CORPORATE LAYOFF BEHAVIOR
DURING CHINA'S TRANSITIONAL PERIOD

A Thesis

Presented in Partial Fulfillment of the Requirement for
the Degree Master of Arts in the
Graduate School of the Ohio State University

By

Dan Yin, B.A.

*****

The Ohio State University
2003

Master's Examination Committee:

Dr. Lisa A. Keister, Advisor
Dr. Wenlang Li
Dr. Zhenchao Qian

Approved by

Advisor
Department of Sociology
Copyright by
Dan Yin
2003
ABSTRACT

An increasing number of Chinese firms began laying off workers in the 1990s to improve financial performance and productivity. This study explores the characteristics of firms that affected whether they began to use layoffs as a corporate strategy. I propose that state policies shaped layoff behavior in state-owned enterprises, while market mechanisms only functioned in the non-state sector. I use a unique survey data set from 1994-1999 including 433 state-owned enterprises and 367 non-state firms to investigate these patterns. My findings reveal that innovative, financially strong state-owned enterprises were more likely to lay off workers. I also find that in the non-state sector, firms were more likely to lay off workers when profits declined. My findings underscore the idea that firms in different sectors respond to reforms and marketization differently, and I identify specific differences in these responses between the state and non-state sectors.
Dedicated to my parents
ACKNOWLEDGMENTS

I wish to express my deepest appreciation to my advisor, Lisa Keister, for all her support and encouragement. I am grateful for her valuable comments and suggestions. I also wish to thank Wen Li and Zhenchao Qian for serving on my committee and for encouraging me, and for all of their insightful feedback.

I also wish to thank Min Zhou, Jin Lu, Jill Wooton, Sandi Miller, Jennifer James, Sara Bradley, Wei Song, Margaret Gassanov and Kana Fuse for their emotional and intellectual support.

Last, and most of all, I wish to thank my parents, my brother, my sister, my brother-in-law, my cute little nephews and nieces for always believing in me, encouraging me, and supporting all of my decisions. This thesis would never have been completely without their unconditional love.
VITA

April 14, 1973. .............................................. Born – Harbin, China

1996 .......................................................... B.A., The Central University for
Nationalities, Beijing, China

2000 – Present. .............................................. Graduate Teaching Associate,
The Ohio State University,
Columbus, Ohio

FIELDS OF STUDY

Major Field: Sociology
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Dedication</td>
<td>iii</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>iv</td>
</tr>
<tr>
<td>Vita</td>
<td>v</td>
</tr>
<tr>
<td>List of Tables</td>
<td>viii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>ix</td>
</tr>
</tbody>
</table>

## Chapters:

1. Introduction..............................................1
2. Definitions................................................5
3. Background...............................................7
4. Theoretical Framework and Hypotheses.............10
   - Institutional Theory and SOEs.........................10
   - Economic Theory and Non-SOEs.........................18
5. Data, Method and Variables..........................21
   - Data................................................21
   - Method.............................................22
   - Dependent Variable.................................22
Independent Variables..........................................................23

1. Results..................................................................................26

2. Conclusion..............................................................................31

Appendix – Tables and Figures......................................................35

List of References.......................................................................41
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Tables</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Univariate Statistics and Bivariate Correlation Matrix of SOE Model</td>
<td>38</td>
</tr>
<tr>
<td>2. Univariate Statistics and Bivariate Correlation Matrix of Non-SOE Model</td>
<td>38</td>
</tr>
<tr>
<td>3. Logistic Regression of SOE and Non-SOE Models</td>
<td>39</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figures</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Laid-Off Workers and Unemployed Workers in 1993-1999</td>
<td>36</td>
</tr>
<tr>
<td>2. Proportion of SOEs and Non-SOEs That Laid Off Workers 1994-1999</td>
<td>37</td>
</tr>
<tr>
<td>3. Percentages of the SOEs Reorganized under the Company Law in 1994-1999</td>
<td>40</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

During economic transition, Chinese firms have laid off record numbers of urban workers. Nearly 7.4 million workers were laid off in 1998 alone, and 76 percent of these were workers from state-owned enterprises (China Labor Statistical Yearbook 1999:441). Because China’s social welfare system is in incredible flux, the laid-off workers face a tremendous number of challenges meeting basic needs. An important potential result of these is the threat of social instability (Chan 1997; Wong and Kinglun 1997). At the same time, layoffs shed light on the basic behavior of organizations during transition (Gu 1999; Wong and Kinglun 1997) and the overall status of Chinese economic transformation (Guthrie 1997; Walder 1995). Thus, corporate layoffs are not only an economic issue but also a critical social problem (Song 2003). Moreover, given their implications for social stability and the treatment of displaced workers, layoffs have important implications for understanding the effectiveness of basic policy practices (Anderson and Meyer 1993; Cooke 2000; Picot, Lin and Pyper 1998; Price and Fang 2002; Nord and Ting 1992). Despite its importance in these diverse arenas, the process by which firms lay off workers during economic transition has attracted very little attention from sociologists and other social scientists.
Layoffs began in the early stages of reform, and they increased dramatically during the 1990s. Yet not all firms have yet adopted layoff programs. What factors differentiate the firms that lay off their workers from those that do not? What kinds of firms are more likely to lay off workers? Answers to these questions may help us better understand and predict patterns of Chinese unemployment, economic transition, and social stability.

One of the most plausible explanations of firm layoff behavior is based in ideas from organizational theory. Two distinct perspectives are commonly used to study firm behavior: an economic approach and an institutional approach. Generally speaking, all organizations operate in a complex environment consisting of technical and institutional elements (Scott and Meyer 1991). The economic perspective focuses on the technical environments in which "a product or service is produced and exchanged in a market" (Scott and Meyer 1991: 123). This approach emphasizes the idea that organizations make their decisions through rational choices, minimizing costs and maximizing profits. Meanwhile, the institutional approach proposes that organizations exist in an institutional environment and they sometimes have to compromise their profits and/or efficiency to gain legitimacy and support from the state (Meyer and Rowan 1977; Tolbert and Zucker 1983; Zucker 1987). Those firms that have close relationships with the state are usually the enthusiastic followers of state policies and the vanguards of those innovations initiated by the state (Scott and Meyer 1983; Tolbert and Zucker 1983). Given the importance of the Chinese state during transition, I propose that the institutional perspective provides an important starting point for explaining the layoff behavior of the
state-owned enterprises (SOEs). At the same time, I argue that the economic is likely to be more effective at explaining the behavior of non-state enterprises.

China's unemployment and layoff problems have received extensive attention in recent years. Most previous research has focused on the status of China's unemployment situation (Feng 1991; Hu and Li 1993; Hughes 1998; Mao and Higaro 1996; Naughton 1996; Solinger 2002). In addition, researchers have described employment policies (Gu 1999; Jefferson and Rawski 1992; Shan 1996a, 1996b) and social welfare policies designed to protect unemployed and laid-off workers (Cooke 2000; Smyth 1999; Wong and Kinglun 1997). Although they are rare, there are some empirical studies, including research on the types of workers who are more likely to be laid off (Appleton et al. 2002; Price and Fang 2002) and workers' reactions to dismissal and their subsequent coping strategies (Chan and Qiu 1999; Mok et al. 2002). Despite the large amount of research that has been done, there are few firm-level studies of worker layoffs, and arguably, it is firm behavior that drives this process.

This paper draws on research in economic sociology and organizational theory to investigate the factors that shape firm layoff behavior during China's economic transition. Since layoff problems are particularly serious in state-owned enterprises, I focus on SOEs and then make a concise comparison with non-SOEs. After briefly describing the theoretical framework, I present an empirical analysis of corporate layoffs. I used a sample of 800 Chinese firms in four provinces during 1994–1999 to conduct the empirical analysis. In particular, I used a pooled cross-sectional time series model to
identify the factors that influenced the layoff behaviors of 433 state-owned enterprises and 357 non-state enterprises, respectively.
CHAPTER 2

DEFINITIONS: LAID-OFF WORKERS AND UNEMPLOYED WORKERS

To understand layoff problems in China, it is necessary to differentiate unemployed workers and laid-off workers. Unemployed workers are permanent urban residents at working age, registered in a local community as unemployed, capable of working, and currently looking for a job (China's Statistical Abstract 1990:20). Unemployed workers are allowed to receive government subsidies to maintain a basic living standard (Smyth 1999). In contrast, laid-off workers are those who are asked to leave their jobs but still keep nominal labor relations with their work units. In other words, they are still nominally on the company pay-roll but they do not have job assignments and cannot receive their normal salaries. Instead, they are given only a certain amount of subsistence allowances from their work units to cover basic living expenses (Gu 1999; Price and Fang 2002; Smyth 1999; Wong and Kinglun 1997). Although these two groups have different names, their living situations are quite similar (Smyth 1999; Song 2003). Statistically, the number of unemployed workers did not increase dramatically during the 1990s, only from 4.2 million in 1993 to 5.75 million in 1999 (China Statistical Yearbook 1998:127; 2002:117). However, the number of laid-off workers increased substantially from 3 million in 1993 to 11.7 million in 1999 (Song
2003). Figure 1 shows the increases of laid-off workers and unemployed workers in 1993-1999.
CHAPTER 3

BACKGROUND: CORPORATE LAYOFFS IN CHINA

During the 1950s, immediately following the assumption of political power by the Chinese Communist Party, the Chinese government adopted a policy of full employment. The Chinese Constitution entitled every citizen who was able to work the right to have a paid job. All levels of state labor departments were responsible for creating job opportunities and trying to assign everyone a job. In the state sector, the enterprises had no power to hire or fire their employees. Only the state labor departments were authorized to place workers in or transfer workers to work units. Because the major aim of the labor department was to offer jobs to as many people as possible and reduce unemployment rates, they distributed workers to state-owned enterprises with little regard for production efficiency (Chan and Qiu 1999; Price and Fang 2002). Moreover, in the state sector, enterprises and other work units also carried out a lifelong employment system, which meant that state workers were entitled to lifetime employment. Occasionally when state workers retired, their child was even allowed to become a state worker and to enjoy all the benefits of state workers, including subsidized housing, free childcare, free education, pension benefits, and other benefits (Smyth 1999; Wong and Kinglun 1997).
As a result of the full employment policy, the state proudly claimed that nearly all workers in China had jobs. Despite this rather remarkable accomplishment, the policy also created a large number of redundant workers in the SOEs and placed an extremely heavy burden on the managers who attempted to keep these firms solvent (Hu and Li 1993; Gu 1999; Wong and Kinglun 1997). As Mao and Higano (1996) discovered, in a typical state-owner enterprise, five workers were doing the job of three, a clear indicator of extremely low production efficiency in the SOEs.

In 1979, China began a dramatic effort to reform its economy. Since that time, the central government has gradually eliminated the direct administrative control of state-owned enterprises. In the past two decades, transformed little by little from a centrally-planned system to a market-oriented system, the Chinese government has now empowered the SOEs with more decision-making abilities in firm management, including decisions regarding employment.

The first major change in the employment policy occurred in 1979, when the government, by issuing “The Trial Regulation for Enlarging Enterprises’ Autonomy,” required a number of SOEs to restructure the employment system by allowing them to hire and even fire their employees (Naughton 1996; Shan 1996a). The new policy also established a labor contract system. As part of contracts between employers and employees, the SOEs were allowed to break the lifelong employment system and convert permanent workers into contract workers or hire new workers. The policy also allows, but does not encourage, SOEs to lay off redundant or incompetent employees (Shan 1996a; Smyth 1999). This labor contract system was first implemented on a trial basis
during the first five years in the 1980s. In 1986, the new system was implemented in companies throughout the country (Child 1999).

Although the employment policies of the 1980s and early 1990s permitted enterprises to lay off workers, few workers actually lost their positions. An important reason for this was the unstable social welfare system. Seeing that unemployed workers, in particular, were vulnerable because there were few benefits available to them, the government would only allow SOE leaders to dismiss a limited number of redundant workers, fearing that throwing a large number of workers out of work might lead to social instability (Wong and Kinglun, 1997). Actually, as Solinger (1993) pointed out, during that period of time, only those SOEs that were in the process of merging or bankruptcy could fire or lay off a certain amount of workers.

As a result, the SOE layoff problem did not become a real problem until 1993 when the Chinese government decided to promote even more labor aggressive policies (Gu 1999). In 1993, as a part of the overall reform in the state-owned enterprises and in conjunction with other social welfare system reforms, the government decided to encourage SOEs to lay off workers at will in order to decrease inefficiency and gradually transit to the market-oriented system (Song 2003). Since under the new policy, unprofitable enterprises would have to restructure or even go bankrupt (Chan and Qiu 1999; Price and Fang 2002), greater numbers of SOEs have laid off workers.
CHAPTER 4
THEORETICAL FRAMEWORK AND HYPOTHESES

Institutional theory and SOEs

Institutional analyses of organizations highlight the social reality in which organizations operate. All organizations exist within complex regulative structures. These social systems create and enforce laws and norms, and these rules have important effects on organizational behaviors (DiMaggio and Powell 1983; Meyer and Rowan 1977; Powell and DiMaggio 1991). Firms, a type of organization that is typically profit-oriented, are not always completely free to pursue task-related goals, even goals such as maximizing efficiency or profits. In fact, firms face constraints from multiple external sources, including the state (Clarke 1996). Firms’ economically rational choices sometimes have to be compromised in order to gain legitimacy and resources. As a consequence, firm behavior is not merely the result of economic rationality. In fact, institutional theorists argue that firm behavior is more likely to be the outcome of institutionalization processes than of economic rationality (Meyer and Rowan 1977).

Institutionalization is a process through which certain organizational structures become widely accepted and legitimated (Tolbert and Zucker 1983). These structures are then used to legitimate other organizations. New formal organizational structures typically arise from either of two sources: internal and external (Meyer and Rowan 1977;
When facing difficulties or simply hoping to improve performance, innovative organizations may initiate certain structural reform that they think necessary for internal reason. These changes might be legalized by the state later, and then promoted among other organizations. By contrast, external motivators of organizational change include requirements and constraints from some outside forces, such as the state (Fligstein 1990; Tolbert and Zucker 1983; Zucker 1987). In some instances, the state may believe that certain changes are both unavoidable and appropriate. As a result, policy makers may implement laws to force an institutional process to occur.

Although formal laws and regulations can negatively affect organizational efficiency (Meyer and Rowan 1977; Zucker 1987), organizations obey these for at least three reasons. First, organizations prefer that others will obey these rules in order to ensure fair play (Fligstein 2001). Organizations are cooperators, competitors, or both to each other. Successful interactions among them require all participants to share certain assumptions. During interactions, norms might be established through repeated interaction, and these norms, in turn, will direct subsequent behaviors. However, there are always exceptions. When certain actors do not abide by the rules, others have to seek out additional formal regulation. The cooperative firms usually accomplish this by persuading the government to make laws to ensure fair competition. Of course, each organization has to obey the laws themselves in order to be treated fairly by others. This situation is more likely to happen in the course of transformation when participating organizations promote new ideas, try new actions, and create new arrangements (Fligstein 2001).
The second reason for organizations to obey the rules is to gain or maintain legitimacy (Tolbert and Zucker 1983). Laws have been passed to ensure stability and order within systems, and violators will face sanctions. Therefore, a major task of every organization is to legitimate itself among its peers by following the rules. During transformation, when certain changes in organizational structure are regarded as appropriate and necessary by both other firms and the state, organizations experience tremendous pressure to adopt those structural changes in order to maintain their legitimacy (Tolbert and Zucker 1983).

Finally, organizations obey laws to increase their chances of survival. By actively responding to the state laws and requirements, organizations may gain access to more resources on which they depend to survive (Scott and Meyer 1991). When the state controls the supplies of key resources, as is the case in socialist countries, this motive is even stronger. Maintaining a good relationship with government agencies that have the authority to distribute resources can help organizations take advantage of public resources and increase the possibility of survival.

Although organizations cannot exist without laws and managers have many reasons to comply with government policies, it does not necessarily follow that all organizations will participate enthusiastically in the early stages of a new policy. In reality, when a new government project or policy is enforced, there are always some organizations responding actively, while others do not (Zucker 1987). The behavior of firms in response to China’s corporate layoff regulations is an interesting example. Not all firms, even SOEs that have an abundance of redundant workers, immediately began to lay off workers when the State
gave them the authority. The data included in this paper show that in 1994, 55 percent of the SOEs in the sample adopted a layoff project. This percentage kept increasing across years and in 1999, it reached to 75 percent. Why did some firms adopt the layoff program while others did not? According to institutional theory, organizations’ reactions to any new policies or government programs can be greatly influenced by their uncertainty in the new environments (Keister 2001; Fligstein 1990; Zucker 1987). Guthrie (1997) points out that, in the transitional time, organizations have at least two kinds of uncertainties: administrative and economic.

Administrative uncertainty refers to organizations’ lack of confidence in dealing with new administrative tasks. In normal times, most social systems are well established and comparatively stable; in these situations, work can be relatively routine. However, during a transitional period, when system updates and structural changes are more frequent, organizations confront many administrative challenges that they have never faced before. For example, during the economic transition in China, SOEs have gained managerial autonomy, but they have also assumed many of the responsibilities that originally belonged only to the State, such as hiring workers. When organizations are uncertain about how to manage these tasks because they have little experience or state guidance, they may wait to see how others deal with it. The second type of uncertainty is economic uncertainty. When a new economic project begins, its success is uncertain. Any organizational decisions requiring new courses of action are risky and might lead to failure. Organizations generally prefer to maintain the status quo if they do not have to change (Fligstein 1990). Since economically disadvantaged organizations have relatively
fewer resources to gamble, they have even less desire to initially try something new. Instead, when the state or the authority calls on an innovation process, economically strong organizations would be more likely to take the risk.

This perspective provides a useful starting point for explaining the layoff behaviors of the Chinese SOEs. In China, the state has long maintained absolute authority over all aspects of social and economic life. During economic reform, the power and responsibilities of the central government and all lower levels have been gradually decreased, but state control of the economy is still significant (Naughton 1997). The state not only makes policies regarding economic activity, but it continues to play an active role in determining how firms should operate and which firms should continue to exist. As a consequence, a firm’s management and activities are not simply based on market competition, but largely determined by the state and related political processes.

State-owned enterprises, as the name indicates, have been known for their strong relationship with the state and all levels of governments. Before the recent reform, not only did the initial investment of SOEs come from the state but the operation of these firms was also supervised by the state (Lu and Perry 1997). Many SOE problems, such as low efficiency and financial deficit, have substantially disabled the development of Chinese economy. Moreover, the dominant place of SOEs in the Chinese economy has been challenged recently by energetic, new private enterprises (Child 1999; Gu 1999). While state policy makers largely regard the development of non-state owned enterprises as positive, these firms do compete with the state’s own organizations. As a result, SOE-related issues and problems have become one of the focuses of state policies (Naughton
1996; Wong and Kinglun 1997), and policy makers have begun to allow SOEs to behave like their competitors in some respects.

Yet many SOEs continue to be reluctant to participate in some new policies, including layoff policies. In recent history, China’s central government has made many enormous policy mistakes, such as the Great Leap Forward and the Cultural Revolution. Even the current economic reform is not free of policy-mistakes. To solve the SOE problems, the government has tried many different projects, many of which have failed (Solinger 2002). The layoff program itself is very challenging. The economic tragedies that befall workers when they are laid off are well known to manager of SOEs, and firing workers might result in powerful resistance (Chan 1997; Gu 1999). As a result, when the layoff program was first introduced, it was not a surprise that the firms reacted very cautiously.

However, there are always innovators in such cases. Given that organizations desire legitimacy and access to critical resources, they want to maintain good relationships and strong ties with the state. One way to achieve this, especially during transition, is to actively participate in the control and shaping of their institutional environment (Scott and Meyer 1991). Therefore, some organizations are more likely to participate in innovative state programs (Zucker 1987). In particular, I propose that there is a group of SOEs that responds positively to government reform policies in general, and these firms are more likely to lay off workers during transition.
To be more specific regarding which firms will adopt the new strategy, it is necessary to describe two important policies that are likely to influence SOEs' layoff behaviors: the contract system and laws regarding SOE restructuring.

After promoting the life-long employment system for decades, the Communist Party government began to implement the contract system. This new system dismantled the country's iron rice bowl system (a symbol of a permanent job in the state sector). Since 1986, when new workers are recruited, both employer and employee need to sign a time-limited contract, generally from one to five years (Nautghton 1996). The contract clearly specifies rights and responsibilities of both parties. This system was first applied to all new workers. Years later, employers started to gradually transfer permanent workers to contract workers (Naughton 1996). By 1994, 26 percent of workers in the state sector, nearly 20 percent of workers in collective enterprises, and 46 percent of workers in the private sector are contract workers (*China Statistical Yearbook* 1995:99). This contract system helps to break the permanent relationship between the state and workers and releases the State of many of its former responsibilities. However, this system also threatens workers' job security. Prior to the contract system, enterprises were not permitted to fire or lay off state workers. Now, employers may refuse to renew expired contracts (Cooke 2000; Naughton 1996). Organizations that participate in the contract system are likely to be generally innovative. It is these firms that are also likely to participate in other innovative programs. In reference to lay-offs, I anticipate that:

Hypothesis 1: SOEs that have higher percentage of contract workers among permanent employees are more likely to lay off workers.
Another policy that may affect layoffs is the restructuring of SOEs under the 1994 Company Law. In order to revitalize SOEs and to introduce more market practices to firms, the state launched a new cycle of reform in early 1994 by issuing a new company law. In the mid-1990s when this reform began, the financial situation of most SOEs was declining rapidly. Some estimates suggest that over half of SOEs were losing money (Wong and Kinglun 1997). To improve efficiency, the state urged enterprises to get reorganized and to ameliorate their financial situations (Cooke 2000; Keister 1998). To this end, the 1994 Company Law legalizes the process of converting state-owned enterprises into limited liability companies or shareholding enterprises (Ma 1997). This structural change allows managers to compete more effectively with non-state firms, but it also considerably increases exposure of SOEs to market forces. Since most of the SOEs have redundant workers, which obviously has a significant negative effect on making profits, it is very likely that SOE managers would choose to downsize the firms when they undergo firm restructuring. Therefore, I propose that:

Hypothesis 2: SOEs that have been reorganized under the Company Law are more likely to lay off workers.

A primary task for all organizations is to create a stable environment in order to survive amidst competition (Fligstein 1996). Although market actors tend to be rational, they are not always profit-maximizers. Under certain conditions, organizations will choose stability over profit-maximizing. For example, when a strategy, such as laying off surplus workers, is likely to trigger resistance and possibly even social unrest, firms are reluctant to adopt the strategy, even if it would help improve efficiency and increase
profits. Thus, according to institutional theory, financial losses do not necessarily lead to innovation. This fact motivated Chinese SOEs prior to reform. Rather than being based on profits, the survival of these enterprises depended on meeting production quotas and keeping workers from bothering the government. Whether they were losing money or not, SOEs would still get investment and credit subsidies from the State (Hughes 1998; Keister 2001). Because reform has been introduced gradually in China, however, it is likely that the profit motive will take over gradually. Therefore, following Guthrie’s line of thinking that money-losing firms are less likely to adopt risk-taking strategies due to economic uncertainty, I propose that when the state encourages layoffs, it is not the money-losing firms, but the economically strong firms, that are actually more likely to adopt the new strategy. Thus, if using profit-making as an indicator of a firm’s economic strength, I would expect that:

Hypothesis 3: Profitable SOEs are more likely to lay off workers than less profitable SOEs.

Economic theory and non-SOEs

In contrast to the assumptions of institutional theory, economic models are based on the idea that organizations are always profit-maximizing and cost-minimizing (Fligstein 1990; Thompson 1967). The economic perspective emphasizes market forces. According to this perspective, when market conditions are deteriorating and profits are shrinking, firms will seek to cut costs in order to survive (Hallock 1998; Picot, Lin and Pyper 1998). One of the commonly used strategies is to lay off workers and decrease labor costs. A
good example is found in the significant increase in numbers of layoffs during the 
economic downturn of the early 1990s in America (Hallock 1998). If this is true, it is 
likely that profit-losing firms will be more likely to lay off workers. I expect that non-
SOEs in China will be governed by this principal because they are more profit-oriented 
than their state-controlled counterparts and less restricted by administrative control. This 
proposition is opposite to Hypothesis 3 because while the institutional perspective can 
explain the behaviors of the state-owned enterprises, the economic approach is likely 
more logical in the case of non-state firms.

During transition, the importance of the non-state sector in the Chinese economy 
has increased substantially (McMillan and Naughton 1996; Qian and Stiglitz 1996). Since 
1993, non-state enterprises have contributed more than 50 percent of industrial gross 
output value (Gu 1999). In the last twenty years, non-state-owned firms have been so 
dynamic that they have contributed to absorbing workers displaced by SOEs (Shan 
1996a; Solinger 2002). The problems of redundant workers and thus layoffs are clearly 
less serious in non-state enterprises. However, non-state sector do still lay off workers. In 
1998 for example, 24 percent of laid-off workers came from non-state firms (China 
Labor Statistical Yearbook 1999: 441). Do institutional factors that are likely to influence 
the layoff behavior of SOEs also apply to non-state firms? Based on characteristics of the 
institutional and technical environments in which the non-state firms reside this would 
not be the case.

On the one hand, the State’s institutional influence on market behaviors of the non-
state sector is likely to be much less than its influence in the state sector. Most non-state
firms have little access to the state resources. Their operation largely relies on local savings and entrepreneurship (Hughes 1998). Consequently, they do not have many obligations and responsibilities to the state. In the case of corporate layoffs, non-state enterprises have no external pressure from the state to lay off workers. Due to the SOEs’ problems of low efficiency and high financial deficit, the government’s layoff policies have been targeting to the state enterprises. There have not been any regulations or laws to encourage or force layoffs in the non-state sector.

On the other hand, while the effect of the institutional factors is not likely to be significant, the influence from the technical environment is likely to be substantial in the non-state sector. Compared to the state enterprises, non-state enterprises have a much more favorable environment in which to adapt to the market mechanisms. State-owned enterprises are not merely economic organizations. As mentioned previously, they also have social and even political functions, such as providing housing, offering free education to employees’ children, organizing public voting, and so forth (Naughton 1997, 1996; Walder 1995). These very burdensome non-economic responsibilities soon become serious obstacles that prevent the firms from adopting the market practices during the China’s economic transformation to the market system (Hughes 1998). Since non-state firms do not have such a problem, they are more than ready to move to the market economy. Therefore, I propose that:

Hypothesis 4: Non-SOEs, which are making less profit, are more likely to lay off workers.
CHAPTER 5

DATA, METHOD AND VARIABLES

Data and Method

To test these ideas, I used 1994-1999 panel data on 800 firms in four Chinese provinces: Sichuan, Jiangsu, Jilin and Shanxi. These data were collected in 2000 by Lisa Keister with the assistance of the Institute of Economics of Chinese Academy of Social Sciences (IE-CASS). In this survey, managers and financial officers from each firm were asked to report on their firms’ operations for each year. Managers reported on both current conditions and conditions in the previous 5 years. Response rates approached 100 percent because IE-CASS is affiliated with the Chinese Provincial System Reform Commission. This commission is the government agency that keeps in contact with enterprises and evaluates their progress in the reform (Keister 2002).

The questionnaire had two parts. The first part included qualitative questions about enterprise structure, strategy, and relations with business partners and government agents. This part of the questionnaire also included information on manager characteristics. The second part of the questionnaire included detailed information about firm assets, investments, labor conditions and relations, earnings, and expenses in each year. Most important for this study, the survey also included questions about firm layoff
behavior. Indeed the years covered by this survey (1994-1999) were the first six years during which layoffs were most evident and during which this behavior began to affect other social and economic outcomes. I take advantage of this unique information from a critical time period to evaluate relevant firm behaviors.

The initial sample of SOEs on which this survey is based was randomly selected within the four provinces (Groves et al. 1994), but attrition rates and the addition of the non-SOEs created a sample that is not completely representative. In particular, the sample over-represented state-owned enterprises, large firms, and firms that were subordinate to the central government. However, at the same time, the sample is highly consistent with the national trends during this time period in several ways. The data showed that from 1994 to 1999, (1) both the number of firms that adopted layoff programs and the number of laid-off workers increased; (2) the number of contract workers also increased in both SOEs and non-SOEs; and (3) more firms were restructured.

I used logistic regression for pooled cross-sectional time series data to analyze the data. With this type of data, autocorrelated errors can be a problem. Therefore, I used the GENMOD model in SAS to correct for autocorrelation.

Dependent Variable

Adoption of layoff programs. The dependent variable indicates whether or not a firm laid off workers in a given year. Firms' financial officers were asked to report how many additional workers were laid off in each year between 1994 and 1999. Because the objective of this paper was to investigate whether firms used layoffs as a corporate
strategy, the dichotomous indicator is an appropriate outcome measure. If the firm did not lay off workers, the dependent variable was coded as 0; if any workers were laid off in the firm in a given year, it was coded as 1. All other cases were coded as missing, and only 2 percent of all cases were missing. Figure 2 presents the proportion of firms that laid off workers from 1994 to 1999 in generally increasing numbers. Although not shown here, the data indicate that once a firm laid off workers in a given year, it continued to lay off workers in the years to follow. I estimated separate equations for SOEs and non-SOEs because I propose that different processes underlie the behaviors of these firms.

Independent Variables

Contract workers. I used the percentage of total permanent workers that are contract workers to measure how innovative a firm was in the reform of its labor relations. The higher the percentage, the more innovative the firm. This variable was only included in the SOE equation, and I expect it will have a positive relationship with the adoption of the layoff strategy. I used the log term of the variable to normalize its distribution.¹

Reorganization. To measure whether a firm was reorganized under the Company Law, I used two survey questions to construct a dichotomous measure of reorganization. The first question was, “Is your company organized under the Company Law?” The second question was, “What year was the company reorganized under the Company Law?” If the answer to the first question was “No,” I coded the variable 0, indicating that

¹ The variable was excluded from the non-SOE equation because its distribution was highly skewed.
the firm had not been reorganized. If a firm did report reorganization, I used the second question to determine in which year the firm was reorganized. For the year in which the firm was reorganized and for all subsequent years, I coded the variable 1. For all other years, I coded the variable 0, indicating that the firm had yet not reorganized under the Company Law. For example, if Firm A reported that it was restructured in 1996 (i.e., if the answer to the first question was “yes” and the answer to the second question was “1996”), I coded the variable 0 for the years of 1994 and 1995 and 1 for 1996-1999.

*Profits.* I measured profits as the mean cumulative profits in the current year and all previous years included in the study. I used cumulative profits rather than a single year’s profit because I expect that a company’s financial situation does not depend on its performance in only one year, but takes into account its cumulative profits for the previous few years (Keister 2002).

*Firm age.* Age referred to the number of years that the firm had been in operation. Older firms had relatively longer relationships with the state. These more experienced firms are likely to have more confidence and to respond favorably to state-supported layoff policies.

*Firm size.* I measured firm size as the total number of employees, in thousands, at each year’s end. Size matters in at least two ways. Larger enterprises usually have more resources (Keister 2002; Naughton 1997), which gives firms the power to initiate certain innovative behaviors. In addition, large firms in China may also be the result of state policies that created masses of surplus workers in firms, making laying off unneeded workers a reasonable strategy.
Regions. Chinese economic reform has not been implemented equally throughout the country. Specifically, many experimental policies were first carried out in coastal and southern regions. As a consequence, firms in different areas demonstrated different motives and abilities for using new strategies (Keister 2001). I used three dummy variables, Sichuan, Jilin and Shanxi, to capture regional differences in layoff behaviors. Jiangxu, the only coastal province among the four, was the reference category.

Subordination. Subordination was a dichotomous variable indicating whether or not a firm was subordinate to the central government. Most of the firms in China are subordinate to different levels of government, such as central, provincial, municipal, etc. (Qian and Stiglitz 1996). Previous studies (Guthrie 1997; Walder 1992) have shown that firms at different levels of China’s administrative hierarchy behave differently. Because firms at higher levels (central) had more access to resources and funds from the state, they are more likely to adopt government-sponsored strategies. Since no non-SOEs in the sample were subordinate to the central government, I only include this variable in the SOE equation.

Table 1 and Table 2 present descriptive statistics for SOEs and non-SOEs, respectively. Statistics show that SOEs were more likely to lay off workers than non-SOEs. In general, SOEs were larger and older than non-SOEs. The correlation matrix does not show a multicollinearity problem.
CHAPTER 6
RESULTS

While a large number of Chinese workers were laid off in the 1990s, researchers have not begun to explore the traits that motivate firms to adopt this strategy. My findings offer some insight into what factors affected corporate layoffs between 1994 and 1999, the first years in which firms began to use this policy. Table 3 presents logistic coefficient estimates for models that predict the likelihood of adopting a layoff strategy in SOEs and non-SOEs, separately.

*The Institutional Environment Shaped the Behavior of SOEs*

The results presented in Table 3 demonstrate that SOEs that have more contract employees are more likely to lay off workers, as proposed in Hypothesis 1. The significant and positive relationship between the percentage of contract employees among permanent workers and whether a firm adopts a layoff program supports the argument that innovative firms are more likely to lay off workers. The contract system has eliminated permanent job offers to state workers, thereby threatening their job security. Yet it is also possible that the labor contract system launched in the 1980s has actually helped both firms and their employees prepare for the corporate layoffs to take place later.
in time. A key feature of the labor contract system is that it challenged old social ideologies that the state was responsible for providing permanent jobs to state workers.

In reality, during the implementation of the contract system, particularly when workers were going through the process of signing and/or renewing contracts, they gradually realized that losing jobs was no longer impossible. The more familiar the workers became with the contract system, the better they were able to prepare psychologically for further reforms, reducing uncertainties in the institutional environment. In innovative SOEs, particularly those that contracted a larger share of their workforce, workers had more opportunities to understand the new system. In such firms, since workers had a better understanding of the social change that they were experiencing, they tended to be less resistant to the new layoff strategy. Therefore, the innovative SOEs were better able to carry out layoff programs.

Hypothesis 2 proposed that being reorganized under the Company Law increased the likelihood of adopting the layoff strategy in SOEs. The results in Table 3 provide strong support for this hypothesis: the estimate of the coefficient is positive and significant. As I proposed, during China’s transition from a planned economy to a market economy, the state gradually introduced and permitted firms to adopt new strategies that were previously only practiced in market economies. Again, it is innovative firms that are first-movers in such cases. In the early 1990s, after more than ten years of reform, the Chinese government realized that firm restructuring was inevitable due to the deteriorating economic situations of the SOEs. The 1994 Company Law was therefore issued to enforce a structural change in SOEs: converting solely state-owned enterprises
into limited liability companies or shareholding companies. After acting in the socialist-planned economy for decades, most of the SOEs had little experience with this restructuring process. Figure 3 presents the percentages of the SOEs in the sample that were reorganized under the Company Law in each year. In Figure 3, it is evident that not all SOEs immediately began to restructure. The number of SOEs that were reorganized increased from as low as 29 percent in 1994 to 72 percent in 1999. The results from the logistic regression analysis further support the idea that the innovative SOEs, which initiated firm restructuring, tended to be more aggressive and more likely to lay off workers from 1994 to 1999.

To further explore whether the layoff behavior of SOEs in the 1990s was mainly determined by a firm’s positive response to government policies rather than a direct effect of a market mechanism, I also examined the influence of an economic factor—a firm’s financial situation, measured by mean cumulative profits—on layoff adoptions. Consistent with Hypothesis 3, my analysis demonstrates that profitability has a positive effect on laying off workers, providing a counter-example of economic rationality.

The existing literature on China’s economic transition has mentioned that SOEs have been receiving great pressure to operate on the basis of market mechanisms. To what extent did profit maximization motivate SOEs during market reform? My findings suggest that the answer is, “not much.” Most of the SOEs, especially those financially weak firms, dealt with the layoff strategy very cautiously. Compared with workers in profitable firms, workers in firms that were losing money were more economically disadvantaged, and they tended to be more resistant to new strategies that might worsen
their situation. Since the most important task for SOEs was to maintain a stable environment, unprofitable SOEs were less likely to lay off all of their surplus workers. Although layoffs could increase efficiency and improve a firm’s financial situation, most of the money-losing SOEs chose stability over profitability.

This result is consistent with Fligstein’s (1996) argument that organizations are not always profit-maximizers. Such an “irrational” strategy was actually quite common in China’s first 20 years of reform. It was indeed a reflection of the government’s attitude towards economic development: social stability first, economic development second. My findings suggest that when facing uncertainties in trying to carry out a new strategy, financially strong firms are more likely to initiate new practices than economically weak firms. While the first two hypotheses emphasized the influence of institutional changes on the adoption of a layoff program, the results from the third hypothesis not only provide support for the institutional perspective, but at the same time disprove the proposition of profit-maximization of the economic perspective.

*Market Rationality Shaped Non-SOE Behavior*

As proposed in Hypothesis 4, less profitable non-SOEs are more likely to lay off workers. The logistic regression coefficient provide strong support for this hypothesis, indicating that by the 1990s, market mechanisms had already started to guide the activities of non-state firms. Unlike their counterparts in the state sector, the non-SOEs had much fewer connections with the state. Although they had less access to scarce state resources, they also enjoyed less government interference with day-to-day management
and business decisions. Given the extent to which state intervention increased inefficiency in SOEs, this separation from the state provided the non-state sector firms a great deal of flexibility and opportunities to operate their business efficiently. In addition, compared with SOEs, non-state employers were not required to provide pensions, housing, and other benefits that SOEs were obligated to provide. This also allowed non-SOEs to adapt to a free market faster than SOEs. Non-SOEs were also less likely than SOEs to be rescued by the state if they faced financial problems. Thus since they were nearly free of burdens stemming from state involvement and responsible for their own survival, non-SOEs were forced to behave rationally much more quickly. As a result, in order to maximize their profits, they laid off workers.

In addition to the key test variables, my results provide interesting information related to the control variables. Firm age has a significant and positive relationship with layoff adoption in both SOE and non-SOE equations: older firms are more likely to lay off workers. There is a positive relationship between firm size and the adoption of layoffs in the state sector, but in the non-state sector, the effect is not significant. There was little geographic variation in the layoff behaviors of SOEs. However, some important variations in the non-state sector emerged. Specifically, compared with non-SOEs in Jiangsu, non-SOEs in Jilin and Sichuan were less likely to lay off workers. This is consistent with my expectation that firms in coastal areas in China are more likely to initiate new market strategies than those in the inner areas. Yet this expectation does not hold for Shanxi. Finally, the level of subordination in the SOEs does not show any significant effect on a firm’s adoption of a layoff strategy.
CHAPTER 7

CONCLUSION

The purpose of this paper was to identify the factors that affected firm layoff behavior in China in the 1990s. I compared the behavior of state-owned enterprises to that of non-state firms. I began by briefly depicting the changing landscape of China’s unemployment and the development of labor systems. I drew on two perspectives from organizational theory, institutional and economic, to develop four hypotheses. I proposed that during China’s economic transition to a market economy in the 1990s, the layoff behaviors of state-owned enterprises would be significantly determined by the institutional environment in which they reside. At the same time, I expected that layoff practices in the non-state sector would be largely controlled by market mechanisms. I then used the yearly panel data from 1994 to 1999, collected from 800 Chinese firms, to examine the effect of institutional and economic factors on layoff adoptions of SOEs and non-SOE separately.

My findings offer strong support for all of my hypotheses. Government policy shifts and involvement in economy substantially shaped layoff behaviors of state-owned enterprises between 1994-1999. According to the institutional perspective, the market is not self-defined: it cannot function without rules and laws made by other institutions (Clarke 1996). Firms are market actors whose behavior is shaped by institutions. While
there are many institutions that interact to affect firm behavior, I focused on the role of the state because of the extreme control the state still exercises in China. State-imposed laws create order and protect all legitimate firms, and on the other hand cast pressure and constraints so that firms are not able to fulfill their tasks at will. Sometimes, firms have to compromise profit-making for legitimacy and stability. During the transition period in China in the 1990s, new government policies and programs were developed frequently, increasing uncertainties and creating institutional changes in the institutional environment. Corporate layoffs, a commonly used practice in a market economy, were one such program introduced and encouraged by the state to solve the problem of inefficiency in Chinese SOEs. Some firms responded to this new program positively, while others did not. My findings show that during 1994-1999, about 55 to 75 percent of SOEs had laid-off workers. In the state sector, only those SOEs that were innovative in implementing previous reform policies, such as labor contract system and firm restructuring, were more likely to lay off workers.

During the transition from a planned economy, the Chinese government increasingly urged firms to learn to implement rules and laws in market economies (Child 1999). The findings suggest that in the 1990s, non-SOEs had already started to function under market mechanisms, but not SOEs. For historical reasons, workers in the state sector depended heavily on their employers (Naughton 1997). Previous research has shown that many laid-off workers had little experience finding new jobs (Appleton et al. 2002). Although SOEs were supposed to pay severance to all of their laid-off workers, many money-losing firms could not even afford this expense. Therefore, even though
managers in money-losing SOEs were clear that laying off workers might ameliorate their financial situations, they did not actually do so, due to a high level of uncertainty and potential instability. The findings show that it was actually the profitable SOEs that were more likely to lay off workers.

By contrast, the layoff behavior in the non-state sector presented a different picture: money-losing firms were more likely to lay off workers. Compared with state firms, non-state firms were under much less state control and held fewer non-economic responsibilities to the state or their employees. Operating under a different institutional environment from that of SOEs, non-SOEs took much less time to embrace market principles. The finding in the non-state sector supports the economic model rather than the institutional model: when financial situations are deteriorating, firms lay off workers to cut labor costs.

Layoff problems in China did not begin to emerge until the mid-1990s. The present study focuses on the initial stages of layoff development and provides insights on this important topic. It also contributes to an understanding of how changing institutional environments influence organizational practices in China’s transitional period. The study applies two perspectives of organizational theory—institutional and economic—to explore China’s corporate layoffs and further build theory in this area based on empirical findings.

As with any research, this study also has some limitations. First, the sample did not include firms that went bankrupt. Previous studies have shown that a large number of workers were laid off because their firms were closed (Appleton et al. 2002). Due to
sample limitation, the present study only focused on existing firms. Second, I was not able to explore the effect of social welfare reforms on corporate layoffs, which would be expected to provide interesting findings. Finally, institutional influence on layoffs in the non-state sector was not directly explored. The existing literature indicates that all organizations are constrained by their institutional environments (Tolbert 1985; Zucker 1987). This may also be true for non-state firms. Future research could expand the scope of the sample to include more institutional factors that might affect strategies in the non-state sector.
APPENDIX

TABLES AND FIGURES
Figure 1. Laid-Off and Unemployed Workers in 1993-1999.
Figure 2. Proportion of SOEs and Non-SOEs That Laid Off Workers 1994-1999.
### Table 1. Means, SDs, and Zero-Order Correlation of SOE Model

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Layoff</td>
<td>0.685</td>
<td>.465</td>
<td>1.00</td>
<td>.03</td>
<td>.12</td>
<td>.07</td>
<td>.06</td>
<td>.15</td>
<td>.08</td>
<td>-.05</td>
<td>.02</td>
<td>.03</td>
</tr>
<tr>
<td>2 % Contract Workers (log)</td>
<td>4.567</td>
<td>.040</td>
<td>1.00</td>
<td>.10</td>
<td>.003</td>
<td>.10</td>
<td>.003</td>
<td>-.04</td>
<td>-.001</td>
<td>.02</td>
<td>-.004</td>
<td></td>
</tr>
<tr>
<td>3 Reorganization</td>
<td>0.586</td>
<td>.493</td>
<td>1.00</td>
<td>.05</td>
<td>.01</td>
<td>.10</td>
<td>-.01</td>
<td>.17</td>
<td>.09</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Mean Cumulative Profits</td>
<td>2.560</td>
<td>16.006</td>
<td>1.00</td>
<td>.04</td>
<td>.10</td>
<td>.01</td>
<td>-.06</td>
<td>.03</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Age</td>
<td>37.682</td>
<td>13.548</td>
<td>1.00</td>
<td>.03</td>
<td>-.01</td>
<td>-.07</td>
<td>-.07</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Size (in thousands)</td>
<td>2.462</td>
<td>3.921</td>
<td>1.00</td>
<td>.14</td>
<td>.08</td>
<td>.02</td>
<td>.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Shanxi</td>
<td>0.180</td>
<td>.384</td>
<td>1.00</td>
<td>-.27</td>
<td>-.24</td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Jilin</td>
<td>0.249</td>
<td>.433</td>
<td>1.00</td>
<td>-.30</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Sichuan</td>
<td>0.208</td>
<td>.406</td>
<td>1.00</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Central Government</td>
<td>0.115</td>
<td>.320</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Monetary Value are in million yuan ($125 million).

N = 2598

### Table 2. Means, SDs, and Zero-Order Correlation of Non-SOE Model

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Layoff</td>
<td>.109</td>
<td>.311</td>
<td>1.00</td>
<td>.04</td>
<td>-.09</td>
<td>.30</td>
<td>.04</td>
<td>.11</td>
<td>-.14</td>
<td>-.10</td>
</tr>
<tr>
<td>2 Reorganization</td>
<td>.611</td>
<td>.488</td>
<td>1.00</td>
<td>.05</td>
<td>.23</td>
<td>.12</td>
<td>.01</td>
<td>.07</td>
<td>-.06</td>
<td></td>
</tr>
<tr>
<td>3 Mean Cumulative Profits</td>
<td>1.952</td>
<td>8.548</td>
<td>1.00</td>
<td>.03</td>
<td>.17</td>
<td>-.05</td>
<td>.09</td>
<td>.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Age</td>
<td>8.871</td>
<td>6.254</td>
<td>1.00</td>
<td>.29</td>
<td>-.02</td>
<td>-.02</td>
<td>-.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Size (in thousands)</td>
<td>1.176</td>
<td>1.426</td>
<td>1.00</td>
<td>-.14</td>
<td>.05</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Shanxi</td>
<td>.297</td>
<td>.457</td>
<td>1.00</td>
<td>-.38</td>
<td>-.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Jilin</td>
<td>.259</td>
<td>.438</td>
<td>1.00</td>
<td>-.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Sichuan</td>
<td>.289</td>
<td>.453</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Monetary Value are in million yuan ($125 million).

N = 2202
<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>SOEs</th>
<th>Non-SOEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Contract Workers</td>
<td>2.646 *</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(1.268)</td>
<td>-</td>
</tr>
<tr>
<td>Reorganization</td>
<td>.253 **</td>
<td>0.089</td>
</tr>
<tr>
<td></td>
<td>(.096)</td>
<td>(.203)</td>
</tr>
<tr>
<td>Mean Cumulative Profits</td>
<td>.012 *</td>
<td>-.085 ***</td>
</tr>
<tr>
<td></td>
<td>(.005)</td>
<td>(.025)</td>
</tr>
<tr>
<td>Age</td>
<td>.019 **</td>
<td>.126 ***</td>
</tr>
<tr>
<td></td>
<td>(.007)</td>
<td>(.026)</td>
</tr>
<tr>
<td>Size (in thousands)</td>
<td>.160 **</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>(.051)</td>
<td>(.108)</td>
</tr>
<tr>
<td>Shanxi</td>
<td>.444</td>
<td>-.206</td>
</tr>
<tr>
<td></td>
<td>(.265)</td>
<td>(.361)</td>
</tr>
<tr>
<td>Jilin</td>
<td>.020</td>
<td>1.952 ***</td>
</tr>
<tr>
<td></td>
<td>(.228)</td>
<td>(.497)</td>
</tr>
<tr>
<td>Sichuan</td>
<td>.311</td>
<td>1.407 **</td>
</tr>
<tr>
<td></td>
<td>(.255)</td>
<td>(.495)</td>
</tr>
<tr>
<td>Central Government</td>
<td>-.518</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(.289)</td>
<td>-</td>
</tr>
<tr>
<td>Intercept</td>
<td>- 12.687 *</td>
<td>- 2.745 ***</td>
</tr>
<tr>
<td></td>
<td>(5.744)</td>
<td>(.354)</td>
</tr>
<tr>
<td>N</td>
<td>2598</td>
<td>2106</td>
</tr>
<tr>
<td>$X^2$</td>
<td>5887.15</td>
<td>2017.42</td>
</tr>
</tbody>
</table>

' Standard Errors are in parentheses.

* P < .05  ** P < .01  *** P < .001.

Figure 3. Percentages of the SOEs Reorganized under the Company Law in 1994-1999.
REFERENCES


