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*The Emergence of Market Practices in China's Economic  
Transition: Price Setting Practices in Shanghai's  
Industrial Firms*

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The Emergence of Market Practices in China's Economic Transition:  
Price Setting Practices in Shanghai's Industrial Firms\*

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## Abstract

This study focuses on the ability for medium- and large-scale economic actors to set prices independent of state control in reform era China. Analysis of a random sample of firms in industrial Shanghai shows two significant findings. First, in support of theories of path dependence, a firm's position in the administrative hierarchy of the former command economy has a significant impact on the freedom the firm has to set prices; firms closer to the central government are significantly more likely to set prices independent of state control. This finding offers a counter perspective to studies that have argued, based on a lack of gains in productivity, that reforms are not being enacted in the upper levels of China's industrial hierarchy. Second, firms are influenced by formal relationships with foreign joint venture partners, as those with joint venture partnerships are significantly more likely to set prices independent of state control. This finding offers empirical support for the idea that foreign investment has an on-the-ground impact on the decisions and practices of firms in China's transitional economy.

## INTRODUCTION

In this paper, I argue that we can learn much about economic transitions through examination of the decisions and practices of economic actors in the transforming economies. I argue that the vantage from the firm—focusing on the decisions and practices that are adopted at the firm level—adds a great deal to our understanding of the nature of transitional economies and the institutional changes that define these transitions. While some scholars analyze the extent of reforms in transitional economies by focusing on the “pursuit of power and plenty” of economic actors in society (Nee 1996, p. 945) and others focus on outcomes such as productivity (e.g., Woo et al. 1993), I argue that we need to focus our attention on the institutional environments in which firms are embedded (as defined by the state, by sectors, etc.) and on the decisions, practices, and conceptions of management that managers are adopting in the transition periods. The focus of this paper is on the extent to which market practices are emerging in China’s economic transition. Specifically, I look at the emergence of different price setting strategies that are being adopted by Chinese firms in the reform era.

Empirically, I examine on the ability of medium- and large-scale economic actors (industrial firms) in China to set and negotiate prices independent of state control. Understanding the dynamics surrounding price setting is important because allowing firms the ability to set prices independent of state control is a fundamental step toward dismantling the command economy. Who gets to set prices and how they choose to do so reveals a great deal about how economic transitions are progressing. The analysis I present here reveals two findings that are important for understanding the economic transition in China: first, where a firm is positioned in the administrative hierarchy of the former command economy has a significant effect on the firm’s autonomy in setting prices and the approach the firm takes to setting prices. In general,

this finding supports arguments that emphasize the path dependent nature of economic transitions. Specifically, my findings show that organizations at the upper levels of the command economy (i.e., those closest to the central government) are experiencing the reforms in a direct fashion; this argument and the evidence that supports it run counter to the conventional wisdom about China's reforms. Despite the fact that we have not observed rapid gains in productivity in the upper levels of the former command economy, these firms are adopting market practices, such as price setting. Second, formal relations with foreign investment partners are significantly related to firms' practices surrounding price setting, suggesting an effect of mimicry or institutional isomorphism in the marketplace.

## THEORETICAL ISSUES

Two types of data have dominated research on transitional economies. In sociological research on economic transitions, there has been an overwhelming focus on changes in income and economic advantages to certain social groups. As Xie and Hannum (1996, p. 951) note, focus on changes in income inequality and disproportionate economic benefits to certain social groups has "dominated all theoretical discussions among sociologists of postsocialist or reforming-socialist economies." We have learned much about changes in income and income inequality and the fate of former cadres in economic transitions from these debates. But there have also been a number of flaws in this research tack. First, while changes in income certainly reveal important trends in transforming societies, the long-time importance of non-pecuniary rewards in socialist and post-socialist societies makes income a questionable indicator of economic change. Managers often have access to a number of fringe benefits, as well as prestige and a track to powerful government appointments that make their jobs more lucrative than their

incomes often reflect.<sup>1</sup> Changes in income reveal nothing about these non-pecuniary rewards and perks. Second, while these studies are most revealing where changes are most dramatic, in the private economy, they say little about the ways in which reform is occurring in other, more important sectors of the economy. In the case of China, the state still controls over 80 percent of the assets and output value of industry, and focus on returns to education and entrepreneurship says little about the changes that are occurring in this sector of the economy. Third, data on individual level changes in income are really about changing mechanisms and patterns of stratification. Yet scholars in this area have often attempted to extend their arguments to broader institutional changes, such as the emergence of market mechanisms and the transition from hierarchy to market (see esp. Nee 1981, 1991). Changing patterns of stratification are, at best, only crude indicators of changes in market mechanisms, the hierarchy of the former command economy, and emerging market institutions.

In economics, the debate has often been built around changes in aggregate measures of productivity across sectors of the economy. Based on aggregate measures of productivity, scholars have argued that certain sectors of the economy are not being reformed or that reforms have not been successful overall (Woo et al. 1993); others have argued that China's reforms have been successful and that the gradual approach to reforms has given rise to considerable gains in

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<sup>1</sup> It is likely that some or all of the findings of the declining power of "redistributors" in transitional economies (Nee 1989, 1991, 1996) could be explained by this fact. The point here is that Chinese managers and governmental officials (the former "redistributors" in Nee's models) have access to many other benefits than income. Focusing on income does not even begin to tell us how much this class of individuals have gained in the transitional economy. In one of my interviews (described below), a manager bragged to me about the equality of his firm, saying that his salary was no more than a common factory floor worker. After the interview, he offered to drive me home in his Mercedes, which was one of the humble perks of his post. Conversely, individuals in the private economy have no access to perks or positions of power. The *only* way they are rewarded is through income. Thus, comparing these two groups through changes in income, it is not at all surprising to find that those in the private economy are gaining while the former redistributors are not. However, without more information than the incomes of the two groups, the evidence is far from conclusive.

the state sector (Jefferson et al. 1994). However, studies that focus on aggregate measures of productivity across sectors of the economy implicitly assume that reforms will lead to changes in productivity and that a lack of change in productivity implies a lack of reform. This assumption is untenable, as it is possible, even likely, that organizations are experiencing the reforms in a variety of ways, but they are simply failing to become more productive (Guthrie 1997). Productivity is but one of many possible outcomes for economic reforms, and research in this area should focus on what economic actors do, as opposed to how efficient they have become. In addition, like the studies that focus on individual level data, scholars in both of these camps extend their research to the broader institutional questions of the reforms. Those that view China's reforms as successful argue that reform in China has been a gradual process and that the market economic system emerging in China comprises a unique set of institutions, which are grounded in the historically specific nature of China's reform process. Those that view the reform as unsuccessful argue that the institutional and historical nature of a given place is irrelevant, because market institutions are the same the world over: "The long-run goals of institutional change are clear, and are found in the economic models of existing market-based economies" (Sachs and Woo 1997, p. 5).

While scholars from both of these areas of research aspire to extend their findings to broad questions of institutional change in transforming economies, neither of the types of data upon which they most often rely—individual level income or aggregate measures of productivity—is equipped to reveal the situations that are occurring for a majority of large-scale economic actors in transforming economies. Firm level data is much more appropriate than individual or aggregate data, because it allows us to observe the decisions and practices that are being adopted by economic actors that were embedded in the hierarchy of the former command

economy. How are large-scale economic actors making their ways through the reforms? What types of decisions and practices are they adopting? If there is variation in the type of decisions large-scale economic actors are making (and there is), what are the sources of this variation? What can the decisions and practices of large-scale economic actors tell us about the emergence of a market mechanism and the transition from hierarchy (of the former command economy) to market that changes in income and aggregate measures of productivity cannot? Data on the decisions and practices of firms in transitional economies allows us to answer some of these questions directly.<sup>2</sup>

Ultimately, outcomes such as productivity and profits stand at the end of a causal chain. I view this causal chain in the following way: (1) Political and institutional factors (policies and political and economic structure) create various types of economic environments. (2) Managers interpret their environments, making decisions about how their organizations should operate within those contexts. (3) As a result managers set up intra-organizational systems and structures by which their firms operate. (4) These systems (successful or failing) lead to various outcomes in productivity and profitability. Thus, in order to answer questions of enterprise reform, we need to take into account broader political and institutional contexts as well as managers interpretations of these environment and the systems they are setting up in restructuring their organizations before we even begin to ask questions about productivity and profitability.

## PRICE SETTING PRACTICES IN INDUSTRIAL SHANGHAI

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<sup>2</sup> For other studies on firms in transition that have stepped beyond narrow focus on productivity and economic gains see, for example, Groves et al. (1994, 1995), Guthrie (1997, 1998, Forthcoming), Burawoy and Krotov (1992), Lee (1995), Jefferson and Xu (1991), Walder (1994), and Stark (1996).



A critical empirical issue of transitions from command to market economic systems and the emergence of true markets is the freedom for economic actors to set and negotiate prices, especially for large industrial organizations. Several important works in the field of economic sociology make clear the important role pricing plays in the social construction of markets. White's (1981) work on the social construction of markets focuses primarily on cost and valuation, but price must also play an integral part of this process: firms' observations of other organizations' actions and decisions are a part of the process of market construction, and price setting is one critical observable within the marketplace. Eccles and White (1988) argue that price is a socially constructed phenomenon, and it is intimately tied to authority structures. Fligstein's (1996b) discussion of markets and market institutions begins with a definition that assumes a price mechanism in production markets. Thus an economic sociology of markets makes clear that we must deal with the emergence and structure of a price mechanism if we are to understand the social construction of markets. But do studies of individual level gains in income, the emergence of entrepreneurship, or changes in productivity across organizations tell us anything concrete about the emergence of a price mechanism or even the freedom of market actors to set prices independent of state control? If we want to say anything about the emergence of a "market mechanism" or the transition from hierarchies to markets, we should be able to say something about the emergence of a price mechanism that operates independent of state control. Few scholars of China's transition have addressed this issue.

In pre-reform China, price setting in large industrial organizations was controlled by the state through the administrative hierarchy of the command economy, and reforming pricing would prove to be a central issue of the economic transition. As Vogel (1989, p. 112) notes, "Pricing was one of the most central and complex issues facing reformers." A study of market

transition must be able to account for the ways in which the politics of price setting and price reform are being played out at the enterprise level. The extent to which a pricing-system has been implemented in China has varied across sectors and organizations and may vary by the type of government control. In order to draw conclusions about the shift from the hierarchy to the market, we should observe changes in the practice of price setting at the firm level. As Lieberthal (1995, p. 254) points out, “The system of central planning... has yielded increasingly to market allocation of goods and service. The practice of fixing prices administratively for all goods has been replaced by a dual-price system for many items and a market-based system for many others...”

Government control of pricing began to change officially with general reforms in 1979 and then more specifically with the October 1984 Reform Declaration. Implementing a market pricing system may not have been a central part of the financial rationalizing system that was being promoted by Zhao Ziyang, but it was an important issue that was on the table for many years of the reform and often advocated by Zhao himself. The “price reformers” certainly saw the issue as crucial to the success of the reforms, and even if the “enterprise reformers” were antagonistic to the idea, the liberalization of prices was an issue that was central to the debates that raged between these two reform-minded groups. But if the debates over price control and liberalization were central to the reforms, progress surrounding the issue was slow. By the end of 1984, factor prices were still unreformed, and product prices had still not yet been realigned.<sup>3</sup>

In 1985, policy making began to turn toward the ideas of the enterprise reformers, as the government adopted a “dual-track approach to the reform” (Naughton 1995, p. 197). This

approach encompassed many specific policies, but the essence of the dual-track approach was the following: enterprises would operate across two separate spheres of economic activity, one being the planned sector of the economy and the other being the market sector of the economy. As a result, enterprises remained part of the planned economy on one level, but they were also permitted to sell production that extended beyond the plan at open market prices. It was at this point that true market prices were permitted to emerge and enterprises were permitted to begin setting their own prices, at least for goods that were produced outside of the plan. Central government officials began to recognize that “they could not control outside-plan prices,” and market price quotations “began to appear in official journals” (Naughton, p. 220). There were many pendulum swings between liberal and conservative reforms over the next several years, but on the whole, development over the years since 1985 has taken enterprise production further away from the plan and allowed enterprises to operate in an increasingly marketized setting. As late as 1992-93, there was once again a push toward fully dismantling price controls and the allowance for market controlled prices (Naughton 1995, p. 289).

What factors are important for the liberalization of pricing at the organization level? First, the extent to which the liberalization of pricing has occurred at the organization level has varied, not surprisingly, by sector. The prices of foods, particularly staple goods, continued to be controlled much later than other products. Also the prices of upstream industrial goods, such as steel, and inputs, such as petroleum and coal, continued to be under government price controls, a fact that forced these industries to be plagued by chronic losses. Understanding price controls at the organization level today will certainly require an examination of this issue by sector.

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<sup>3</sup> For discussion of the 1984 Reform Declaration see Naughton (1995, p. 248); for discussion of the “price reformers” and “enterprise reformers” see Naughton (1995, pp. 188-96); for discussion of a lack of reform by the

Second, as is so often true with the Chinese case, variations in levels of government administration and tension between central and local governing plans and policies were influential in the liberalization of prices in the economic transition (Naughton 1995, pp. 221-22). The tension between central and local plans was supposed to have been attenuated by the view in Beijing that local plans were “guidance plans... noncompulsory targets.” The reality, however, is that local plans and policies were much more compulsory than they were guidelines. Inputs are still, to some extent, allocated by local governments, which ties production much more closely to local plans than it does to central plans. Organizations rely on their local governments for inputs, and how they alter their production quotas and schedules in the economic transition is therefore closely tied to local governments and local control. The issues of variation in local control and the tension between central and local policies also extend to the realm of pricing: “Local governments imposed varying degrees of price controls even on outside-plan transactions” (Naughton 1995, pp. 232-33).<sup>4</sup> And as development patterns have varied by levels of government administration, it is also likely that variation in price controls occurred across different levels of the government administrative hierarchy.<sup>5</sup>

The extent that price control still occurs today at the level of individual organizational units is an empirical question of the reform. As Naughton (1995, p. 197) argues, the dual-track approach was tied to the fact that comprehensive reforms—forged at the state level by politicians and economists—were always somewhat “elusive in practice.” Is there still variation across organizational sectors and different levels of government administration? Is the government still

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end of 1984 see Naughton (1995, p. 136).

<sup>4</sup> For additional discussion see also Vogel (1989).

<sup>5</sup> For discussion of the ways in which transition patterns have varied by levels of government administration see Walder (1994a, 1995a; Guthrie 1996, 1997a, 1997b, Forthcoming).

controlling prices in some areas? If not, how are firms setting their prices? Further, how are firms viewing prices once they are set; are they viewing them as set and unmalleable, or are they negotiating with other organizations over final prices? To get at these issues, in my organizational survey, managers were asked whether the state or the organization itself sets the prices for all of its products: "Does the government control price setting for *any* products of the organization?" It was necessary to phrase the question this way because, even for organizations that the state controls pricing significantly, some products are still not controlled.<sup>6</sup> What I wanted to get at here was whether or not the organization was setting prices fully independent from state control. If the organization did set its own prices, the managers were further asked how they went about setting the prices.<sup>7</sup>

The answers to these questions can roughly be divided into three general categories. First, there is the category of organizations that still do not set their own prices, despite sixteen years of economic reforms; for organizations in this category, prices are still set and/or controlled by the state. The governance structures that define the rules of the emerging markets vary, to some extent, by sector, and they vary according to the idea that some products are more closely linked to people's survival than others. As one official in an electronics factory explained it, "Some sectors depend on a government pricing system. This happens most often in sectors that affect people's lives directly, like foods. But the government pays little attention to products that do not have a direct effect on people's lives."<sup>8</sup> A manager in the chemicals sector explained his firm's

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<sup>6</sup> For discussion of two-tier price system see Naughton (1995, p. 189).

<sup>7</sup> In the survey the questions surrounding pricing were the following: (1) "Does the government control price setting for any products of the organization?" (2) {if no governmental control} "How does the organization go about setting prices?" (3) "Does the organization negotiate prices with customers?"

<sup>8</sup> Quotes in this study come from field research conducted in 1994-95 in China. The data that emerged from this field research had two components: first, qualitative data gathered through in-depth interviews with 155 Chinese managers, officials, and expatriates conducting business in China; 81 of these interviews were conducted with

situation in the following way: “In this sector [pesticides] there is still some government control of prices. For the products that are under government control, we can’t go over the price limit [*xianzhi jia*], so we just usually set at the limit. But for products that are not under price control, we usually try to set according to the market price...” From these statements, it appears to be the case that sectors in which products may have an effect on people’s livelihoods—whether staple foods are cheap enough for people to buy or whether farmers are able to acquire pesticides at reasonable rates—are the sectors that are still under state control in the realm of price setting. However, there are two other crucial factors that matter for the emergence of autonomous price setting. First, position in the state administrative hierarchy matters for whether or not firms have the autonomy to set prices on their own. Firms at higher levels of the administrative hierarchy—especially those directly under the jurisdiction of municipal bureaus—are significantly more likely to be free of government control in the realm of price setting. As I discuss in greater detail below, this indicates that processes of marketization and hardening budget constraints are in fact occurring at the upper levels of China’s administrative hierarchy (see also Guthrie 1997, 1998, Forthcoming). Second, association with foreign organizations (through joint ventures) has an impact on the emergence of autonomous price setting practices across organizations.

The second category of answers surrounding the issue of price setting has to do with those organizations that set prices themselves (no government control), yet they did not have a formulaic way of determining what this price would be. Rather they just relied on “the market” to determine the prices of their products [*kan shichang ding jiage*]. The organizations that rely on “the market” for price setting may be free of government control over pricing, but they do not

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general and vice general managers of a random sample of industrial firms in Shanghai. Second, quantitative data were gathered on this random sample of Chinese firms (see Data section for discussion of sampling).

have well developed or systematic ways of thinking about how prices should be set. An official in the electronics sector described his firm's reliance on "the market" for price setting in the following way:

There is no official influence in this sector for price setting. We often bargain with our customers, but we are really guided by the market in terms of price setting. The market is crucial for price setting: now many factories produce the same product, and quality is about the same everywhere. If one factory offers the product for much cheaper than everyone else, they will get the most business. So we all have to pay attention to each other and compete for business.

While this organization's approach to price setting does not display a sophisticated understanding for input prices and other external costs that might figure into the construction of a systematic price setting procedure, the official has identified one of the critical factors that produce instability in markets: "the tendency of firms to undercut one another's prices" (Fligstein 1996b, p. 659). A price mechanism is directly related to this type of instability, and the fact that this official has linked these issues indicates that a true market situation is emerging in sectors such as the electronics sector. Another manager in the electronics sector said of price setting in his firm,

Our price setting is completely based by the market. We just look at the market price for our products and try to set a similar and competitive price. This kind of focus on the market for price setting also has a lot to do with our attitude toward "linking up" [*jiegui taidu*] [with the international world]. We are really linking up with the international world in many ways.

"Linking up with the international world" [*gen guoji jiegui*] is an acceptable (and fashionable) way of saying that Chinese firms are adopting Western style institutional systems.<sup>9</sup> Clearly this manager sees market driven pricing systems as a part of this "linking up" process.

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<sup>9</sup> *Jiegui* literally refers to a link between two railroad tracks. However, in recent years in China, the terms has become very fashionable as a metaphor for "getting on track" or "linking up" with the international community [*gen guoji jiegui*].

Some organizations in the garments sector also rely on the market for price setting, but due to the nature of this production market, the process is somewhat different from the situations in the other sectors. Most firms in the garments sector work on a contractual basis, producing a set number of products that had been contracted by another organization. When this is the situation, the pricing typically is pre-arranged, based on the bidding that goes into landing a contract with a garment retailer. "Our price setting is just based on bidding. We offer a price to our customers, and then they usually offer us a much lower price. So we are actually always negotiating prices; we really have no set way of deciding prices at all."

The third category of organizational responses to the question of independent price setting was one in which firms set their own prices (no government control), and they had relatively sophisticated systems and formulas for deciding upon product prices. For these types of firms, pricing was most often based on a complex formula that accounted for several inputs (e.g., cost of labor, cost of resources, taxes, costs of administrative fees) and a predetermined profit margin. As a manager in the electronics sector explained, "We decide our prices in two ways: one way is based on the average prices in international and domestic markets; the other way is based on a formula that accounts for cost of labor, cost of resources, overall cost of production, and an 8-10 percent profit margin." Another manager in the electronics sector articulated the following organizational outlook in response to the questions over price setting:

We really set our prices quite low. We base the price on the cost of materials and labor and then add a small amount for profit. But I never want to be too hard-nosed [lit. trans. "black-hearted"—*buyao xin tai hei*] about making money. We just want to make enough money so that the factory can survive. So we set our prices very low... How much do you think that TV would sell for in America? Probably about \$100-\$150, right? We sell it to our Hong Kong distributors for about \$28 U.S. We're not trying to make so much money from our products.



This manager's organization had the freedom to set prices on its own, and the manager had a relatively sophisticated understanding of inputs and pricing. But, interestingly, the manager's response to the issue of pricing (and making money) was also imbued with socialist ideals.

Figure 1 shows the proportion of firms by sector engaged in different price setting practices. Less than 10 percent of the firms in the electronics sector were still under the control of the state in setting prices, while over 30 percent of the firms in the foods and chemicals sectors were unable to set prices autonomously. Less than 30 percent of the firms in the garments sector were under state control in the realm of price setting. Overall, less than 10 percent of the organizations in the foods sector are setting prices according to "the market," and among the firms that have the freedom to set prices, only 14 percent are relying on "the market." The sector in which the highest proportion of firms sets prices according to the market is chemicals: overall, just under half of the firms in this sector set prices according to the market, and among firms that are free to set prices, the figure is 70 percent. Interestingly, the chemicals sector has the smallest proportion of firms setting prices based on an input cost formula; the foods sector has the highest proportion of firms setting prices this way.

(Figure 1 about here)

## DATA, MODELS, AND VARIABLES

*Data.* Quantitative data on organizational structure and practices were gathered in 1995 through face-to-face on-site interviews with general and vice general managers of 81 industrial firms selected in a stratified random sample of four industrial sectors in Shanghai.<sup>10</sup> The sectors

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<sup>10</sup> Kalleberg and Van Buren (1996; see also Kalleberg et al. 1996) have pointed out that the distinction between organizations and establishments is an important one in organizational analysis. In this study, I have drawn

were chosen based on parameters of theoretical and substantive interest.<sup>11</sup> Comparative information on these sectors is presented in Table A1 in the Appendix. The survey was based on a pre-tested standardized interview questionnaire. Interviews were unaccompanied, and they were conducted in Chinese.<sup>12</sup>

Within each of the four sectors, organizations were randomly selected from the sector lists of organizations in *The Chinese Directory of Organizations and Institutions* [*Zhongguo qi shi ye ming lu quan shu*] (1993). This directory is a 4500 page list of over 160,000 medium- and large-scale organizations that are registered in Beijing, Shanghai, Tianjin, Inner Mongolia, and the provinces of Hebei, Shanxi, Liaoning, and Jilin. This source is appropriate, as I am interested in the dynamics of institutional practices of relatively large organizations (more than 50 employees—see Edelman 1990, 1992; Dobbin *et al.* 1993), and this directory is a reference guide of medium- and large-scale organizations. Each geographical section of the directory is divided

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specifically on firms as organizations, as opposed to establishments, as the units of analysis for the research. It was necessary to conduct the study this way, as establishments often do not collect data on the organization (i.e., the data is collected by the central administrative offices for the organization as a whole). In 2 cases in which an establishment that was part of a larger multi-divisional organization was first contacted through selection in the *Directory*, I inquired after the name and phone number of the larger organization of which the establishment was a part. The larger organization's central administrative office was then contacted and the data for that organization was collected for the larger multi-divisional firm. One problem in selection that might be raised here is that, because establishments are listed in the *Directory*, there is a higher probability that multi-divisional firms will appear in the sample. However, the occurrence was rare: in only 2 cases was an establishment within a larger organization first contacted (out of 5 multi-divisional organizations that appeared in the sample overall).

<sup>11</sup> Selection of the sectors for the study was based on a 2x2 matrix cross-referencing state presence (high/low) with asset/technological intensity (high/low). The sectors chosen for the study were: Petro-Chemicals (high/high), Food Stuffs (high/low), Electronics (low/high), and Garments (low/low). Determination of these sector characteristics was made based upon interviews with governmental officials and managers from the pilot study. For each of the sectors, the 20 organizations in the sample of the sector roughly represent a 10% sample of the producing industrial organizations in that organizational field. In terms of sample size by sector, this sampling is similar to other organizational studies. For example, Dobbin, Sutton, Meyer, and Scott's recent study (see Dobbin *et al.* 1993; Sutton *et al.* 1994) was based on 279 organizations spread across 13 sectors, which breaks down into about 20 organizations per sector; they also sampled equally across the sectors.

<sup>12</sup> The unaccompanied nature of the interviews was an important part of the research, as respondents act considerably different in interviews in which there is a state official present than they do in those which are conducted with no state official present. Respondents are much more open and speak with a much higher degree of candor in private interviews than they do in interviews that are set up and attended by state officials (see also Walder 1989, p. 247, fn. 22).

into 19 large sectoral categories which are subdivided into a total of 75 smaller, more specific sectors. There are roughly 8,800 organizations listed in the Shanghai section of the directory. With the rapid change and development that is occurring throughout China, it is impossible that this 1993 directory is a *complete* list of organizations for each of the geographical areas. However, this list may be among the closest we can come to a complete list of organizations in Shanghai in 1995.<sup>13</sup>

The study was limited geographically to the nine city districts [*qu*] of the City of Shanghai (i.e., the six county districts were eliminated from the study). Thus the study is one of organizations across four sectors in the nine districts in the City of Shanghai.<sup>14</sup> There are 233 organizations that make up the universe of organizations in the electronics sector [*dianzi hangye*] (*Chinese Directory* 1993, pp. 482-92); 204 organizations comprise the universe of organizations in the “light industry” food stuffs sector [*shipin hangye*] (*Chinese Directory* 1993, pp. 347-62); there are 176 organizations in the Petro-Chemicals sector in Shanghai [*huaxue gongye*] (*Chinese Directory* 1993, pp., 413-23); and there are 301 organizations in the Garments sector in the city of Shanghai [*fuzhuang hangye*] (*Chinese Directory* 1993, pp. 386-400). The only requirements for an organization to be included in the sample were that the organization employ at least 50 individuals and that it be a production oriented industrial unit in the appropriate sector, i.e., some

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<sup>13</sup> The size of the overall universe of organizations reported in the Shanghai section of the directory (8,800 units) is compatible with the count of Municipal Shanghai’s medium and large-scale enterprises [*zhongda qiye*] reported in the *Statistical Yearbook of Shanghai* (1994, p. 139), which is 8,948. Aldrich et al. (1988) point out that this type of source is likely to under represent new organizations, an issue that is likely to be exaggerated in my study, given that the most recent version of the *Directory* was published in 1993. However, this problem is minimized by the fact that newer organizations are likely to be smaller organizations, and I am specifically sampling on organizations of 50 or more individuals.

<sup>14</sup> There were both theoretical and logistical reasons for this decision. Theoretically, while collective enterprises [*jiti qiye*] are located in urban and county districts, Township and Village Enterprises, which are located primarily in the county districts, are considerably different from urban collectives. Logistically, the six outlying county districts of Shanghai are far enough from the city center that I would have had to spend a considerable amount of time and resources traveling to these organizations.

portion of the firm's turnover in 1994 had to be derived from sales of manufactured products.<sup>15</sup>

The overall cooperation rate for the study—the rate of sampled organizations that agreed to be interviewed—was 90%.

*Models.* I view the general model of an organizational practice with respect to price setting as:

$$\Phi_i = \log[P/(1 - P_i)] = f_1(\text{SECTOR}) \quad (1)$$

$$f_2(\text{SECTOR}, \text{ORG}) \quad (2)$$

$$f_3(\text{SECTOR}, \text{ORG}, \text{GOV}) \quad (3),$$

where  $\Phi_i$  is the log-of-the-odds that the  $i$ th organization will adopt a given price setting practice, and  $P_i$  is the probability of this dichotomous outcome. The outcome is a function of the sector in which the organization is located (SECTOR), a vector of organizational characteristics (ORG), and the governance environment (GOV) in which the organization is embedded. Below I estimate logistic regression equations to model these effects.

*Variables.* The dependent variables for the analysis are the price setting practices described above. Each of these practices is coded dichotomously, according to a firm's answers to a set of questions in the survey (1 = yes). A number of independent variables are relevant for determining these outcomes. As the model above indicates, I expect that the price-setting

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<sup>15</sup> The criterion of production orientation turned out to be an important one with respect to the *Directory*, because the lists also included research institutes and organizations that would fall under the rubric of commerce for the given sector. While both of these types of organization would fit into the broad sense of "organizational field" as authors such as DiMaggio and Powell (1983) define it, they are fundamentally different from the other industrial production organizations in the sectors on critical organizational criteria such as fixed assets, turnover, profits, etc. This criterion was determined prior to contact, as the lists of products and services are given in *Directory*; the reported size of each universe was adjusted appropriately. However, the determination of the size criterion (i.e., at least 50 employees) could only be made after first contact, and, since only a sample of organizations in the universe were contacted, the universe sizes may also include some small scale organizations. This problem is minor, though, because in all of the organizations contacted for the study, I only encountered 3 organizations (4%) with fewer than 50 employees.

practices exercised by Chinese firms in the economic transition are a function of three categories of independent variables: the sector in which a firm is located, the economic constraints of the firm, and the governance environment in which the firm is embedded. Table 1 presents means, standard deviations, and a brief definition of each variable.

(Table 1 about here)

I include sector controls in each of the models to observe effects of variation across sectors that is not accounted for by the other organizational variables.<sup>16</sup> Organizational size is measured as the natural log of the number of active workers employed in the firm; the term is logged because I expect that the effect of size increases at a diminishing rate. A composite measure of overall organizational health is calculated based on turnover, salary of the workers, and the constant rate that organizations are required to pay into the new official pension fund for retired workers (25.5% of overall salary budget).<sup>17</sup> This variable accounts for variation in organizational health in terms of the relationship between gross income and labor costs. If an organization is doing well (in terms of revenues) in relation to its labor burden, the value for this variable will be large. A firm's profit margin is calculated as the proportion of profits to gross revenues in 1994.<sup>18</sup> The profit trend of the organization is a indicator of whether the firm's profits

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<sup>16</sup> More than simple control variables, however, these variables may also show evidence of isomorphism within organizational fields (see DiMaggio and Powell 1983): if the effects of the sectoral categories are significant net of all other organizational variables, it may be the case that we are observing isomorphism within organizational sectors. I discuss this possibility below.

<sup>17</sup> The equation for calculating organization health is  $h_i = t_i - (s_i w_i + .255 s_i w_i)$ , where  $t_i$  is turnover (gross revenues),  $s_i$  is the average salary of workers in the  $i$ th organization, and  $w_i$  is the number of active workers in the  $i$ th organization. The final term (.255  $s_i w_i$ ) represents the amount every organization must pay into the new pension fund system (yanglao jin). Ideally, the equation should be  $h_i = t_i - [(s_i w_i + .255 s_i w_i) + (m_i w_i + m_i r_i)]$ , where  $m_i$  is the average cost of medical insurance for workers and  $r_i$  is the number of retired workers on the  $i$ th organization's payroll. However, while I did collect data on medical insurance costs, the data were too sparse, and I have low confidence in the data that were provided by factory managers for this parameter (several managers could only offer guesses, as many organizations did not keep accurate figures on the overall cost of medical insurance).

<sup>18</sup> In the models presented in table 4 (price negotiations), profit margin calculated as a function of size (profits/size) was a more informative measure and produced a better fit with the model.

(unadjusted for inflation) rose over the period of 1990 to 1994 (yes = 1); similarly the turnover trend variable indicates whether the firm's turnover rose over the period (yes = 1).<sup>19</sup> Participation in export markets may also have an impact on firms' price setting practices; this parameter is measured as a function of the percentage of a firm's production that was exported in 1994. Finally, I include a dummy variable indicating whether or not the firm has a joint venture with a foreign partner (1 = yes). This variable is included to capture the effect of foreign relationships on the structures and practices adopted by Chinese firms in the economic transition. I consider this independent variable to be important in two ways: first, most studies and arguments about the effects of foreign investment in China (e.g., the Most Favored Nation debate) consider only the effects of political pressure at the state level and consider little or nothing of the ways in which economic interaction with foreign investors shapes decisions and practices of Chinese economic actors in ways that are actually tangible for Chinese workers. Second, even those that do consider this aspect of foreign investment have failed to gather *any* empirical evidence on the effects of foreign investment at this level. The variable I include here is a direct test of the effects of foreign investment on firm level structure, decisions, and practices.

Governance of the firm is explored in two ways. First, the internal governance of the firm may have an impact on the strategies and practices firms adopt in the reform era. Fligstein (1987, 1990) argued that the skills and conceptions of management that a firm's leader brings to the table are important for the decisions and practices the firm adopts. This may also be the case in Chinese firms, and I explore the extent to which the background of a firm's general manager shapes firm structures and practices. I explore this effect through information on the background

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<sup>19</sup> Neither of these variables is adjusted for inflation. They are also only included in the model of price negotiation.

of the general manager.<sup>20</sup> Second, the institutional structure of state administration is also relevant for firm governance. In industrial China, firms are embedded in an administrative hierarchy where each firm is governed by a state office; these state offices sit at different levels of the administrative hierarchy, relative to the central government, as figure 2 shows. Several studies have shown that where a firm is positioned in this administrative hierarchy has a significant influence over the economics and the decisions and practices of firms in the economic transition (Walder 1994, 1995; Guthrie 1996, 1997) as well as in the pre-reform era (Walder 1992). I explore the effect of a firm's position in the state administrative hierarchy by examining the effects of dummy variables for levels of state administration [*zhuguan bumen*].

(Figure 2 about here)

## FINDINGS

### *Price Setting Practices*

Table 2 presents a systematic view of independent price setting mechanisms in the organizations selected for this study. Model I shows that, controlling for size, location in the chemicals sector has a significant negative relationship with a firm's ability to autonomously set prices, as compared to location in the electronics sector. This is not surprising, given that this sector is one of the high-state-control sectors selected for the study. The firms that were under state control for price setting in the chemicals sector were most often those that were involved with the production of pesticides. Pesticides occupy a position in an organizational field that overlaps with production in a number of important sectors including agricultural, and if prices of

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<sup>20</sup> Increasingly in the economic transition, firms are hiring general managers with backgrounds in business and economics: in the sample of firms upon which this study is based, 44% of the general managers have backgrounds

pesticides were free of state control, they could have an impact on the prices of many staple commodities. It is interesting to note here, however, that location in the foods sector does not have a significant relationship with state control over price setting, despite conventional wisdom to the contrary (see quotes above).

(Table 2 about here)

Model II shows the effects of several economic variables on the practice of independent price setting. The organizational health of a firm (a measure of the relationship between revenue and labor burden) is not related to whether a firm has been free to adopt independent price setting practices. The percentage of products that a firm is exporting is positively related to the adoption of independent price setting practices. This makes sense because products that are being manufactured for export will not have an impact on internal markets in China. Inflation and the affordability of products for the general population are among the primary concerns for governance structures in Chinese markets. Firms that are manufacturing products for export have the least influence in the areas of inflation and the affordability of products in internal markets. An organization's profit margin is related to the freedom to set prices independent of state control. We should be careful interpreting the results of this finding, as it is possible that the causality works in both directions: greater profitability leads to greater confidence by the state that a firm is successfully making its way through the transition and hence more autonomy from state control. In a number of ways, the state is most concerned with the firms that are struggling most in the economic transition. At the same time, however, a firm's ability to set its own prices may lead to higher profits, as it allows for greater control over the relationship between inputs



and output. Nevertheless, the association does indicate that the freedom to set prices is related to the economic position in which a firm finds itself in the economic transition.

Interestingly, model II shows that, net of all other effects, whether a firm has a relationship with a foreign partner (in the form of a joint venture investment) has a significantly positive effect on the firm's ability to set prices free of state control. For the average firm, with no joint venture relationship with a foreign partner the firm's probability of being able to set prices independent of state control is 55.4 percent or a little more than 1 in 2. If the average firm has a joint venture, that probability increases to 68.5 percent or about 7 in 10.<sup>21</sup> I interpret these results to mean that firms that are exposed to the market practices of economic actors from foreign market economies are likely to be influenced by the systems and practices that exist in those market economies. The Chinese firms observe the practices of their foreign partners, and they recognize the benefits of such market practices as independent price setting. These firms are likely to put pressure on the state to amend the governance structures to fit more with the institutional structures they see available in the market environments of other economic systems. In some ways, extended contact with foreign entities has a positive impact on the emergence of the institutional structures that will define China's emerging market economic system.<sup>22</sup>

Model III adds variables of governance to the equation with significant results. Controlling for all other factors, a firm's location under the jurisdiction of a municipal bureau governing organization has a significantly positive effect on whether the firm will have the

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<sup>21</sup> These probabilities are based on model III of table 3.1. Probabilities are calculated as  $P = [1/(1 + e^{-Z})]$ , where  $Z = \beta_0 x_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n$ . All parameters,  $x_n$ , are constrained at the means.

<sup>22</sup> These results could also be interpreted in the opposite direction causally: firms that are freer of state control are more likely to be selected as joint venture partners by foreign investors. Showing these results one way or the other would require time series data with dates of adoption of price setting practices and dates that a joint venture was set up. This type of data was unavailable for my study, and it is the major weakness of the research. However, the

freedom to set prices independent of state control. This finding is important to my general argument that administrative and economic responsibilities are being pushed down the ladder of the former command economy (see Guthrie 1997), and this transformation has significantly different implications for organizations at different levels of this administrative hierarchy; it is an argument that I emphasize throughout this paper, and it is one that I stress throughout much of the work that is based on this study (see also Guthrie 1998). In a nutshell, the argument is that, while many studies have argued that reforms have been enacted the least for firms at the upper levels of China's industrial hierarchy (based on slow gains in productivity), if we look at the actual practices of firms at this level of the hierarchy, we will see that these firms are living in increasingly marketized worlds. As the findings in model III show, firms under the direct jurisdiction of municipal bureaus are significantly more likely to have the freedom to set prices independent of state control than located at lower levels of the administrative hierarchy. For the average firm that is not under the jurisdiction of a bureau office, the probability that the firm will have the freedom to set prices independent of state control is again slightly greater than 1 in 2 (56.9 percent). This probability increases to 77 percent when the firm is under the jurisdiction of a bureau office.

Firms at the upper levels of China's industrial hierarchy are operating under governance structures that increasingly resemble those of market economies. They have increasing autonomy over decisions and practices in the emerging markets of China's transitional economy. Firms at lower levels of the hierarchy, on the other hand, are under the jurisdiction of municipal and district companies, and these administrative companies still wield significant control over the

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significance of the associations can be seen clearly enough from the results, and it is likely that influences are happening in both directions.

decisions and practices of the firms under their jurisdictions. Although Walder (1995a; see also 1994a) predicted that reforms were not taking hold at the upper levels of China's administrative hierarchy (a view that is incongruent with the perspective I present here), more generally, his view of "local governments as industrial firms" fits well with the perspective I present. Walder's argument is that state governing units at lower levels of the industrial hierarchy (i.e., in rural areas) are able to keep tighter control over the firms under their jurisdictions. I argue that this is also true in urban industrial sectors: administrative companies keep closer control over the firms under their jurisdictions than municipal bureaus. This tighter control amounts to different governance structures, different conceptions of control, and ultimately, different practices that firms are free to adopt in the economic transition.

The distinction between bureaus and administrative companies as governing organizations, to some extent, lies in the size of the jurisdiction: bureaus have direct control over many firms, while administrative companies have control over relatively few firms (see Guthrie 1996, 1997). However, as model IV shows, at least for the case of independent prices setting practices, there is more to the distinction than simple jurisdiction size. In model IV, the size of a jurisdiction in which a firm is located is not significantly associated with the adoption of independent pricing practices. In addition, with the same degrees of freedom as model III, and a decrease in the chi-square statistic, it appears that model IV simply does not explain the variation in independent price setting practices as well as model III does.<sup>23</sup>

In sum, net of all other effects, firms under the jurisdiction of municipal bureaus are significantly more likely to be setting prices independent of state control than their counterparts at lower levels of the administrative hierarchy. This is an important finding in two ways. First,

this result indicates that firms at different levels of the administrative hierarchy are being treated differently in terms of the autonomy they experience in the economic transition. Compared to firms under the jurisdiction of municipal and district companies, organizations under the jurisdiction of municipal bureaus are significantly more likely to have direct control over pricing practices. Elsewhere I have argued that firms under the jurisdiction of municipal bureaus are experiencing a greater sense of being set adrift by the state (Guthrie 1997); the findings presented here offer support for that argument. If price setting is an integral ingredient of marketization, firms under higher levels of the government are experiencing marketization to a greater extent than those at the lower levels of the hierarchy, at least with respect to this practice. Second, the lack of significance of the size of a firm's governing jurisdiction indicates that the effects of different levels of the administrative hierarchy are not simply a function of how many other organizations a firm's governing organization has to watch over. For the autonomy given to firms over the market practice of price setting, different levels of state administration have set firms under their jurisdictions free to handle this market activity at different rates.

For the firms that were setting prices independent of state control, it is interesting to explore the approaches different firms take to deciding their prices; which firms set their prices based solely on "the market" (category 2 above) and which set their prices based on a formula that accounts for inputs, costs, and a profit margin (category 3)? Table 3 presents a systematic view of the institutional systems that firms that were setting prices independently employed to determine the prices of their products (categories 2 and 3 above). The population of firms for these logistic regressions is made up of those firms that were setting prices independent of government control (i.e., the firms that were still under government control for price setting were

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<sup>23</sup> Bureau governance and jurisdiction size are too highly correlated to be placed in the same model.

factored out). Therefore, instead of a population of 81 firms, as in most of the other analyses presented throughout this research, the population of firms for this set of regressions is 61 firms.

(Table 3 about here)

At first glance, it is somewhat surprising to note that organizations in the chemicals and electronics sectors are not more likely to have input-based pricing systems (see also figure 1 above). An input-based pricing system and a “complex pricing formula” are pricing systems that are more rationalized approaches to operating within the emerging market economy. We might expect that sectors with more complicated production processes would be more likely to have institutionally sophisticated strategies for setting prices. However, I think there are two things going on here. First, in nascent markets such as those in China, it is as likely that more complicated production processes are more difficult to figure prices for, so firms simply rely on market prices that are published by the state in “official journals” (see Naughton 1995, p. 220). Second, we must not overlook the fact that these “official journals” that publish “market prices” are published by government organizations, and firms that are setting prices based on these officially reported “market” prices—as opposed to setting them as a function of their own input and cost analyses—are perhaps still operating under an implicit type of government control over prices. For these firms, the state is not controlling prices directly, but for some, it is likely that it is quoting to them the “market” price it should set.

Location in the foods sector has a significant effect on the likelihood that a firm will institutionalize a complex pricing system. With considerable state control over pricing in the foods sector, prices remain relatively low in this sector. As a result, firms that are located in the foods sector operate at relatively slim margins of profit. Thus there is a pressure to rationalize prices to be certain that the firm will not be losing money based on the input prices and labor

costs that arise from production. Besides this structural pressure, there may also be an isomorphic effect operating here, where firms mimic practices that are adopted by successful firms in markets (DiMaggio and Powell 1983).

There is also a significant positive association between the complex pricing systems and profit margins, indicating that firms with larger profit margins are more likely to be setting their prices in more complex formulas. Here again, results are tentative because the causal sequencing of the equation should be questioned with respect to profit margins: it is more likely that firms with more institutionally organized market strategies are making more money than it is that higher profits lead to more institutionally organized price setting strategies (especially since we are dealing with 1994 profit margins here). Nevertheless, the positive association here is an interesting one: firms that are doing better in the economic transition tend to be those with more institutionally advanced price setting mechanisms and strategies. It may be that firms with institutionally pricing systems are more institutionally organized overall in terms of production strategies and are therefore better able to deal with the independent administrative and economic responsibilities they have in the economic transition. It appears in model II that associations with foreign organizations (through joint venture partnerships) have a positive effect on the institutionalization of complex pricing systems. This would be an interesting finding as it would be further evidence of the rationalizing effect of interaction with foreign capitalist organizations. However, the effect of foreign partnerships drops out when we control for bureau governance. Location under bureau governance also increases the odds that a firm will have more institutionally complex price setting mechanisms. As I have argued above (and I will present further evidence developing this point below), organizations under municipal bureaus have been given significantly more autonomy in the market reform than have other firms in the economic

transition, especially relative to organizations under district companies. The conceptions of control in the organizational fields defined by bureau governance have been conceptions of loose guidance, if any at all. Firms in this sector of the economy are no longer protected or closely administered by the organizations presiding over them; they have, for the most part, been left to find their own paths in the economic transition. This lack of protection and administrative attention offered by the state agencies has led to a greater market orientation and more institutional advances in market institutional realms such as price setting. Administrative companies, on the other hand, have kept closer control over the firms under their jurisdictions both economically and administratively. The consequence is that there has been less of a push for those organizations to develop institutionally advanced market practices in the economic transition.

### *Negotiation of Prices*

In addition to discussions over methods of price setting, I also discussed with managers whether or not their organizations negotiated prices [*shangliang jiage*] with customers, or whether the prices were fixed once they were set. In some ways, the outcome of this variable might indicate even greater autonomy from the state for firms that do negotiate prices with customers. These are firms that are truly going to the market and bargaining with customers to make a sale. Like all other practices, however, there is variation on what organizations actually do regarding this practice.

Among firms that set their own prices, some indicated that they do not negotiate prices at all. As one manager in the foods sector explained, "Our prices are set based on the cost of resources, the cost of labor, a profit margin, and an administrative fee. We never negotiate prices

with our customers. They're set, and that's the final price." Another manager, also in the foods sector, described his organization's practice in a similar way, "We almost never negotiate prices. It could be possible that a company would tell us that our price is too high, and, if they are a big customer, maybe we might consider it. But our prices are really fair, so we never really negotiate." A manager in the electronics sector painted a similar picture: "We really don't negotiate prices with customers. We try to make the quality of our products as good as possible and compete openly in the marketplace. We want to rely on these aspects of production, so we really don't change prices for anyone." One manager seemed concerned about all of the negotiations that go on in a market economy, indicating that he simply thought that everyone should be fair. Of his organization he said, "We set the prices ourselves. There is no state control of the prices in this sector anymore... Really we don't negotiate prices with customers. We try to take the customer's needs and costs into account when we are setting the price. And I think we set pretty fair prices."

Some organizations indicated that they do negotiate, albeit reluctantly: "We also negotiate prices with customers—especially larger customers—when we need to. It's a complicated problem; we try to set a fair price from the beginning, one that takes into account the situations of our customers. But we also need the business, so we will negotiate prices if we have to in order to keep customers, especially larger customers." Some organizations seemed to make exceptions only for "old customers" [*lao kehu*]: "We never negotiate prices, except with old customers. Since China became a market economy, the prices have never stopped changing. So we just produce our products, and set the price based on our costs." Other managers spoke to the necessity of negotiating with customers to keep business and survive in the market economy: "We also negotiate prices with customers—especially larger customers—when we need to. It's a



complicated problem; we try to set a fair price from the beginning, one that takes into account the situations of our customers. But we also need the business, so we will negotiate prices if we have to in order to keep customers, especially larger customers.” Finally, some organizations discussed this issue in very simple terms, saying, “We negotiate price with customers often.”

Figure 3 shows the variation by sector of whether or not firms negotiate prices with their customers. Overall by industry, the electronics sector has the highest proportion of firms that negotiate prices with customers; the foods sector has the lowest proportion. These proportions are not surprising given that a small number of firms in the foods sector have the autonomy to set their own prices. These figures are influenced by whether or not a firm is free to set prices on its own: for obvious reasons, firms that are not free to set prices are not free to negotiate prices either. However, the trends are basically the same among firms that are free to set prices within each of those sectors.

(Figure 3 about here)

Model I of Table 4 shows that, net of organizational size, firms located in the chemicals and in the foods sectors are both less likely to negotiate prices with other firms once the prices have been set by the organization, relative to location in the garments sector. This means that, net of size, among large organizations in Shanghai’s industrial economy, firms in the foods and chemicals sectors are significantly less likely to negotiate prices than those located in the garments sector. The significant effect of location in the foods sector remains throughout the models. This sector effect makes sense when we view the freedom to negotiate prices as a function of true market autonomy. There are several levels of freedom in the marketplace as is indicated by the different situations firms reported with respect to pricing in the economic transition. Most significant in terms of true autonomy in the marketplace is the ability to set your

own prices, find your own customers, and then negotiate the prices with the customers to make a sale. The ability to negotiate prices with other firms in the economic transition indicates that firms are operating in open markets in which they have the freedom to barter and haggle with customers in the markets (rather than simply applying a price that is the official market price as published by the Pricing Bureau). Thus, from this point of view, organizations in the foods sectors are still operating under some significant level of state control in this area, while organizations in other sectors are operating under significantly more freedom in this area. It may also be that markets in the foods sector are significantly tighter than markets in the other sectors.

(Table 4 about here)

Model II adds economic variables to the equation. While a formal relationship with a foreign partner has no effect on the likelihood that a firm will negotiate prices, there is a significant effect of a firm's profit margin: firms with strong profits are significantly less likely to negotiate prices with customers. This is an interesting finding, as this variable relates to market development and a firm's economic position within China's transforming economy. Organizations that are doing worse in poorly in the economic transition are primarily concerned with moving products on the market (and they are probably less confident in their ability to move products). They are willing bargain to sell goods, because markets in China are becoming increasingly competitive, and they can ill afford to lose business to other players in the market. Firms that are doing well in the economic transition, on the other hand, do not care to negotiate prices with customers, because they are having less trouble selling products in the first place. There is no effect of changes in a firm's profits or turnover over the period of 1990 to 1994. There is also no effect of a firm's position in the administrative hierarchy.

It could be that the approach to price setting discussed above (price formula vs. “market”) has an impact on whether or not a firm will negotiate prices with customers. And one could see the argument going either way: on the one hand, it could be that organizations that have more complex pricing schemes would be less likely to negotiate prices; on the other hand, it could be argued that firms that set only “market” guided prices are still under some kind of state control, and therefore, institutionally advanced price setting practices would be positively correlated with negotiations, as both are a measure of a firm’s relative autonomy. However, interestingly, when we endogenize the institutional structure of price setting practices with respect to negotiation, we find that there is actually no relationship between the two (see table 5). The evidence suggests that the practice of negotiating prices with customers is separate from the issue of the institutional practices that surround the setting of prices and that it is related to the factors articulated above—size, sectoral location, and government jurisdiction.

(Table 5 about here)

## DISCUSSION AND CONCLUSIONS

Price mechanisms and the freedom to set prices independent of state control are central to the emergence of a market economic system. Yet, to date, we have surprisingly little evidence on how firms are adopting practices surrounding price setting in China’s transitional economy. In this paper, I have shown that the adoption of price setting practices by organizational actors in China’s economic transition is dependent upon various organizational factors and that these practices are especially important for analyzing the meaning of reforms for organizations in the highest levels of China industrial hierarchy. In a general way, the findings here support studies that emphasize path dependence in economic transitions (Stark 1992, 1996; Walder 1994, 1995;

Guthrie 1997). Where a firm is positioned in the administrative hierarchy of China's command economy has profound implications for how that firm will experience the reforms. This view stands in contrast to convergence perspectives (Sachs and Woo 1997), which emphasize the universality of market processes in transitional and advanced capitalist societies. In reform era China, the type of economy emerging and the ways in which individual actors will experience this economy are dependent upon the institutional structures that preceded the reforms.

In this study, the effect of bureau governance for the adoption of these market-oriented strategies indicates that market reforms do matter significantly for organizations at the upper levels of China's administrative hierarchy. Some of studies have argued—based largely on weak gains in productivity—that firms at the upper level of China's administrative hierarchy are not experiencing the reforms in the same way that firms a lower levels of the hierarchy, which have shown greater gains in productivity over the decade and a half of reforms (Walder 1995; Woo et al. 1993). Others studies, which have examined organizational level data as opposed to aggregate measures of productivity, have found evidence of significant changes occurring at the upper levels of the administrative hierarchy (Groves et al. 1994). The results of this paper support the findings of the latter group. In this paper and others (Guthrie 1997, 1998) I have argued that there are a variety of indicators that reforms are having a significant impact on the upper levels of the administrative hierarchy. This research suggests that organizations under the jurisdiction of municipal bureaus are actually given the most autonomy in the economic transition. As municipal bureaus divest themselves of the administrative and economic responsibilities of the command economy, firms at this level of the administrative hierarchy are being given the most autonomy to adopt a number of market practices in the economic transition. As a result, firms at

this level of the hierarchy are the most likely to adopt a number of market-oriented practices in the reform era.

The significance of foreign investment (in the form of joint venture partnerships) also suggests some things about the emergence of market-defined pricing practices among firms in the transition. Chinese firms that have formal relations with foreign partners are significantly more likely than their counterparts that do not have such relationships to set prices independent of state control and to use a complex pricing formula in the setting of prices. I interpret these findings to mean that a process of institutional isomorphism occurs between foreign firms and their Chinese partners: Chinese firms mimic the practices of their foreign partners, which they view as legitimate practices in the marketplace. The significance of foreign relationships is also important because, to date, there have been few studies that examine the on-the-ground effects of foreign investment. The results presented here and elsewhere (Guthrie Forthcoming) show that the presence of foreign investors in the Chinese marketplace has significant effects on the shape of markets in the reform era.

As a final note, I would like to speculate here on what light my research can shed on the Holy Grail that researchers focusing on profits and productivity have been pursuing. While I have argued throughout this study that we must focus on the decisions and practices of managers—as opposed to productivity and profits—in order to examine enterprise reform in China's transitional economy, it is nevertheless necessary to discuss the implications of these changes for the *success* of enterprise reform. Profits and productivity are not appropriate measures of whether or not reforms are being enacted, but they are appropriate measures of whether or not reforms are moving in the right direction.

(Table 6 about here)

Table 6 shows the associations among several critical organizational variables and productivity.<sup>24</sup> According to this model, there is not a significant association between enterprise autonomy—defined by an enterprise’s freedom to set prices independent of state control—and enterprise productivity. Nor is there a significant association between an enterprise’s use of an input-based pricing system and productivity. It is the case, however, that enterprises that have formal relations with foreign joint venture partners and those that have general managers who have been formally trained in business or economics are significantly more productive than their counterparts. Thus, while the adoption of various independent price setting practices does not lead to gains in productivity, it is the firms that are under the influence of foreign investors and those that are under the guidance of reform-minded general managers that are making the greatest strides in the transition period. In study of economic transitions, we need to focus attention on both the decisions and practices firms are adopting as well as change in productivity to develop a full picture of the consequences of economic reform.

## APPENDIX

Comparative data on sectors employed for this study are presented in table A1.

(Table A1 about here)

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<sup>24</sup> Productivity here is derived as  $P = \ln[r/e]$ , where  $r$  represents the organization’s revenues for 1994, and  $e$  represents the number of active employees in the organization in 1994. Compared to other studies that look at multi-factor and total factor productivity, this is a simplistic measure of productivity. However, data on inputs were unavailable for this study.

## REFERENCES

- Burawoy, Michael and Pavel Krutov. 1992. "The Soviet Transition from Socialism to Capitalism: Worker Control and Economic Bargaining in the Wood Industry." *American Sociological Review* 57: 16-38.
- Chinese Directory of Organizations and Institutions Publishing Committee [*Zhongguo qi shi ye ming lu quan shu bian wei hui*]. 1993. *Chinese Directory of Organizations and Institutions* [*Zhongguo qi shi ye ming lu quan shu*]. Beijing, P. R. China.
- DiMaggio, Paul and Walter Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* 48: 147-61.
- Dobbin, Frank, John R. Sutton, John W. Meyer, and W. Richard Scott. 1993. "Equal Opportunity Law and the Construction of Internal Labor Markets." *American Journal of Sociology* 99: 396-427.
- Eccles, Robert G. and Harrison C. White. 1988. "Price and Authority in Inter-Profit Center Transactions." *American Journal of Sociology* 94 Supplement: S17-S51.
- Edelman, Lauren B. 1990. "Legal Environments and Organizational Governance: The Expansion of Due Process in the American Workplace." *American Journal of Sociology* 95: 1401-40.
- \_\_\_\_\_. 1992. "Legal Ambiguity and Symbolic Structures: Organizational Mediation of Civil Rights Law." *American Journal of Sociology* 97: 1531-76.
- Fligstein, Neil. 1987. "The Intraorganizational Power Struggle: Rise of Finance Personnel to Top Leadership in Large Corporations, 1919-1979." *American Sociological Review* 52: 44-58.
- \_\_\_\_\_. 1990. *The Transformation of Corporate Control*. Cambridge, MA: Harvard University Press.
- \_\_\_\_\_. 1996a. "The Economic Sociology of the Transitions from Socialism." *American Journal of Sociology* 101: 1074-81.
- \_\_\_\_\_. 1996b. "Markets as Politics: A Sociological View of Market Institutions." *American Sociological Review* 61: 656-73.
- Groves, Theodore, Yongmiao Hong, John McMillan, and Barry Naughton. 1994. "Autonomy and Incentives in Chinese State Enterprises." *Quarterly Journal of Economics* 109(1): 193-209.

- \_\_\_\_\_. 1995. "China's Evolving Managerial Labor Market." *Journal of Political Economy* 103: 873-92.
- Guthrie, Douglas. 1996. "Organizational Action and Institutional Reforms in China's Economic Transition: A Comparison of Two Industries." *Research in the Sociology of Organizations* 14: 181-222.
- \_\_\_\_\_. 1997. "Between Markets and Politics: Organizational Responses to Reform in China." *American Journal of Sociology* 102(5): 1258-1303.
- \_\_\_\_\_. 1998. "Organizational Uncertainty and the End of Lifetime Employment in China." *Sociological Forum*.
- \_\_\_\_\_. Forthcoming. *The Changing Face of the Dragon: Foreign Investment, Institutional Change, and Market Reform in China*. Palo Alto, CA: Stanford University Press.
- Jefferson, Gary H. and Wenyi Xu. 1991. "The Impact of Reform on Socialist Enterprises in Transition: Structure, Conduct, and Performance in Chinese Industry." *Journal of Comparative Economics* 15: 45-64.
- Jefferson, Gary H, Thomas G. Rawski, and Yuxin Zheng. 1994. "Productivity Change in Chinese Industry: A Comment." *China Economic Review* 5: 235-41
- Lee, Ching Kwan. 1995. "Engendering the Worlds of Labor: Women Workers, Labor Markets, and Production Politics in the South China Economic Miracle." *American Sociological Review* 60: 378-97.
- Lieberthal, Kenneth. 1995. *Governing China: From Revolution Through Reform*. New York, NY: W. W. Norton and Company.
- Naughton, Barry. 1995. *Growing Out of the Plan: Chinese Economic Reform 1978-1993*. New York, NY: Cambridge University Press.
- Nee, Victor. 1989. "A Theory of Market Transition: From Redistribution to Markets in State Socialism." *American Sociological Review* 54: 663-81.
- \_\_\_\_\_. 1991. "Social Inequalities in Reforming State Socialism: Between Redistribution and Markets in China." *American Sociological Review* 56: 267-82.
- \_\_\_\_\_. 1996. "The Emergence of a Market Society: Changing Mechanisms of Stratification in China." *American Journal of Sociology* 101: 908-49.
- Sachs, Jeffrey D. and Wing Thyee Woo. 1994. "Experiences in the Transition to a Market Economy." *Journal of Comparative Economics* 18(3): 271-75.



- \_\_\_\_\_. 1997. "Understanding China's Economic Performance." Working Paper #5935, National Bureau of Economic Research, Inc. Working Paper Series.
- Stark, David. 1992. "Path Dependence and Privatization Strategies in Eastern Europe." *Eastern European Politics and Societies* 6: 17-54.
- \_\_\_\_\_. 1996. "Recombinant Property in East European Capitalism." *American Journal of Sociology* 101: 993-1027.
- Sutton, John R., Frank Dobbin, John W. Meyer, and W. Richard Scott. 1994. "The Legalization of the Workplace." *American Journal of Sociology* 99: 944-71.
- Vogel, Ezra. 1989. *One Step Ahead in China: Guangdong Under Reform*. Cambridge, MA: Harvard University Press.
- Walder, Andrew G. 1989. "Factory and Manager in an Era of Reform." *China Quarterly* 118: 242-64.
- \_\_\_\_\_. 1992. "Property Rights and Stratification in Socialist Redistributive Economies." *American Sociological Review* 57: 524-39.
- \_\_\_\_\_. 1994. "Corporate Organization and Local Government Property Rights in China." Pp. 53-66 in *Changing Political Economies: Privatization in Post-Communist and Reforming Communist States*, edited by Vedat Milor. Boulder, CO: Lynn Reinner Publishers.
- \_\_\_\_\_. 1995. "Local Governments as Industrial Firms: An Organizational Analysis of China's Transitional Economy." *American Journal of Sociology* 101: 263-301.
- White, Harrison C. 1981. "Where do Markets Come From?" *American Journal of Sociology* 87: 517-47.
- Woo, Wing Thye, Wen Hai, Yibiao Jin, and Gang Fan. 1993. "How Successful Has Chinese Enterprise Reform Been? Pitfalls in Opposite Biases and Focus." *Journal of Comparative Economics* 18: 410-37.
- Xie, Yu and Emily Hannum. 1996. "Regional Variation in Earnings Inequality in Reform-Era Urban China." *American Journal of Sociology* 101: 950-92.

Table 1: Means, Standard Deviations, and Definitions for Variables for Organizations from Four Industrial Sectors in Shanghai, 1995<sup>1</sup>

	Mean	S.D.	Definition
<i>Dependent Variables</i>			
Autonomous price setting	.469	.502	Dependent variable; 1 = organization sets prices independent of state control.
Input pricing formula	.263	.443	Dependent variable; 1 = organization uses a complex pricing formula that accounts for inputs and a pre-defined profit margin (N=61).
Negotiate prices w/ customers	.691	.465	Dependent variable; 1 = organization negotiates prices with customers (N=61).
<i>Organizational Variables</i>			
Organizational size	1580.840	3724.745	Number of active (not retired) employees, year end, 1994.
Organizational size (ln)	6.058	1.475	Natural log of active employees.
Organizational health (mil.) <sup>2</sup>	183.464	500.550	Gross income minus labor cost and minus money paid into national pension fund; low values indicate orgs. struggling to meet labor costs; see also footnote 17.
Profit margin	.075	.085	Profits (1994)/gross revenue (1994).
Percent products exported	.259	.441	Percentage of products that were exported in 1994.
Profit trend	.370	.486	Dummy variable; 1 = organization had a larger profit margin in 1994 than in 1990.
Turnover trend	.605	.492	Dummy variable; 1 = organization had a larger revenue in 1994 than in 1990.
Joint venture	.457	.501	Dummy, 1 = firm has joint venture partner.
<i>Governance Variables</i>			
General Manager's specialization	.444	.500	Educational specialization of GM; dummy, 1 = GM has background in management or economics; 0 = no specialization.
Municipal bureau	.296	.459	Dummy variable; 1 = Municipal bureau governance; org. under municipal bur. jurisdiction, highest gov. level in data set.
Jurisdiction size	46.963	72.257	Number of organizations under the jurisdiction of the <i>i</i> th organization's governing organization.

<sup>1</sup> See text for discussion of specific variables and data collection.

<sup>2</sup> See text, esp. footnote 17, for discussion of this variable.

Table 2: Logistic Coefficients for the Practice of Independent Price Setting by Organizations in Four Industrial Sectors, Shanghai, 1995 (N = 81)<sup>1</sup>

Independent Variables	Model I	Model II	Model III	Model IV
<i>Organizational variables<sup>a</sup></i>				
Chemicals	-.783* (.404)	-.687+ (.454)	-.478 (.484)	-.571 (.470)
Foods	.158 (.338)	.427 (.391)	.684 (.469)	.488 (.430)
Garments	.020 (.340)	-.131 (.466)	.135 (.510)	-.074 (.480)
Active employees (ln)	.087 (.222)	.140 (.327)	-.106 (.360)	-.076 (.374)
Organizational health	---	-.153 (.138)	-.158 (.156)	-.124 (.145)
Profit margin (profits/turnover)	---	5.855* (3.404)	7.033* (3.795)	5.965* (3.492)
Percent products exported	---	.015* (.009)	.015+ (.009)	.016+ (.010)
Joint venture	---	.697** (.327)	.561* (.336)	.646** (.328)
<i>Governance variables</i>				
GM w/ background in bus./econ.	---	---	.189 (.282)	.082 (.273)
Municipal bureau	---	---	.925** (.441)	---
Size of jurisdiction (ln)	---	---	---	.283 (.243)
Constant	-1.092 (1.364)	-1.986 (1.813)	-.204 (.209)	-1.403 (1.901)
$\chi^2$	6.103	19.606**	24.852***	21.188**
Degrees of freedom	4	8	10	10

\*  $p < .1$       \*\*  $p < .05$       \*\*\*  $p < .01$       (2-tailed tests)      +  $p < .1$  (1-tailed test)

<sup>a</sup> Reference category for sector is electronics.

<sup>1</sup> See text for discussion of variables. Numbers in parentheses are standard errors.

Table 3: Logistic Coefficients for Institutional Approaches to Price Setting (1=input. cost formula/0= "market sets price") for Organizations in Four Industrial Sectors, Shanghai, 1995 (N = 61)<sup>1</sup>

Independent Variables	Model I	Model II	Model III
<i>Organizational variables<sup>a</sup></i>			
Electronics	1.245 (.842)	1.524 (1.038)	.976 (1.095)
Foods	3.278*** (1.213)	4.083*** (1.373)	4.232*** (1.489)
Garments	2.160** (1.023)	1.982+ (1.302)	1.965+ (1.314)
Active employees (ln)	.339 (.304)	.252 (.444)	.003 (.474)
Organizational health	---	-.095 (.166)	-.138 (.177)
Profit margin (profits/turnover)	---	7.462* (4.433)	10.350* (5.571)
Percent products exported	---	.014 (.012)	.018 (.013)
Joint venture	---	1.679* (.876)	1.397+ (.889)
<i>Governance variables</i>			
GM w/ background in bus./econ.	---	---	.052 (.701)
Municipal bureau	---	---	2.038* (1.104)
Size of jurisdiction (ln)	---	---	---
Constant	-3.173 (2.225)	-4.618* (2.647)	-3.710 (2.813)
$\chi^2$	9.911**	19.053**	23.025**
Degrees of freedom	4	8	10

\*  $p < .1$       \*\*  $p < .05$       \*\*\*  $p < .01$  (2-tailed tests) +  $p < .1$  (1-tailed test)

<sup>a</sup> Reference category for sector is chemicals.

<sup>1</sup> See text for discussion of variables. Numbers in parentheses are standard errors.

Table 4: Logistic Coefficients for the Decision to Negotiate Prices with Customers for Organizations in Four Industrial Sectors, Shanghai, 1995 (N = 61)<sup>1</sup>

Independent Variables	Model I	Model II	Model III
<i>Organizational variables<sup>a</sup></i>			
Chemicals	-2.322* (1.273)	-2.546 (1.684)	-2.413 (1.709)
Electronics	-.443 (1.120)	-.414 (1.597)	-.501 (1.562)
Foods	-1.657* (.905)	-3.107** (1.380)	-3.032** (1.452)
Active employees (ln)	1.203** (.505)	.335 (.848)	.200 (.919)
Organizational health	---	.551 (.935)	.524 (.947)
Profit margin (profits/size)	---	-8.724* (4.751)	-8.531* (4.800)
Profit trend	---	.841 (1.133)	.897 (1.204)
Turnover trend	---	1.597 (1.085)	1.593 (1.090)
Percent products exported	---	-.006 (.014)	-.006 (.014)
Joint venture	---	.368 (1.031)	.345 (1.026)
<i>Governance variables</i>			
GM w/ background in bus./econ.	---	---	-.025 (.961)
Municipal bureau	---	---	.812 (1.409)
Constant	-4.699* (2.585)	-.274 (4.074)	-.308 (4.362)
$\chi^2$	18.673***	26.215***	26.610***
Degrees of freedom	4	10	12

\*  $p < .1$       \*\*  $p < .05$       \*\*\*  $p < .01$       (2-tailed tests)

<sup>a</sup>Reference category for sector is garments.

<sup>1</sup>See text for discussion of variables. Numbers in parentheses are standard errors.

Table 5: The Effect of the Institutional Structure of Price Setting (1=input pricing formula) on the Decision to Negotiate Prices with Customers (N=61)<sup>1</sup>

	B	S. E.
Active employees (ln)	1.044***	.362
Complex Pricing System	.258	.678
Constant	-4.809	1.979
$\chi^2$		12.522***
Degrees of Freedom		2

\*\*\*  $p < .01$  (2-tailed tests)

<sup>1</sup> See text for discussion of variables.

Table 6: OLS Coefficients for the Productivity (ln) of Industrial Organizations from Four Sectors in Shanghai, 1995 (N = 81)<sup>1</sup>

	B	S. E.
<i>Organizational variables<sup>a</sup></i>		
Electronics	-1.256**	.472
Foods	-.919	.618
Garments	-.877	.633
Active employees (ln)	.039	.155
Joint venture	.638*	.374
Percent products exported	-.006	.005
Set prices independently	-.359	.424
Input pricing system	.228	.380
<i>Governance variables</i>		
GM w/ background in bus./econ.	.592*	.312
Municipal bureau	-.467	.421
Constant	11.408***	1.197
R <sup>2</sup>	.269	

\*  $p < .1$       \*\*  $p < .05$       \*\*\*  $p < .01$       (2-tailed tests)

<sup>a</sup> Reference category for sector is chemicals.

<sup>1</sup> See text for discussion of variables. Numbers in parentheses are standard errors.

Table A1: Characteristics for Four Industrial Sectors in China, 1994<sup>1</sup>

	Electronics	Foods	Chemicals	Garments
<i>Based on mean values for sample organizations in Shanghai data set (N=81)</i>				
Fixed assets	49,162,609	13,967,857	694,333,333	6,473,818
Active employees	1,634	378	5,094	279
Retired employees	723	148	1,159	88
State-owned	.652	.714	.867	.182
Collectively-owned	.348	.143	0	.727
Other-owned	0	.143	.133	.091
Age (years)	33	33	39	22
Profit margin	.06	.08	.08	.07
Profit/size	2,545	5,573	15,252	6,175
Profit/fixed assets	.097	.286	.216	.336
1994 Turnover	92,826,087	45,874,286	845,133,333	26,399,715
1990 Turnover	66,326,087	27,042,105	394,181,818	14,503,880
1994 Turnover/size	55,222	95,637	216,839	102,574
Average salary	7,346	10,214	10,887	8,286
<i>National data (aggregate industry)<sup>2</sup></i>				
Capital Construction [ <i>jiben jianshe</i> ]				
Projects completed	90	184	382	40
Projects completed/pro. contracted	49.8	59.2	45.8	38.8
Technical Updates and Transformation [ <i>gengxin gaizao</i> ]				
Projects completed	256	670	2,255	129
Projects completed/pro. contracted	34.6	61.2	57.7	60.1
Increased fixed assets (billion)	3.78	2.73	7.89	.39
Indicators for industrial enterprises with independent accounting systems [ <i>duli hesuan</i> ]				
Number of enterprises	6,313	14,074	23,553	17,921
Gross output value of ind. (billion)	129.9	117.8	237.7	99.3
Net output value of ind. (billion)	69.8	34.1	68.4	33.5
Total capital assets (billion)	14.5	32.7	39.1	52.4
Total fixed assets (billion)	48.8	37.8	151.6	24.1
Total turnover (billion)	134.1	69.1	228.5	81.7
Total profits (billion)	10.3	8.7	19.3	5.4
Profit margin	.07	.11	.08	.06

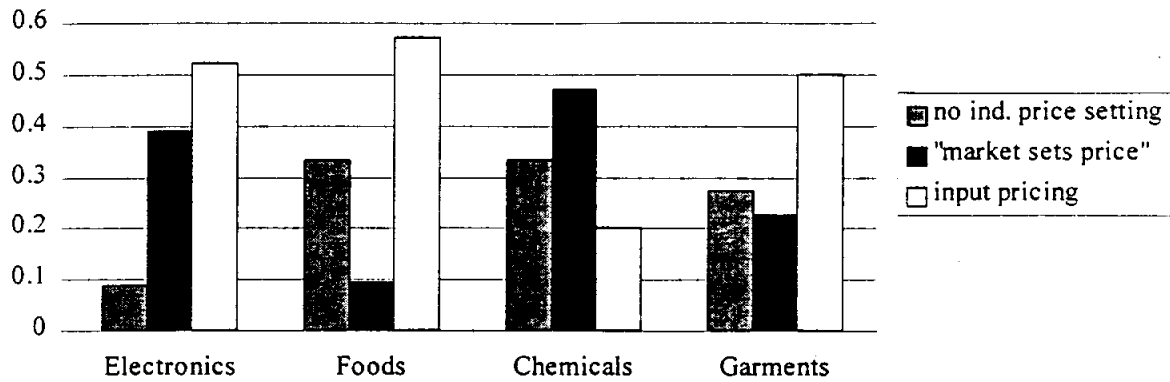
<sup>1</sup>All fiscal figures given in yuan.

<sup>2</sup>Data for these industrial categories were gathered from the 1994 *Statistical Yearbook of China* [*Zhongguo tongji nianjian*], pp. 164-67, 378-81, 396-97, and the 1994 *Statistical Yearbook of Shanghai* [*Shanghai tongji nianjian*], pp. 135-68; the data are 1993 year end data, one year earlier than the data gathered for my study. The sectorial categories reported are based on the same



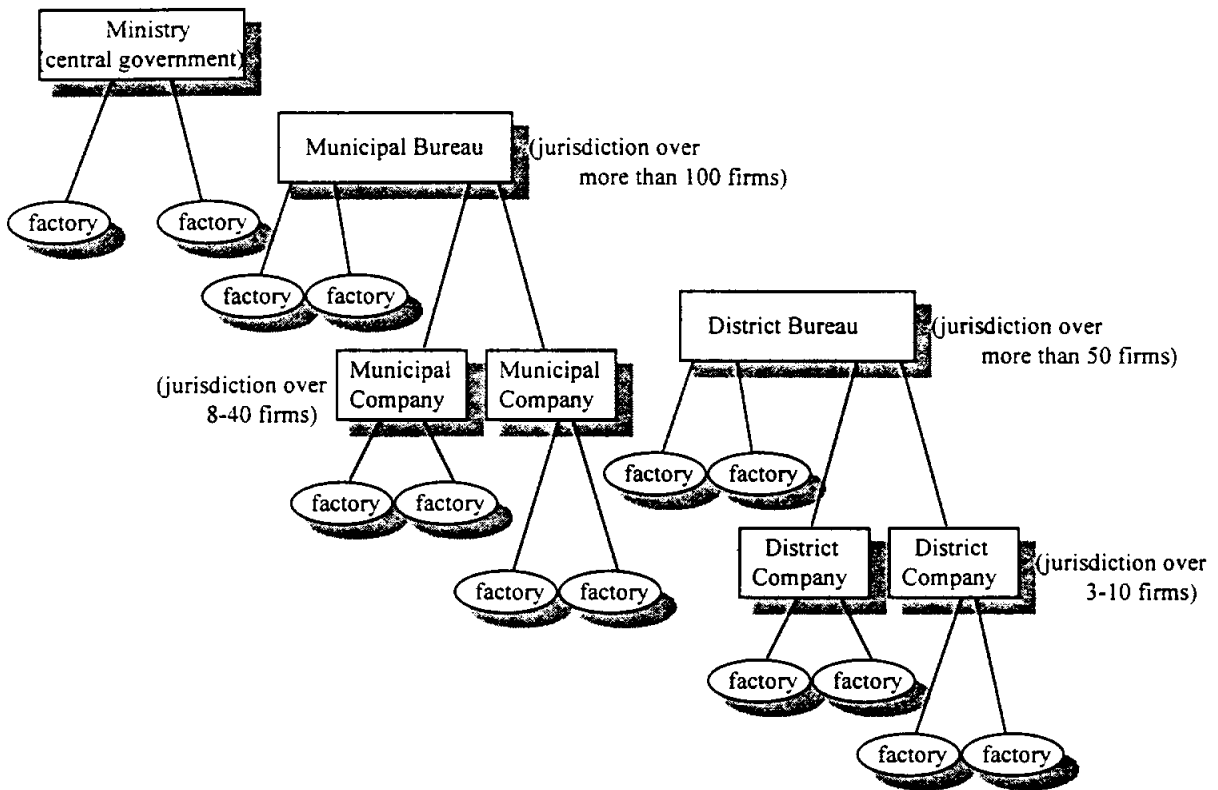
sectorial categories from which the sample for my survey was selected in *The Directory of Chinese Organizations and Institutions* [Zhongguo qishiye minglu quanshu]. As my survey combined the sectors of “food manufacturing” [shipin zhizaoye] and “beverage manufacturing” [yingliao zhizaoye] to sample organizations in the foods sector, these categories are averaged for the values under the foods category presented here. The other categories are “electronic and telecommunications” [dianzi ji tongxin shebei zhizaoye] for organizations in the electronics sector, “raw chemical materials and chemical products” [huaxue yuanliao ji hipin zhizaoye] to sample organizations in the chemicals sector, and “garments and other fiber products” [fu-huang ji qita ganxi shipin zhizaoye] to sample organizations in the garments sector.

Figure 1: Proportion of Firms Exercising Various Price Setting Practices in Samples from Four Sectors in Industrial Shanghai, 1995



Source: Stratified random sample of 81 firms in Shanghai; data gathered by author

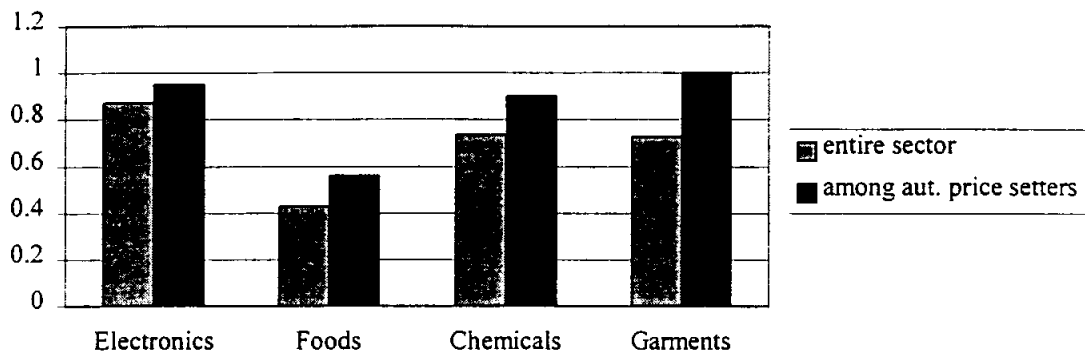
Figure 2: Institutional Structure of State Administration in Urban Industrial China



Note: In municipal areas, there are two additional levels in the hierarchy of control over factories. The Street Association which is a sub-division of the district government, and in the garments sector, some larger factories (usually textile factories) also have control over smaller factories. Most economic organizations under Street Associations are in the service sector, so they were not really relevant for the sampling conducted in this study. It should be noted that this figure is an ideal typical representation of the organizational structure of industry in China and that there is considerable variation from bureau to bureau and company to company. For example, there are 110 factories directly under the jurisdiction of the Electronics Bureau, while there are over 400 factories under the jurisdiction of the Light Industry Bureau. The numbers presented here are ranges derived from the firms included in my sample.

Source: Figure based on interviews with industrial managers and directors and governmental officials (see Appendix 2). See Walder [1992] and Guthrie [1996] for basic discussion of the "nested hierarchy" of the industrial structure.

Figure 3: Proportion of Firms that Negotiate Prices with Customers in Samples from Four Sectors in Industrial Shanghai, 1995



Source: Stratified random sample of 81 firms in Shanghai; data gathered by author