firm, as well as the relationship between the customers and other firms selling comparable products. In total, we interviewed twenty-seven informants. The interviews varied in length from 45 minutes to over seven hours. In many instances, we conducted multiple interviews, returning to interview informants until we had as complete a picture as possible of their perspectives on price-setting at the organization. We interviewed five informants twice, and two informants three times. We interviewed the main pricing coordinator nearly every time we visited the research site.

*Non-participant observation.* Along with some members of the research team we attended pricing meetings over the course of the second pricing season. We also observed various interactions among pricing team members while we were on site. In addition, various members of the organization demonstrated the computer resources and various other pricing tools that they used. While on site, we also observed the social interaction between the pricing team at headquarters. At the various customer facilities we visited the operations and also observed the interactions. Also, each customer provided a tour of its operations, so we were able to note the relationship between part sales and other activities at the distributors.

*Records data.* We collected different kinds of record data to provide information about price-setting actions at the organization: price lists for both pricing seasons, relevant email messages
among team members for both pricing seasons, and meeting minutes and supplemental
documents from the second pricing season. When available, we collected detailed records of
pricing activities and accounting information on the costs of pricing activities. We also collected
copies of special pricing requests (e.g., discounts and rebates off of list price) for several pricing
seasons. Over the course of the study and data analysis, we continued to contact the pricing
coordinator to clarify issues and to gather additional documents and information.

**Data Analysis**

Following the logic of grounded theory (Strauss and Corbin, 1990) our data analysis
proceeded in an iterative manner. We began with the question of how organizations use
economic methods. Given that firm members had been recently learning economic and
marketing tools for price adjustment and that the CEO had been hiring MBA graduates for their
expertise, we were particularly interested in how their economic tools worked in the pricing
practice. Two barriers to implementation of that expertise stood out. One barrier was the
complexity of the pricing process. For example, the sheer number of parts sold and of customers
purchasing parts made it very hard for pricing analysts to obtain the data that they needed. While
firm members could do the kinds of analysis a pricing expert might recommend, it was
prohibitively expensive to do such analysis for every part and every customer. A second barrier
was the variation in pricing models. One of the most striking findings was that each individual
we interviewed would present what seemed like a coherent and compelling, but different,
approach to pricing. For instance, the pricing director outlined a program that clearly followed
the prescriptions of marketing and economics. The sales force presented a different model of
pricing, equally compelling, but substantially different and often inconsistent with the director’s
plans. This second barrier was vividly illustrated when the firm greatly reduced the cost of one of its product lines. From the standpoint of economics and marketing, the “market realities” suggested that the firm should reduce its prices. In practice, the firm members showed a great deal more diversity in how they understood and approached the “market realities.” They agreed that price needed to decrease, but disagreed on how the firm should reduce price. Moreover, they disagreed on even the most basic economic elements: who is the customer, how the market should be segmented, and how the firm should take the price decrease to their customers.

The analytic challenge was finding a way to identify the source and nature of the conflict. The disagreement was reminiscent of the behavioral theory of the firm (Cyert and March, 1963) in that the conflict seemed to follow functional lines. Yet whereas the behavioral theory of the firm attributes such a split to goal conflict, in this case the firm members agreed on goals. They were fighting over how to achieve those goals. In addition, the behavioral theory of the firm brackets economics, focusing instead on ongoing organizational routines and coalitions as the means by which organizational members interpret the market. Yet the firm members were using economic principles throughout the process, sometimes explicitly and sometimes implicitly. The challenge was to find a systematic way of identifying how economic theory played a role in their arguments. Because firm members were oriented toward the problems they were trying to solve, the economic theory seemed to come in and out of focus. Moreover, because the firm had divided pricing responsibilities among various actors, different organizational members addressed different aspects of the economic models.

To ground a systematic analysis of how firm members used economic methods we chose a structured pricing model drawn from Nagle’s text (1987: 125—133). This model is representative of how most textbooks and classes teach the process of pricing (see also Dolan
and Simon, 1996; Monroe 2002). Each of the seven steps requires specific economic language and tools, which we explain below. (See Figure 2 for a flow chart of the model, with the relevant economic analysis in each of the steps.)

**Step 1 - Identify relevant costs:** Economic theory focuses on calculating the costs associated with each additional unit sold. These costs likely include production costs as well as the costs to sell an additional product. They are known as marginal costs, variable costs or incremental costs in the literature. Generally economic theory suggests that lower costs should lead to lower prices, *ceteris paribus*. Investments in plant, equipment, and process improvements can reduce these relevant costs. Note that this definition means that the relevant costs exclude fixed costs (for example, capital equipment). Economists assume that those costs cannot be changed and focus on the costs associated with each additional sale.

**Step 2 - Calculate margins:** In calculating the margin from sale, economic theory focuses on the contribution margin—the difference between price and the relevant cost. Either higher prices or lower production costs will increase the contribution margin of each additional sale.

**Step 3 - Evaluate customer price sensitivity:** Price sensitivity captures the impact of a price change on the quantity sold. Formally this is known as price elasticity, and is equal to the percentage change in quantity divided by the percentage change in price ($\eta = \frac{\Delta Q / Q}{\Delta P / P}$). The greater this number, the more customers are considered to be price sensitive. Economic theory generally suggests that greater customer price sensitivity will lead to lower prices. Note that there are many prices to which customers can be sensitive, including list prices, but also including promotional pricing including discounts, rebates, and coupons.

**Step 4 - Determine likely competitor response:** Economic theory suggests that when making price changes, firms must take into account their competitor’s prices. At a minimum, this would
involve comparing current prices with competitor prices. But firms might also assess likely competitor actions, often based on the costs, margins, and profitability of other firms. Firms might go still further and anticipate competitor response to firm actions. For example, if a firm chooses to raise prices, will competitors do the same? The relevant economic theory here is game theory, in which firms evaluate the economic incentives that both they and their competitors follow, and assess the best responses for each party. Another language firms use to address competition is differentiation and economic value. This tries to assess what value the firm offers above and beyond competitors’ offerings. This is also a way to assess the firm’s market position. Products that lack differentiation are referred to as “commodities”, and according to economic theory are more likely to be priced lower.

**Step 5 - Segment customers according to responses:** Economic factors such as costs, margins, price sensitivity, competition and other factors may vary across different groups of customers, causing firms to divide the market according to specific customer segments. Economic theory suggests that prices should vary across these segments. In the economics literature this is known as price discrimination. In practice, this can take various forms, such as versioning, bundling, and quantity discounts. For example, a firm might offer a larger discount to the customers that purchase the highest volume of products.

**Step 6 - Evaluate channel implications:** When making pricing decisions, firms must take into account the market channel to the customer. For example, a firm selling products through distributors needs to take into account the way that the distributors will respond to price changes. This includes the distributor price, as well as service, selection and other aspects of customer support. The distributor’s price reaction is known as “pass-through” in the economic literature. Pass-through asks if the firm decreases its list price, will the distributor lower the prices it
charges its customers, or will it leave the end price alone and pocket the difference? The distributor’s service reaction is also addressed in the literature on channels of distribution.

*Step 7 - Calculate profit implications:* Lower relevant costs make each incremental sale more profitable, creating incentives to lower prices. But the profitability of a price change depends on two variables: the effect on the margins (see step 2, contribution margin) and the difference in quantity sold (see step 3, elasticity). A price cut trades off those two variables. If a firm chooses to cut prices, the margins received from existing customers would decrease (lower contribution margin), but the additional sales (elasticity) could offset those lost margins. The profitability of a price decrease or increase varies with these competing economic forces.

Analytically, this framework offers two benefits. First, it offers a basis for defining ostensive routines (Feldman and Pentland, 2003). From the standpoint of economics and marketing, a firm should try to use these tools as comprehensively as possible. In practice, however, firm members must construct these tools for themselves. As a result, we can anticipate that the rhetoric and reality of practice will diverge (Zbaracki, 1998). By attending to the use of these tools, we can see what—if anything—firm members construct as they put the tools in practice. Second, from the standpoint of economic sociology, we know the firms must simultaneously construct both an external understanding of the market and an internal conception of control that supports that understanding of the market (Fligstein, 1996). By using these economic and marketing techniques to provide a sort of “tool view,” we can ground Fligstein’s conceptions of control to see how they relate to both external market dynamics and internal political dynamics. In the subsequent section, we use this model as a framework to delineate a model of the process of price adjustment, showing both the ongoing structure of the pricing process and the effect of a
major price change that leads to a battle over how the firm should structure its prices in the market.

**FINDINGS**

Pricing decisions were situated in a pricing structure which included several elements: the firm, its products, its prices, its distribution channel, the market, and the pricing processes. Those structures and processes formed the behavioral template that influenced many of the firm members’ market perceptions. For modest price changes, they worked well. But major price changes introduced what Bijker (1995) calls “interpretive flexibility,” and those structures and process were up for negotiation. In this section, we first present the ongoing pricing structure. We then show the effects of a major price change as the firm members must restructure price.

**Pricing structure**

**Context**

**Firm structure.** The aftermarket group was run by a vice-president for the aftermarket business. Working for him was a director of pricing and a director of sales. The director of marketing managed various pricing analysts. The director of sales managed the sales force, which included several area managers who in turn managed territory managers in different regions of the country. (See Figure 1 for an organization chart.)

**Structure of the product line.** The firm sold nearly 8000 parts across three product lines. On the core product line the firm was the acknowledged market leader. That product line derived from the products the firm sold when it had been founded, and the line sold in the greatest volume and for the highest margins. On a second line, the firm was less competitive, but still produced reasonable margins. For the newest product line, however, the firm purchased
products from a competitor and resold them under its own label. As a result, a distributor said, “I could go in and quote a customer on [the core product line] and knock the doors off them but when it came to the [newest line] I couldn’t come close.”

**The structure of price.** As in many industrial settings the firm used both of what Eichner (1987) defines as “list” and “transaction” prices. Pricing activities began with a price list which was set annually and then distributed to all distributors and dealers. The firm then negotiated volume discounts and rebates to address market conditions. Discounts and rebates varied from customer to customer, but generally the higher the volume a distributor sold, the greater the discount. This structure was typical of the market in which the firm sold.

**Structure of the channel of distribution.** The aftermarket group sold products to about 1400 different customers. Most of those customers were warehouse distributors, firms that resold the products to end users who needed replacement parts. The firm also sold parts to the original equipment manufacturers, who installed the parts in the machinery they shipped. The study addressed primarily the market for the components sold through the various value-added resellers. These distributors faced considerable competition from consolidating distributors and from end users buying directly from the firm.

**Market structure.** The company was a market leader in its industry. The firm has a reputation as a high quality producer and as an innovator in these markets. At the time of the study, members of the firm were concerned with a weakening market position across all products. Primarily, they were concerned that the differences between their products and the products of their five major competitors had diminished. That meant that the price premium that the firm could charge had decreased, and so margins decreased. In response, the members of the firm had begun to question the value provided by the products, by the service groups, by
the distributors, and even by the sales force. They also began to explore new product and service offerings that might increase their margins.

**Structure of the process.** The firm divided the pricing process between marketing and sales, who set price in a sequential process. The marketing group set list prices, standard discount structures, and procedures for handling exceptions. The sales group then negotiated discounts for individual bids. This is consistent with the behavioral theory of the firm, which suggests that firms address multiple goals by dividing organizational processes between different groups in standard operating procedures (Cyert and March, 1963) or routines (Nelson and Winter, 1982). The standard operating procedures include elements of the ostensive marketing model, though the sequence diverges from that model. Figure 3 presents an abridged flow chart of the process, showing the relevant steps used from the ostensive routine. In practice, even that process was followed loosely. Managers often merged many of the economic ideas together or used simplifying heuristics, as they frequently lacked the data or tools to be able to do complete economic analyses. As one manager said, “To say there was a defined process would be a lie. I would try to get the cost, sales analysis information and try to gather with the little experience I had on competitor information to come up with what I knew people had budgeted for as a price increase.” (See (self-citation omitted) for a more detailed version of this process.)

**Marketing: Setting list price.**

**Step 1: Data gathering and high level price discussions.** In anticipation of the formal price adjustment process, an analyst from the marketing group began to gather various data about the prior year. The data could be used to calculate identify relevant costs and calculate margins (steps 1 and 2 of the ostensive model) and to evaluate the competitor response (step 4 of the
ostensive model). That data included the firm’s past year list prices, quantity sold, and major price changes, as well as current product costs. For competitors, where possible the data included price lists, discount structures, and quantity sold. The marketing group depended greatly on members of the sales force for competitor price information, which they gathered from the distributors with whom they had good relationships. The pricing director said, “We kept all the competitors price lists when we could get our hands on their market price sheet, as they published it just like we did … and we could find out the discount structure of our competitors that way.” The pricing analysts for the firm assembled that data into a data base which the pricing team could then use to analyze the firm’s market position.

Meanwhile, the list price adjustment process began with what the director of pricing described as “high level price discussions” as senior managers created targets for different economic goals, including revenue, profitability, and market share. In this discussion, they addressed the profit implications of the price change, step 7 of the ostensive process. For example, a manager said that “the business units would meet with the CEO and in negotiations they would come up with which business unit has what expectations for the coming year in terms of profitability dollars.” Similarly, the director of pricing said that the management team “wanted us to have more aftermarket business as a company. They were heavily invested in OE [original equipment products] and wanted xx amount of revenue and 30 percent of the share.” In these discussions, list price had meaning beyond the effects on customers and competitors, because it was used to estimate revenue and profitability for the firm.

**Step 2 – Evaluate competitive position.** The formal pricing process began each fall when a pricing manager assembled a pricing team to consider list prices for the coming year. With the goals set by the senior managers in mind, the group members began to consider the firm’s
market position, a process related to step 4, competitor response, in our ostensible pricing process model. The managers wanted to gauge where they stood in the competitive landscape, and how their offerings fared relative to competitors in terms of price and performance. The following discussion, drawn from a meeting on Latin American pricing, illustrates the content of their analysis.

Latin American representative: If we wanted to break it down by product classification I think [our traditional line] would justify a couple points more in the spread, whereas [our newer lines] might need to be a little closer to the [Competitor 1] target price, if not right even with them. [On our third line, our product] justifies a little bit higher premium than any [Competitor 1] equivalent. 5 percent is the average goal that we would like to have.

Pricing analyst: Are you saying that on an average basis you are within 5 points up to [Competitor 1’s] price, the net price, you can take the business away from [them] or that you are able to take it away from another competitor?

Latin American representative: I am on equal ground to compete against [Competitor 1].

Pricing analyst: So you are saying customers will value [our product] more than [Competitor 1] or is that just because they like your pretty face?

Latin American representative: That is what I would like to think. For example, in regards to the national brands the premium is justified because of the quality issues. [Competitor 1] is the main part that we are competing against and based on the quality presentations that we provide—and I am taking into account changes—we can fight with the 5 percent.

Pricing analyst: This is interesting. In the states typically for [our traditional] product we dominate in the leadership. We are able to command a higher price. On these other
products in the states [Competitor 1] typically demands that premium perception and they are able to command a higher price than us.

The example demonstrates several features of the group’s approach to analyzing competitor position (c.f. White, 1981). First, the analysis addressed list price, which the marketing group considered the most effective signaling tool. List prices were distributed to all distributors, so a list price cut was the most visible and the easiest for competitors to interpret. Second, when the analysts discussed market prices, they considered aggregate prices. Although the data bases included prices for all products the marketing group tended to address aggregate price information. Third, rather than address all competitors, the analysts tended to select particular competitors for comparisons. They targeted these competitors to read and send signals about competitor’s intentions and likely future actions in the marketplace. Fourth, in considering market position, the analysts sought to understand how their product could be differentiated from competitors. In this discussion, they considered product value in terms of quality and cost.

Behind such discussions were more detailed market position analyses. For example, the director of pricing described his perspective on the firm’s product differentiation and value relative to their competitors. He said, “I also spent an awful lot of time managing the testing of competitive products and slowly and very surely there is no obvious differential between the products.” As a result of his studies, he said he concluded that it was a commodity market. His analysis meant that he believed that price was important to maintain a strong market position. He said, “We need to be more competitively price, good value if we are going to get at the 30 percent market share that you set down. …To gain market share we have to be seen as good value.” That perspective would figure prominently in later pricing discussions.

**Step 3 – Evaluate customer response.** Given a perspective on the market position of the firm’s products, the pricing team also considered how customers would react to a price change. They
needed to understand how price changes would affect sales volume. This is similar to step 3, price sensitivity, in the ostensive pricing routine. These discussions incorporated only very broad market terms, but were grounded in the ongoing work of the marketing group. Again, the marketing group considered list price. They believed that list price cuts were the most visible prices in the marketplace. These were the only published prices, as all distributors received hard copy and electronic data files of list price. Moreover, distributors often showed their list prices to end customers to justify the prices they charged.

The analysis did directly include price sensitivity language. Consistent with their views on market position—the differentiation and value discussed above—they believed that the entire customer population was price sensitive, meaning that they believed that a price change would have a significant effect on aggregate customer purchases. The director of pricing said this quite directly: “It is a highly price sensitive market. No question in my mind about that.” He didn’t have any clear market data to demonstrate that belief, however. When we asked whether he had data to support that conclusion, he said, “About a million price quotes that it is all about price.” Given that most of the annual list price changes were relatively small price increases, there was little need for detailed data on customer response to price changes, especially given the complexity of the pricing process.

**Step 4 – Calculate cost and margin implications.** In the end, price adjustments had to be profitable for the firm. Insuring profitability required that the pricing analysts assess the cost, margin and profitability implications of a list price change. This analysis integrates steps 1 and 2, identify relevant costs and calculate margins, and step 7, calculate profit implications, in the ostensive pricing routine. Over time the firm had developed a variety of what Callon (1998: 23) describes as calculating tools to aid in this analysis. For example, using the broad guidelines they developed in the meetings, the director of pricing might impose an aggregate percentage increase
on an entire product line and then compare the firm’s list prices against the various competitors, possibly adjusting individual part numbers to reflect perceived deviations from the market. The pricing analysts would then compare the prices against product cost to make sure that the margins on the sales would be sufficient. For a more detailed analysis the marketing group had developed a “market basket” of 100 of the most popular parts for each of the three major product lines to determine the financial implications of a price change. The vice-president explained the logic that determined the content of the market basket: “So if we have some five or six thousand part numbers of replacement [parts], I know that 100 part numbers on [one] side of the business account for 95% of the volume, and within that probably 30 or 40 [part numbers] account for most of that, so you can bring it down pretty quickly.” For those parts, the analyst looked at the sales volumes for the previous year and a rough estimate of the average discount for each of those products to arrive at an expected sales price.

Given the broad market prices and the specific prices on the market basket, the analyst would calculate aggregate effects, iterating so that the prices met the firm’s goals. These were more than just the profitability goals of the ostensive model, however. They normally addressed at least three major company goals—market share, profitability, and revenue—developed at the “high level pricing discussions.” An analyst said someone would ask her “What is going to happen if we go up four percent?” In response, she “would crank in a four percent difference in the spreadsheet and then you would get a weighted average difference of the profitability and/or sales, too.” If the differences in list price were insufficient, the analysts iterated until the price changes fit both the internal goals and the market perceptions. The list prices then would, in theory, allow the firm to make its internal goals.
**Step 5 – Presentation to upper management.** Once the iterations were completed, the marketing group then prepared a price list. Before distributing it to the customers, however, they presented the proposed prices list in meetings with the director of pricing and the vice-president for aftermarket for approval. Discussions, questions and suggestions from this meeting were then incorporated and the pricing team went back and re-adjusted prices. This process continued iteratively until they converged on a set of price adjustments they could live with. Those prices were published and presented to the sales force and, in turn, to the firm’s customers.

**Sales: Negotiated price.**

The sales force began their price adjustment work each fall after the annual sales meeting where they received the new price lists. The sales force used the list price as the basis for negotiating discounts, rebates, and special terms. These discounts and other pricing terms allowed the sales force to take into account market variation that aggregate analysis could not address. Price negotiations could occur at any time during the year, but the new list prices were an important signal and most negotiations were done during this period. As with the list price process, the negotiation process was iterative. It also varied by sales person and customer.

**Step 1 – Kick-off meeting.** After the pricing season the vice-president for aftermarket would call a meeting to present the price list, the current market strategy, the logic behind the price changes, and the profitability, revenue, and market share goals to the sales force. Although representatives of the sales force participated in the list price process, they received the formal results at the annual meeting (and sometimes were surprised by the outcomes). A member of the sales force said, “That is when we talk about strategy. This is one of the things that would come out of there: we need to change the pricing and need to get more aggressive and we need to do
this and that.” Besides presenting new prices, the vice-president used that meeting for a variety of purposes, including presenting new production facilities, addressing problems with production, and presenting new strategies. After the meeting, the sales force began its work.

**Step 2 – Evaluate distributor effects.** In this step the firm addressed step 6, channel implications, in the ostensive model. Given an existing customer base, the sales force had a good sense of how list price changes would affect the distributors—and how the distributors would respond. When faced with a new price list, the sales force would therefore evaluate the effects. The sales force considered distributor costs (and margins) given the proposed list price. Distributor profits depended on the difference between the price for which they purchased products and the price at which they sold those products. They justified that difference based on the services and other value-added activities that they might provide. For example, the firm relied on the distributors to seek out new end users who might purchase the firm’s products. When they received a lower price, the distributors might be able to increase their business. Conversely, a significant price increase could indeed affect their profit margins, so distributors complained when they believed the firm’s prices cut into their profits or prevented them from competing for business. A pricing manager said distributors might complain about a price change or request a lower price, saying “‘We are a loyal distributor,’ or, ‘You have to make me more competitive.’” The task for the sales force was to analyze how legitimate such complaints were. That meant analysis of the specific customer circumstances.

**Step 3 – Evaluate customer circumstances.** This step was how the sales force addressed step 5, market segmentation. According to the sales force, customizing the price to the particular needs of the distributor was the essence of what they did. In considering the implications of a price change, the sales representatives needed to be very sensitive to differences in different distributor
circumstances. Depending on the competition in the specific market, customer pricing needs could vary substantially. Some distributors sold only the firm’s products, so they would have to respond to competing distributors who sold other products. More sophisticated distributors sold competing products. If the firm didn’t offer a competitive price, the distributor sold the competitors’ products instead. Similarly, depending on the region, the products that the distributors needed to stock could vary substantially. Costs also varied by distributor and region. When calculating a bid, the discounts, rebates, and special terms the sales representative offered varied by the size of the deal and by specific customer circumstances. The pricing terms allowed the sales force to divide the customer population into segments based on order value.

Customer circumstances sometimes needed to address the fairness of the deal. For example, in some situations a sales representative might sell to two different distributors in the same city. As long as they had what a sales representative called “level parity”—that is, both distributors paid the same for the firm’s products—there was no problem. But a sales representative said if two distributors in the same market paid different prices, “That is when conflict is very tough. Because if it is level parity, you can say, ‘Hey the customer chose. He is willing to live on less margin than you.’ And you have to say those things. But when in your gut that is not the real case, you can’t tell them that.” As the example shows, the sales force also used calculated economic criteria—here, money out of their pocket and profit margins—to evaluate the significance of an emotional reaction.

**Step 4 – Evaluating the bid.** In this part of their price adjustment process the sales force incorporated versions of step 4, competitor response, and step 3, price sensitivity, from the ostensive price adjustment routine. These are out of order because the sales force considered competitors when faced with another bid. While the marketing group positioned itself against
other firms, the sales force saw competition as whoever might take a contract with a distributor. Given specific distributor circumstances, the sales force needed to determine how to secure a bid. A pricing manager explained: “I get phone calls and my salesmen in NY say this distributor has an end user he is doing business with or wants to do business with that [a major competitor] has been in there and they want to sell them at [40 percent off of list] and we have the business at [30 percent off of list]. What can we do? And I have to make that decision. What are the factors?”

Faced with such a distributor request, the sales manager needed to determine whether a customer was at risk. This meant evaluating customer price sensitivity, for which members of the sales force used various criteria. One important criterion was the emotion in the distributor complaints. For example, a sales representative said, “The only time it was an issue is when—a lot of it is emotion—but when they lose sales it gets bad because you took money out of their pocket.” The sales force used the emotion to distinguish between the ongoing complaints about prices and the complaints about price changes that really presented distributors with a problem. Other criteria related more to costs and margins are addressed in the next step.

**Step 5 - Relevant costs, margins, profitability and other goals.** When calculating pricing terms, the sales force had their own version of step 7, calculate profit implications, from the ostensive price adjustment model. The sales force had two added complications. One complication was that, as for the marketing group, profit margins were not the only economic criteria that figured into the decisions of a sales representative. Consider the following instance in which a sales representative described how he would evaluate a customer’s deal:

There is a distributor in New Jersey with [replacement] parts. … We need distribution in that area and they have a good reputation … They have a high percentage of their sales through [low-profit parts], but they also sell other [high profit parts] and that is where we were most
interested in growing that business. Well we need to give something in the case of [their low-profit parts]. We gave them the competitive price, but we benefited with the other business.

So overall it became a good distributor. They are now a half a million dollar distributor. In this quote, the sales representative evaluated three dimensions of the distributor, all of which related to firm goals. One dimension was the reputation of the distributor, which was an indicator of the value that the distributor could add. A second dimension was the profitability of the parts that the distributor sold, which is a direct measure of what the deal with the distributor would add to the firm’s profitability goal. A third dimension was the overall revenue the distributor produced, which is an indicator for the market share goal. These were the same goals the marketing group used across the entire market to set list prices, but cast to the individual distributor circumstances.

A second added complication for the sales force was that they needed to balance the firm’s profit margins on the products sold against the distributor’s profit margins. An incentive plan encouraged the sales representatives to consider the firm’s profits on a bid. A sales manager said that the sales representatives were “paid more on sales,” but their managers were paid for “a combination of sales and profitability.” The marketing group also controlled the structure of the prices. Members of the sales force began negotiations with a standard discount set by marketing. Exceptions to the policy could be made, but those exceptions required that the sales representative submit a request for special pricing for approval. The approval policy asked that the sales representative submit a detailed report. Depending on the size of the discount or rebate, the approval process went to higher levels of the hierarchy. A sales manager explained:

My 5 guys have a certain level they can go to without calling me. When they get to the certain point they have to get my approval to quote that kind of price level. Then I have a
price level before I have to go to [the pricing manager]. And we have a written policy on that based on profitability. That can range from by part number to by quote because if you are quoting one part number you still have the same policy to follow. If you have 100 part numbers it rolls to that same policy.

The approval process drew the attention of the sales force to the various firm goals. For very complex bids, the sales force often brought in the financial analyst to help with the calculations. For example, when a distributor demanded one of the deepest discounts the firm had ever offered, the director of pricing brought together a team that included the territory manager, the area sales manager, and the financial analyst to show that the returns on past discounts didn’t justify the deeper discount.

**Pricing structure: summary**

The ongoing pricing process covers the economic criteria by allocating jurisdiction over different aspects of the price adjustment process to the marketing group and the sales force. As a solution to the ongoing problem of price adjustment, this process was fairly effective. Moreover, even after opening what Cyert and March (1963) call the file drawers of economic theory, the process was also quite consistent with what one might expect from the predictions of the behavioral theory of the firm. The process allowed local rationality to take precedent when necessary: first the marketing group could deal with the broad market trends and then the sales force could deal with specific exceptions. There was little need to engage in the latent conflict between the groups, so the firm could make ongoing price adjustments at minimal cost. And the process stored market knowledge through the procedures of the two groups. The structure, process, and routines that the firm had designed worked well for the firm’s typical modest three
to four percent price increase. More major changes were a different story, as the next section

demonstrates.

**Structuring price**

During the study, we encountered a price change large enough that the firm was unable to
maintain the coalition that worked so effectively for small price changes. On their newest
product line, the line that they had been purchasing from another firm, the vice-president for
aftermarket products had persuaded the board of directors to commit the largest capital
investment in the firm’s history, more than $20 million, to build new facilities that would reduce
labor costs. One facility had an automated production line. A second facility was developed
outside the country to take advantage of lower labor costs. The result was a thirty percent cost
reduction for that product line, and a chance to reduce price significantly.

If we return to the ostensive pricing process, all the tools suggest that a price decrease would
be appropriate in this situation. (See Figure 4 for a summary.) Given the substantial decrease in
relevant costs, the potential margins—the difference between costs and prices—have clearly
increased. Both the marketing group and the sales force agreed that the customers were price
sensitive, so a price decrease would lead to increased quantity sold. Moreover, both groups, in
looking at the firm’s competitive position, agreed that there was little difference between
various competitors’ offerings on that product line. They also agreed that the firm’s prices were
generally higher than its competitors for that produce line. Even if competitors responded with
their own price decrease, the firm would be in a better position. A price decrease would help
across all product segments and through the entire market channel, from the firm to its end
users. In the end, the firm should expect greater profitability. In short, all factors in the ostensive
routines seemed to favor a price cut and organizational members nearly universally acknowledged the economic forces shaping this decision and the need to cut prices.

To implement this price cut the vice-president for aftermarket created a pricing team which he said included “both field [sales] and inside [marketing] people.” That, he said, was “the only way to build consensus on both sides.” He asked them to decide what to do with the prices on the newest product line: “When I gave the initial presentation I laid out a number of different scenarios that they could look at and various ways of how things might look at the end of the day, but I had no ownership. I put them out so they could understand the range of things that they could look at.”

When faced with the task-force mandate, the coalition was torn apart along functional lines. The marketing group and the sales force each had a different idea of how to structure the price cut. The different ideas followed directly from their individual standard operating procedures. Members of the marketing group proposed lowering list price by nearly a third. The director of pricing described their reasoning, saying, “I believe the velocity [high volume] parts are driving the market and I need to present to my end users that we have really great value on these part numbers.” Members of the sales force believed that while a price reduction was necessary, it could be implemented more effectively with appropriate discounts, because it was more likely to be passed on to the end user when necessary. A member of the sales force said, “Now we could have given that in the form of a discount or growth program. A lot of different ways to get the impact that you want.”

Figure 5 shows the contrasting positions and how they relate to the ostensive pricing process. There were no differences in their goals going into the price cut. Both the marketing and sales groups accepted the vice-president’s new product line strategy. The firm had previously
purchased those products from a competitor, so both groups also agreed that the new facilities reduced the relevant costs. The marginal cost of each product was now clearly lower. That in turn meant the margins for all the products in that product line were clearly higher. Beyond those basic facts, however, the two groups diverged. To understand the differences, we need to consider how they constructed the remaining elements of the ostensive price adjustment process.

The dispute

The logic of both groups followed from their standard operating procedures. (In Figure 5 the marketing logic is summarized on the left side and the sales force logic is summarized on the right side.) As addressed above, the marketing group considered the end users the customers and believed that they were sensitive to price changes, especially list price changes. They also believed that there was little product differentiation. The director of pricing said that the competitors had already addressed the lack of product differentiation by creating a production and pricing system for the high volume parts. He said, “Our competitors had been set up to go screaming down their production line. When you went into almost every customer those were the parts they asked you what the price was.” In response, he wanted to price aggressively on those products. He felt that they had been deficient in how they used list price to position themselves against their competition (c.f. White, 1981), especially for high volume parts. A lower price would signal to competitors that the firm was serious about competing on that product line.

Sales force members were puzzled by these assumptions about customers. First, they were puzzled by the end user focus in setting prices. For the sales force, the distributors were clearly the customer. One sales representative said, “I had trouble myself understanding if the end user is the customer, how could you not call on the customer? And if the distributor is not the customer, then why are we calling on them?” Second, they didn’t believe that the customers
were sensitive to list price. “In our industry the list price doesn’t mean anything to anybody,” said one sales manager. The sales force believed that customers were sensitive to discounts, because price was determined in negotiations with distributors about the acquisition price.

The sales group was also much more attuned to differences between customers in the marketplace. They assessed competition at the level of the individual bid, rather than the marketplace as a whole. For example, some distributors purchased very few products from that new line; for those customers, despite the desire to create a value perception, the lower prices would have no effect at all. For customers who bought large volumes of that product line, however, the price cut would be essential. To understand the competitive landscape, one sales manager said, “We have to go in and say, ‘What are your top numbers? OK, what drives your business?’” A sales representative could then position their bids against competing bids and arrive at a discount off of list price for the set of products the distributor sold.

This approach allowed the sales force to segment the market. The sales representatives argued that the sales people could customize the price to the particular needs of the distributor; that was what the sales force did. A list price might be a useful starting point, but the task of the sales force was to provide a discount structure dealt with the varying customer circumstances. Discounts were useful when the firm needed a particularly competitive price, but otherwise prices could be left higher.

In contrast, the marketing group grounded their approach in the perception of the customers that had developed over years of looking at aggregate market behavior. The director of pricing had said that the market data they had gathered demonstrated that “the people who did know about us considered us one thing: high price.” The marketers believed that the customer perception of high prices reduced sales, so, as a financial analyst said, “Our belief was that if we
wanted to drive volume we needed to get a price reduction to the market”. Aggressively reducing list prices and “promoting the hell out of it” were the best ways to accomplish this.

They believed that list prices were the most visible prices in the marketplace. This visibility increased the awareness of the price cut across other distributors. Distributors knew that list prices were the same across other distributors, although discounts, rebates and other terms could vary. So a list price cut would be seen equally clearly by all distributors. Perhaps more importantly, list prices are most visible to competitors. This made list prices the easiest to identify and interpret, making list price a more effective signaling tool. Discounts, rebates and other pricing terms were too customer-specific and too fragmented to effectively signal a new market position to end customers and competitors. Moreover, distributors might pocket the discounts rather than passing them on to end users. A well-publicized list price reduction would ensure that end users knew about the price decrease, creating pressure for distributors to pass on the price cut or risk looking bad in their customers’ eyes.

The sales force disagreed. They argued that the distributors had no reason to pass on a list price reduction. A member of the sales force said, “If I am a distributor and I am already selling to this guy and [you] lower my [list price] do you think I am going to pass that along to this guy? I don’t think so. I am going to put that in my pocket. So what did it gain us? It cost our company money.” They wanted to pick price reductions that targeted customer circumstances, so that they knew the price reduction would be passed along, because competitive forces would mandate the lower price to the end user.

The sales force argued that list price reductions, because they are given to all distributors, wouldn’t address market segment differences. A sales representative said a list price cut would mean that “80 percent of our business we lowered for no reason at all.” Because competition varied by market segment, many customers didn’t need a lower list price. In terms of the
ostensive routine (step 7, calculating profitability) the lower list price meant lower profits on the existing sales. As the sales director said, “when you change it with it up front [list price] then you’re limiting yourself. You’re right off the bat giving away some profitability and hoping you get the return with increase in margins or volumes.”

The marketing group recognized this concern, but their logic of price sensitivity meant that higher volumes for the entire market would make up for the lower price. They expected both revenues (total volume sold times price) and profits (because of the higher volume and the lower cost) to go up. The marketing group analyzed the effects of the price change on profits, but they didn’t have data to calculate price sensitivity. For smaller price changes, it hadn’t been a concern. As a result, the consequences of the price change on volume sold, revenues, and profits were perhaps the greatest uncertainty of the marketing plan. Even the pricing manager who was one of the strongest advocates of lowering list price said, “I am afraid right now and concerned about our ability to gain the volume back in the first year, quite honestly.”

**The two views in comparison.**

The different approaches reveal a great deal about the difficulties of making significant changes in price. The firm members agreed that costs had gone down, agreed that customers wanted a lower price, and agreed that the firm should reduce prices. Nevertheless, they disagreed over the meaning of even the most fundamental economic terms. For example, they disagreed over the definition of the customer. The director of pricing said of that dispute:

This discussion goes deep. There is a strong belief from the sales force of few people that the customer was the reseller. There is a strong belief [in marketing] that the distributor was the channel and we had to figure out how to make this a more effective
way of getting the product to the end user and that wherever we positioned ourselves we wanted to be good value more than anything else.

They also disagreed over the meaning of price. For the marketing group, price meant list price. For the sales force, price meant the acquisition price or the list price. And while they agreed on the importance of the firm’s goals—market share, revenue, and profitability—they disagreed on the meaning of the goals. For the marketing group, these goals had meaning only when aggregated across all customers and through across all distribution channels. For the sales force, the goals had meaning for each individual bid. Moreover, when confronted with the possibility that a lower price might reduce the firm’s profit margins (and thereby threaten the margins goal) the director of pricing redefined the goal, arguing that he was concerned about total profit, not profit margins.

These differences threatened to extend much beyond simply determining the structure of price. One effect of the differences was questions from members of each group about the contributions of the other group. For example, the marketing group believed that the discounts were a costly process of setting prices and out of control. The director of pricing described the sales director and one of the sales managers, who supported leaving list price alone and using selective discounts to reduce price, as “champions of high price.” In turn, the director of sales questioned the value of the marketing group, saying “Anyway, what you have in my opinion was very minimal experience with this industry [in marketing] up against people with a lot of experience in this industry.” As one member of the headquarters said, it became an “emotional issue”—so much so, that a pricing analyst commented on a meeting of the pricing team where “there was one argument on Tuesday morning that I thought they were going to throw punches.”
The vice-president’s decision

The task force handed the vice-president a recommendation to reduce list price, backed by dissenting opinions over what he described as the “biggest knock down, drag out” dispute. The large price change had amplified the latent conflict. He saw the logic of both sides. He agreed that the firm charged high prices for the new product line even though there could be little product differentiation on a product that they had been purchasing. He dealt with both end users and distributors, so he was familiar with the issues for each group. And he recognized both arguments on the risk that the lower list price wouldn’t be passed on to the end users. He saw a role for both list price and discounts, and readily used both, depending on the circumstances.

A recommendation to lower list price was, he said, “probably not what I would have gone with.” The recommendation threatened his revenue goals, which were critical given the $23 million capital investment for the new production facilities. As he said, “Each July I get the wonderful opportunity to stand in front of the board of directors and talk about our strategy.” Whatever the disputes about the meaning of list price to customers, list price had clear meaning inside the firm: it was used to measure revenue for that strategy. There was little formal evidence that demonstrated the customers were truly price sensitive and there was no formal elasticity analysis built into the process. Neither the lack of evidence nor the lack of formal analysis is unusual for a firm of this type (as in the example in Nagle, 1987 that serves as the ground for the ostensive price adjustment routines). With the price cuts, however, the vice-president would have to project the same volume sold as the past year, but at the lower price. The revenue projections would not meet firm goals, an embarrassing prospect for him.

In response he agreed to lower prices on the high volume parts and said that “all other parts … would have no change in price.” He made one change to the recommendations. He said, “We
had to have this thing revenue neutral.” To accomplish this, he said “I kind of preempted the pricing on [our traditional product line] and raised that price by four and a half percent.” The effect was that the list prices and thus the revenues on the old product line increased. The projected revenues would meet the revenue plan.

The vice-president’s decision had ironic effects. The coalition had broken down over how to lower list price, but it reformed in response to the vice-president’s decision. The decision gave the director of pricing the outcome that he wanted on the new product line. But to accomplish that, he had raised list prices on the older product line, and for internal reasons alone. Both marketing and sales agreed that the increase in list price for the other product lines was a bad pricing decision; it fit neither of their logics.

In the end the acquisition price for the old product line didn’t increase. A member of the sales force said, “[We said] we are going to raise the pricing and we did. It made the model look like it was revenue neutral and I have heard some people say that our [traditional product] pricing is high as a result of that in the market. But once again we adjust with the deeper discount or deeper rebate or whatever and make up for that on a case by case basis.” Though the director of pricing had built his argument for a lower list price around a claim that discounts were out of control, the support of the sales force with their discounts and rebates were essential to making possible his lower list prices. They disagreed with the decisions, but the director of sales said, “You’ve got to move on. You can't keep fighting it. It is pointless. You have to move on and make it work.”

**DISCUSSION**

In this paper, we sought to address complaints about the apparent hegemony of economics in modern social science (Ferraro, et al., 2005; Ghoshal, 2005) by pursuing a simple question: How
do firms adjust prices? In both economics and sociology, the classic response to that question is that firms adjust prices in response to market forces. At the level of price alone, the findings demonstrate that market forces work: the managers lowered prices. The findings also suggest, however, that to look at prices alone is to miss how prices adjust—and so how the economics works. We intentionally chose a competitive market in which the firm’s costs decreased substantially, such that economic theory would predict that prices clearly should decrease. Even given such clear signals, firm members needed conceptions of control to both understand the market and develop a response to market conditions (c.f. Fligstein, 1996).

As we argued in the introduction, the need to adjust price therefore introduced three questions. One question is what such conceptions of control might look like. Whereas the behavioral theory of the firm (Cyert and March, 1963) bracketed economic theory and focused on firm behavior, in this study we have grounded the possible conceptions of control in a model of price adjustment based on economic and marketing theory (in this case, drawn from Nagle, 1987). This model provides an instrumental logic and ostensive routines for responding to market conditions. Given that the firm had made a concentrated effort to hire MBA graduates with marketing training in that model, there was clear reason to expect that their routines would incorporate that model.

Ostensive routines are only evident in practice (Feldman and Pentland, 2003), so a second question is how these ostensive routines translate into action. Economic theory in practice sits at what Schutz (1943) treats as the intersection of the social world, where we live relatively naively, and the theoretical world of the scientist, where everyday assumptions may be called into question. Market forces need to be addressed in the concrete experiences of the various organizational members, and those experiences are situated in the ongoing structures and
practices of the firm. That means that knowledge of the market will be distributed (Berger and Luckman, 1966) as actors use the organization to parse the complexity of economic phenomena.

To understand economic behavior, Schutz argues, we need to understand “the peculiarity of [the] theoretical level by contrasting it with other levels of our experience of the social world.” What makes sense in abstract theory may not make the same kind of sense when it encounters the everyday reality that people create. Consider, for example, the concept of price elasticity of demand, by no means the only relevant economic concept, but one central to the question of whether the firm should reduce price. Price elasticity of demand has clear instrumental implications. In economic theory, a decision to reduce price would turn on a calculation as to how a change in prices affects quantity demanded: \( \eta = \frac{\Delta Q}{\Delta P} \). In the formula, the greater \( \eta \) is the greater the likelihood that incremental demand will make up for the lost margins on existing sales, so a price decrease would be prudent. In practice, however, the meaning of elasticity varies depending on how the concept is situated: whether the price that changes is the list price (the focus of the marketing group) or the acquisition price (the focus of the sales force), whether the price change is minor (in which case the consequences are less important) or major (in which case the price change has implications throughout the organization), which product line is affected (because sensitivity may vary by product line), which customers are affected (because sensitivity may vary by customer), how the changes affect the market share, revenue, and profitability goals (the concern of the vice-president), whether customers bundle the products for which the price is reduced with other products the firm sells (in which case the reduction may be an insignificant factor), whether the price change necessarily reaches the end user, and, finally, who actually receives the benefits of the price reduction (as the distributors may keep the reduction). In practice, economics is by no means of one piece, nor does it offer clear
instrumental implications. Price sensitivity was linked to many of the other relevant concepts in
the ostensive routine, each of which would have similar complexity in practice. Moreover, it was
linked to a variety of other interpretive issues in the firm, many of which had the potential to
shift the meaning of the concept and to create considerable conflict.

It is tempting to overlook the nature of these interpretive differences and focus on a
fundamental insight of the behavioral theory of the firm, that organizations manage latent goal
conflict through routines and standard operating procedures. Contrary to the predictions of the
behavioral theory of the firm, however, there was little evidence here of conflict over functional
goals. Rather, the conflict was about the different interpretations of the market and therefore
proposed different responses to that market (c.f. Fligstein, 1996). For minor price changes, the
firm could sustain a coalition because the latent conflict was dealt with in the ongoing price
process. For example, the process of having the marketing group set list prices and then allowing
the sales force to deal with specific circumstances in distributor negotiations avoided controversy
over rival market interpretations. In this sense, the behavioral theory of the firm offers
considerable insight into economic behavior.

But if we stop at this insight, we still will not understand how the firm practices economics. A
third question raised in the practice of economics is how conceptions of control (and hence the
performative routines) shift as prices need to adjust. When faced with major price changes, the
ensuing dispute revealed deeper uncertainties about how the firm should reduce price. Once they
came into question, these issues brought with them a variety of other questions. To understand
the choice of the conception of control in a price change, we need to follow Granovetter’s
prescription and “pay careful and systematic attention to the actual patterns of personal
relations by which economic transactions are carried out” (1985: 504). At issue here was a
conflict in interpretation of the market. Members of the sales force used economics in one context. They believed that they possessed sufficient knowledge of each customer to arrive at an appropriate price for that customer. For the sales force, a price change has direct and quantifiable effects on distributors that are both economic ("He is willing to live on less margin than you.") and emotional ("But in your gut that is not the real case"). Members of the marketing group encountered a different context. They dealt in more abstract symbols and summaries that cut across individual customer circumstances, so they believed that they understood the market effects of a price change. The dispute was not over whether economic logic might be used; it was over how economic logic would be used. Even such basic economic constructs as "price" and "customer" lacked a constant and consistent meaning in the organization. At issue was the structure of the everyday reality, constructed through ongoing interactions between the sales force, the marketing group, and the vice-president, that shaped the price structure.

This problem might be considered a problem of influence and incentives (Milgrom and Roberts, 1992; Rotemberg and Saloner, 1995; Gibbons, 1999), in which different groups lobbied for the value of their own approach to a problem. When we look at each individual application, we find that each organizational member had developed a partial, but coherent and thoughtful model of price elasticity of demand, each different from that of others in the organization. But the deeper disputes over definitions of customer, price, and approach to firm goals emerged with the need to make a significant change prices. The major price change opened up a moment of interpretive flexibility (Bijker, 1995) and put both the instrumental and the interpretive in play. This was a problem of uncertainty not over the value of each solution, but rather uncertainty over the right way to do things (Beckert, 1996). Without the vice-president to choose a direction, the firm could have been paralyzed.
Given the uncertainty about what to do, economic theory offered a circumscribed way of making meaning of circumstances, and from that it derives considerable power. By using the economic theory, the marketing group could negotiate the meaning of past pricing actions and propose a revenue-enhancing price decrease. The logic became distorted as the vice-president accepted price elasticity arguments to justify the lower list prices, but subverted the logic in raising list prices on the older product line. The effect is that the least common denominator of price elasticity—the definition the various participants held in common—looks like a mindless application of price elasticity quite distant from its original economic meaning. Whether they were right mattered less than that they could impose order on the need to decrease prices.

For Ferraro et al., (2005) this is a problem as they argue, “Perhaps the most important implication of [their] paper is that theories become dominant when their language is widely and mindlessly used and their assumptions become accepted and normatively valued, regardless of their empirical validity. This is the case whether the language and assumptions are problematic and harmful … or beneficial.” As we observed in the introduction, this argument is very much like the institutional theory argument that managerial practices have become rationalized myths (Meyer and Rowan, 1977), decoupled from practice—except that for Ferraro, et al., the problem is that the behavior is not decoupled from practice. In the abstract, the price system serves as a neutral ground for working out the effects of a change in price. In practice, however, as Ferraro, et al. (2005) point out, economic theory is not neutral; it has specific behavior implications.

We suggest, however, that to treat this concern as a problem with economic theory is to miss a much deeper problem. We have come a long way in shifting institutional analysis into economic settings, where we see clear evidence of decoupling behavior (e.g., Westphal and Zajac, 2001). Certainly there are instances of decoupling here. For example, the vice-president, faced with competing demands—lower prices requested by the marketing group and revenue
plans demanded by his superiors—chose to reduce list price on one product line and increase list price on another. The effect is to decouple internal organizational requirements from the market requirements. Such decoupling, however, addresses internal, not external legitimacy. It also strips the elasticity logic used to justify the list price decrease of its instrumental meaning, because the firm has engaged in behavior that is at once consistent with the instrumental meaning (lowering list price) and behavior in opposition to the instrumental meaning (raising list price). There is, however, nothing mindless about these uses of instrumental logic.

To understand this decoupling behavior, we need to consider the logic in context. First, to understand the instrumental or the interpretive nature of an economic construct, we need to pay attention to the structure of the field. Absent the structure of the organization and the relationship to the organizational field (including the increased presence of MBA educated actors), there was little reason to expect that the price decrease that we have studied would have been controversial. But if we treat the organizational field in Bourdieu’s (1984: 94) terms as akin to a physical field, as “a ‘field of possible force,’ a ‘dynamic situation,’” in which forces are only manifested in their relationship with certain dispositions,” we can see elements of the situation that shape the outcomes. First, as the evidence demonstrates, the meaning of an economic construct can vary, depending on the structure of the field. Our notions of economics, rooted in images of economics as a science, ask us to define constructs precisely. But when the actors meet the social world, as Bourdieu (1984: 94) argues, the effect is that “the same practices may receive opposite meanings and values in different fields, in different configurations or in opposing sectors of the same field.” The task of adjusting prices, we suggest, involves negotiating those meanings. But it also means that if we only attend to the instrumental intent of a theory, we will not fully apprehend its true meaning. As Lave and Wenger observe, “The generality of any form of knowledge always lies in the power to renegotiate the meaning of the past and future in constructing the meaning of
present circumstances,” (1991: 34). When we situate an economic construct, it can take on any number of complex meanings which are anything but mindless.

To understand those meanings, we need to consider the relationship of the various actors in that field. In their original argument about institutional isomorphism, DiMaggio and Powell (1983) contend that the engine of organizational rationalization has shifted from competition to structuration. By linking the ostensive routines in economics to the structure of action in the firm, our approach allows us to address the structuring of economic behavior and its effect on the actors. Consider, for example, the director of pricing, the principle driver behind the use the ostensive model in this organization. He believed so firmly in his pricing model that when he felt the firm didn’t value his rationalized, marketing driven approach to pricing, he left headquarters and moved halfway across the country to impose his approach on one of the firm’s distributors. Consider, in contrast, the response of the sales force to the vice-president’s decision. Faced with a decision that they would not choose, they accepted that they must move on and make the decision work, whether they agreed with it or not. It might be tempting to attribute the behavior of these actors to their incentives, their roles, or their social positions, and certainly these are factors. But the evidence suggests something deeper: their experiences, their understandings, their emotions, their aspirations, and their strategies of action seem to be rooted in a structure that they reproduce (c.f. the statement in DiMaggio and Powell, 1991 on Bourdieu’s habitus construct). To treat these reactions as simply driven by incentives or legitimacy is to miss the complex interplay of social forces the actors must address.

Finally, we suggest that the effects are more subtle than a contrast between the instrumental and the symbolic. Instrumental practice, performed properly, carries symbolic weight. The instrumental rationality of a practice like price elasticity values one group, the marketing group, with its ability to manipulate abstract symbols, over a second group, the sales force, with their
close, contextual knowledge of the customers. In that sense, the marketing group gains a return on its educational capital. This argument is not unique to pricing. For example, Carruthers and Espeland (1991) show how the precise application of accounting practices was used to demonstrate virtue. Its use signaled a careful, prudent personality. To understand the relationship between the instrumental and the symbolic, we need to think more carefully about both the particular practice and the context. Those adept at manipulating the instrumental tools to give meaning to a situation are more likely to succeed in a setting that values such instrumental tools. Attention to such manipulation opens up room for ceremonial conformity (Meyer and Rowan, 1977). But to focus on how well those who use a practice hew to the technical, instrumental intent is to miss most of the battle.

The tension, we suggest, is not between the instrumental and the symbolic. When we label economic practice as myth and ceremony, we both give too much credence to the instrumental value of economic theory and we miss the meaning of myth. Rational myths, like any myth, give meaning and order to a world. Of course, they are not the only myth by which people order their worlds, but they are one means by which people make sense of a world. Rationalized myths and meanings are artifacts of our bureaucratic, rationalized culture which stand not in contrast to market behavior, but are written into that behavior—and into a variety of other behaviors. They help us, for good and for ill, to construct and interpret our role in the world.
REFERENCES


Figure 1: Organization chart
Relevant economic tools

Marginal cost

Margin = Price - Cost

Price elasticity

\[ \eta = \frac{\Delta Q}{\Delta P} \frac{Q}{P} \]

Relative market position
- Differentiation
- Value
- Game theoretic models

Price discrimination

Pass-thru questions:
- End customer price
- Service provided
- Support provided

Profitability

Figure 2: Pricing process model
Economic tools used

Step 1: Identify relevant costs
Step 2: Calculate margin
Step 4: Determine competitor response
Step 7: Profit implications

Step 4: Determine competitor response

Step 3: Evaluate customer price sensitivity

Step 1: Identify relevant costs
Step 2: Calculate margin
Step 7: Calculate profit implications

Ignored:
*Segmentation (except by product line)*
*Channel implications*

Step 6: Evaluate channel implications

Step 5: Segment customers according to responses

Step 3: Evaluate customer price sensitivity
Step 4: Determine competitor response

Step 7: Calculate profit implications

Figure 3: Price adjustment process
Relevant economic tools

Costs have decreased

Margins have increased

Customers are price sensitive:
Price decrease should increase quantity sold

Little product differentiation
Price is high relative to competition

Price decrease should help across market segments

Price decrease should go to entire channel

Profits should increase
Revenues should increase
Market share should increase

Economic implication: Lower prices

Figure 4: Economic implications of price reduction
Figure 5: The dispute over price reduction