# What Makes Privatization Work? Evidence from a Large-Scale Nationwide Survey of Chinese Firms[1]

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Abstract

Based on a large-scale nationwide survey of Chinese firms, this paper conducts a systematic study of China's privatization. Our results show that, although the government has greatly retreated from key corporate decisions after privatization, it still retains substantial control in about half of the firms and such state control is related to weaker efficiency gain. Among different privatization methods, direct sales to insiders or MBOs, which account for close to half of all privatization programs, are the most successful in freeing the firms from government influence and in implementing restructuring measures. We find that the political constraints faced by the government critically determine its choices of privatization methods. Specifically, the government is more likely to choose the MBO method when political opposition to layoffs are weaker in the region or when they have more fiscal resources to bear the cost of layoffs and to fill the gap in social welfare created by privatization. Consistent with their effectiveness in reallocating control rights and in implementing post-privatization restructuring, MBOs are associated with the most efficiency gain, as measured by both earnings over assets and earnings per employee. In contrast, direct sales to outsiders and other privatization methods do not improve efficiency. Our results highlight the importance of political factors in shaping the design of economic institutions and their performance.

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## Introduction

By now, there has been a large empirical literature studying the effect of privatization on firm performance. Most of the studies suggest that privatization does work in the sense that privatized firms generally exhibit improved operating efficiency (e.g., Megginson and Netter, 2001; Brown et al., 2006; Estrin et al., 2009). As the more recent literature moves beyond performance comparison and searches for the mechanisms that make privatization work (or fail), there are many unsettled questions (e.g., Barberis, Boycko, Shleifer, and Tsukanova, (1996), Frydman, Gray, Hessel, and Rapaczynski (1999)). For example, should the firms be privatized to insiders or outsiders? What is the role of ownership and control in privatized firms? How should the government design privatization programs in ways to promote corporate governance and thus performance?

Based on a large-scale nationwide survey of Chinese firms, this paper conducts a systematic study of China's privatization, with an attempt to draw implications for privatization design and, more generally, the design of economic institutions. Privatization in China, by far the largest privatization scheme in human history, is not only important in its own right, but also provides an attractive laboratory of study due to some of its unique features. First, in contrast to other transition economies, such as Central and Eastern European countries and Russia, where privatization was implemented by the central governments as a high priority at the beginning of their transition, the Chinese government took a gradualist approach to its economic reform and privatization was introduced only in late 1990s, after several attempts of enterprise reforms had failed. An unintended consequence of this delay in privatization, however, is that market institutions are much more developed as compared to other transitional economies at the time of their privatization. For example, both product and labor markets were well developed; the newly established social security system (esp. unemployment benefits) was partially functioning; and the public capital markets were already in place. Thus by comparing the Chinese experience with those of other transition countries, we gain understanding of the impact of pre-existing institutional environment on privatization outcome.

Another unique feature of China's privatization is that, rather than centrally designed uniform programs, privatization decisions in China are decentralized and are mostly made by local governments. Earlier enterprise reforms as well as fiscal reforms have effectively transferred the control rights and ownership of SOEs, except for the very large ones, to the local governments

(usually the city governments). Given regional disparities in China, local governments design and implemented a variety of privatization methods to suit their local needs. These privatization methods include direct sales, either to insiders (through management buyouts – MBOs) or to outsider private owners, public offerings, joint ventures, leasing, and employee shareholdings. Thus the Chinese experience facilitates a comparison of the effectiveness of different privatization methods, which previously could only be done in cross-country studies where it may be hard to disentangle the influence of country-level institutions and/or macro economic conditions.

A lack of detailed data has been the main hurdle to understanding what makes privatization work. To this end, we designed and conducted a survey of 16,500 firms in 2006, based on random sampling stratified by region, industry and size. We explicitly asked questions that would allow us to identify the mechanism of efficiency gains, if any, of different privatization methods. We asked questions on change of ownership and shareholding structure, as well as questions on re-allocation of control rights among different parties (e.g., the government, CEOs, board of directors etc.) in making key corporate decisions such as appointment of senior managers, investment, layoffs, compensation, production and marketing, and financing. The survey also contained questions on post-privatization restructuring that are either related to performance or governance, including change of core management teams, performance-based compensation, establishing board of directors, and introducing international accounting / independent auditing. To our knowledge, our survey data is the most comprehensive data ever available to researchers in studying the mechanism of efficiency gains in privatization.

The stated objective of privatization is to improve performance by transferring the control rights of the firm from the government to private owners, because the government's incentive is often inconsistent with profit maximization. Our results, however, show that such a reallocation of control rights cannot be taken for granted. In the Chinese case, although the government has greatly reduced its influence in key corporate decision making after privatization, it still retains substantial control in about half of the firms and such state control is related to weaker efficiency gain. Among different privatization methods, direct sales to insiders or MBOs, which account for close to half of all privatization programs, are the most successful in freeing the firms from government influence. Consistent with private owners' enhanced ability to improve performance, MBOs are also most effective in implementing restructuring measures.

That MBOs require the most commitment from the government to relinquish control leads us inevitably to ask under what conditions the government would make such a commitment. We

find that the incentives of the local governments and the political constraints they face critically determine their choices of privatization methods. Specifically, the government is more likely to choose the MBO method when they have more fiscal resources to bear the cost of layoffs and to fill the gap in social welfare left by the privatized firms, and when political opposition to layoffs are weaker in the region.

Consistent with their effectiveness in reallocating control rights and in implementing post-privatization restructuring, MBOs are associated with the most efficiency gain, as measured by both earnings over assets and earnings per employee. In contrast, direct sales to outsiders and other privatization methods do not improve efficiency. These results are obtained after controlling for unobserved firm heterogeneity (through firm fixed effects) and are robust to IV estimates using government incentives as instruments.

This paper contributes to our understanding of what makes privatization work (or fail). We show that commitment from the government to refrain from intervention is the key to aligning incentives and thus improving efficiency. The ability of the government to make such a commitment, however, depends critically on the political constraints it faces. Our results highlight the importance of political factors in shaping the design of economic reforms and economic institutions.

Our study also contributes to our understanding of the Chinese economy. The country's spectacular economic growth since its economic reform and particularly in the past decade is mainly attributable to the development of the private sector. In the past decade, an important part of the private sector has been privatized firms –according to our survey, privatized firms account for about 80% of total assets and employment. Despite its importance, however, China's privatization has not been fully studied, due to a lack of systematic data.[2] Our paper is a major step in filling this gap. Our results suggest that efficiency gains released through privatizing the state sector is a key component of the development of China's market economy and its economic growth.

The rest of this paper is organized as follows. Section 2 describes the institutional background of China's privatization. Section 3 describes our survey and the sample. Section 4 explores how firms privatized through various methods re-allocate control rights and restructure differently. Section 5 investigates what factors affect local governments' choices of privatization

[2] To the extent that it is studied, researchers have mainly focused on share issue privatization (SIP) which is mainly for the very large firms and accounts for a tiny proportion –1% according to our survey– of all privatization programs.

methods. Section 6 examines the impacts of different privatization methods on corporate performance. Finally, Section 7 concludes.

## I. Institutional background of China's privatization

Similar to other transition economies, at the onset of the economic reform the Chinese economy was dominated by the state sector or SOEs. Yet, in contrast to other transition economies, Chinese SOEs were historically controlled a multitude of bureaucrats both in the central ministries and in various levels of local governments. In an effort to consolidate the control of SOEs, central government transferred the supervision of the vast majority of SOEs to the local governments, mostly at the municipal level. This change was followed by a series of fiscal reforms that effectively gave the residual claim to enterprise earnings to local governments (Granick, 1990 and Li, 1997). The local SOEs were very important for local governments, both as a source of fiscal revenue and as part of local economic performance which was increasingly used as criteria for promotion of government officials (Qian and Xu, 1993; Xu, 2010).

As a result of the "local" ownership of SOEs, many of China's state sector reforms have been driven by regional competition and local experiments, before the central government's official mandates. Privatization epitomizes this dynamic. Due to ideological reasons, privatization has been a controversial subject in China and the central government did not officially allow it until late 1990s. However, the deteriorating operating performance of SOEs put increasing pressure on the fiscal conditions of local governments, since they are the residual claimant of the SOE earnings. Against this background, a few cities initiated *de facto* privatization quietly.

One of the first regional privatization attempts was in Zhucheng, a city in Shandong province. In that city, more than two thirds of the SOEs were losing money in 1992, with losses amounting to the city government's total fiscal revenue over 18 months. Facing this pressure, the city government sold many SOEs within its jurisdiction to the employees of these SOEs. Another representative example is the municipal government of Shunde in Guangdong. The Shunde city government also encountered a serious debt problem before it privatized most of its state and collective firms in 1992 (Garnaut et al., 2008). The central government tolerated these experiments by turning a blind eye to them (Garnaut et al., 2005). It is worth noting that, in addition to initiating privatization, city governments also acted as a (n imperfect) substitute for legal institutions (Pistor

and Xu, 2005). Since there was no constitutional protection for private property rights until April 2004, ad hoc government protection or promises was crucial to their development.

As the state sector's financial performance continued to deteriorate, it imposed a severe strain on the country's banking system. The central government, encouraged by successful local experiments, gradually accepted privatization. Nevertheless, due to political and ideological constraints, the term "privatization" was never used officially but was disguised as "transforming the system" or "*gaizhi*." In 1993, the 3rd Plenum of the 14th CCP Congress endorsed a principle of diversifying ownership structure of state-owned firms, which opened a door to private ownership. In 1995, the central government announced the policy of "retaining the large, releasing the small" (*zhuada fangxiao*), i.e. the state was to keep a few hundred largest SOEs in strategic industries and would give local governments full control rights to local SOEs. Finally, a green light to privatization was turned on at the CCP's 15th Congress (1997), which granted *de jure* ownership of local SOEs to local governments. This implies that the central government has authorized the "owners," mostly city governments, of SOEs to implement privatization on their own. Thus in China, there is no centrally designed nationwide privatization program, which makes China's privatization distinctively different from that in the rest of the world.

As local governments implemented privatization, they adopted a variety of methods depending on the local circumstances. The most popular method is *direct sales (*or *open sales*), to either insiders (through management buyouts, or MBOs) or to outside private owners. Other methods include *public offering, joint ventures*, *leasing*, and *employee shareholding* (Garnaut et al., 2005).[3]

Under *direct sales*, the firm is openly sold to insiders or outside private owners through auctions or negotiations between local government and the potential buyers. Despite that we later find that MBOs are the most effective in improving efficiency, it is the most controversial privatization method, because the process of MBOs is often not transparent – typically through behind-the-door negotiations between the local governments and managers. A lack of transparency and competition in price-setting raises the public concern that state assets may have been sold too cheaply.

[3] Another often mentioned *gaizhi* measure is internal restructuring, including incorporation, spinning off, introducing new investors, and debt–equity swaps, as well as bankruptcy/reorganization, often involves partial privatization but may also involves no privatization in the case that a structuring is among state-owned firms. The latter case is concentrated in super large scale SOEs owned by the central government and they enjoy monopolistic powers in markets, such as oil, electricity, telecommunication, etc.

*Public offering* is share issue privatization. Under the policy of "retaining the large, releasing the small," the large ones are privatized through share issue privatization in which non-controlling shares are sold in the public capital market. This is also the type of privatization in China that has been most studied simply because of availability of data. However, it accounts for only a tiny proportion (1% according to our survey) of all privatization programs in China.

*Joint venture* or *merger* involve privatization in the cases where a SOE forms a joint venture with or merge with a private domestic or foreign firm. Under *Leasing*, the company can be leased to the management, employees, outside private firms, or other SOEs. In reality, most leasing involved inside managers as the lessees and the firms often were privatized through MBO later.

*Employee shareholding* converts the company into a limited liability companies or cooperatives. It is one of the most important *gaizhi* measures deployed at the early stage of local experiments both because the central government's requires that each privatization plan be approved by employees before implementation and because shares were often offered as part of the compensation for removing employees' "tenured" state-employment status. At later stages of *gaizhi*, the managers often purchase the majority shares from employees.

In sum, the local governments play the most prominent role in China's privatization programs, from program designing to implementation. Given the vast regional disparity in China, the local governments adopt a variety of privatization methods to suit the local needs. What incentives and constraints do they face in determining the choices of privatization methods? What are the implications of the different privatization methods for ownership and control? How do the different privatization methods affect the success of privatization? We aim to answer these important questions in the rest of the paper, which is made possible only by our large-scale nationwide survey discussed in the next Section.

## II. The Nationwide Survey and the Sample

### *II.A. The Nationwide Survey*

To make an in-depth study of China's privatization possible, we conducted a large-scale nationwide survey of firms in early 2006. Our sampling procedure involves two steps. We start with the 2004 National Bureau of Statistics (NBS) census, which contains all industrial firms with sales above 5 million RMB as the population, and drew a random sample of 11,000 firms stratified by region, industry, size, and ownership type. Given that only 20% of firms in the 2004 population

are SOEs and our intention is to study privatization, we then supplement the main survey sample with an additional random sample of 5500 from the 1998 NBS database, again stratified based on region, industry, and size. We chose to use the 1998 NBS data because 1998 is the first year that the NBS database was available and large scale privatization started in the late 1990s. Thus using 1998 population maximizes our chance of including SOEs not yet privatized. In total, we have 16,500 firms for our survey.

The questionnaires were designed through an "interactive" process. Before we finalized our questionnaire, we conducted pilot surveys of 720 firms in four provinces and nine cities, including Beijing, Laizhou (Shandong province), Taizhou and Changxing, (Zhejiang province), Changchun and Jilin (Jilin Province), Shijiazhuang, Pingshan and Tangshan (Hebei province). The pilot surveys were conducted through both on-site interviews and telephone interviews. These pilot surveys turned out to be extremely useful in helping our survey design and later in guiding our empirical analysis. For example, due to the controversy of MBOs, these firms sometimes categorize their privatization into other less controversial methods, for example, employee shareholding. This demonstrates the importance of verifying firms' reported privatization methods with their responses to questions on changes in ownership. In soliciting some (sensitive) financial variables, instead of asking for the information directly, we experimented with using multiple choices (of percentage intervals) and found that the response rate increased substantially.

The survey was conducted through telephone interviews. We hired a professional survey company that had a close relationship with the National Bureau of Statistics and had previously helped NBS to conduct its own surveys. We spent a week to train the staff of the survey company to understand each question. Throughout the survey, we worked closely with the staff and supervised the progress carefully. The questions were answered by the chief account, head of human resources, or the chief executive of the firm (or his representative).

We prepared two sets of questionnaires: one for privatized firms and one for all other firms. The two sets of questionnaires are identical except for questions related to privatization. In the survey, every firm was first asked whether it was privatized and, depending on the answer, the appropriate questionnaire is used.

Our overall response rate was about 18%. Our survey sample contains 899 privatized firms, 475 non-privatized SOEs and COEs (non-privitized SOEs hereafter), and 1685 *de novo* private firms. In our survey, we do not notice any systematic selection of firms that responded to our survey. Indeed, as reported in Table 1, our survey sample matches the distribution of the

population reasonably well, in terms of both region and industry. The size distribution of our sample is skewed towards larger firms because we over-sampled SOE firms which tend to be larger. Figure 1 further shows that the regional distribution of the privatization sample is roughly in line with the presence of SOEs in the country.

### *II.B. The Data*

We obtain the financial information of surveyed firms from the NSB database which is available from 1998 to 2005. To ensure that all privatized firms have at least one-year of performance information prior to privatization, we drop 168 firms that were privatized prior to 1999. We then exclude firms without valid financial information. Our final sample is a panel of 717 privatized firms, 460 SOEs that have not been privatized and 1758 de novo private firms for the period of 1998-2006.

In our analysis of the role of government incentives in privatization decisions, we use the *China City Statistical Yearbook* to obtain city-level (at and above the prefecture level) fiscal and regional economic variables from 1997 to 2006.

### *II.C. Preliminary Observations from Our Sample*

Table 2 reports the summary statistics of the main variables used in our empirical analysis. In Panel A of Table 2, we report some basic facts of China's privatization. Starting from the year 2000 and up to the year 2005, the year prior to the survey, privatization steadily picked up.[4] Direct sales to insiders (MBOs) are by far the most widely used method, accounting for close to half (47%) of all privatized firms. The next is direct sales to outsiders, which is used in 22% of the firms. Thus, direct sales in total account for close to 70% of privatization programs in China. Other privatization methods include public offerings (1%), joint ventures (2%), leasing (8%), and employee shareholding (10%).

The ownership structure of Chinese privatized firms is highly concentrated. The largest shareholders on average hold 60% of the shares and the second and third largest shareholders hold 26% of shares. Among different privatization methods, MBOs have the lowest ownership concentration, with the largest shareholders holding 37% of the shares, whereas the largest

[4] The drop in the number of privatization in 2006 is due to the fact that our survey was conducted in early 2006 and thus did not include all privazation in year 2006.

shareholder of the firms sold to outsiders has 64% ownership on average. For firm privatized by other methods, the largest shareholders on average hold 91% of the shares.[5]

Panel B is a summary of the financial variables of Chinese firms. We use two measures of operating performance: one is operating profits (earnings before interest, tax, and depreciation, EBITDA) over assets; the other is operating profits over the number of employees. The top part of Panel B (Panel B1) compares privatized, non-privatized and *de novo* non-state (private) firms. SOEs tend to be larger, more leveraged, and less profitable than *de novo* private firms. Compared with non-privatized SOEs, privatized firms tend to be larger; but they do not have any consistent pattern in terms of operating efficiency.

The bottom part of Panel B (Panel B2) of Table 1 compares the financial variables before and after privatization for sub-samples of privatized firms. While firm scale, both in terms of the total assets and the total sales, increased by 50% and 72% on average after privatization, according to the median, the assets of privatized firms shrinked slightly probably reflecting selling-off of unproductive units in most firms. Privatized firms tend to become less leveraged after privatization, consistent with a hardened budget constraint. For both measures of performance, there is a significant improvement in terms of the mean and the median (all at the 1% level). As a comparison, we also report the statistics for MBO firms, the most popular method of privatization. Indicative of our later empirical results, their performance gain appears to be larger.

## III. Potential Mechanisms of Efficiency Gain: Reallocation of Control Rights and Post-Privatization Restructuring

The essence of different ownership structure is its allocation of control rights among stakeholders of the firm (Grossman and Hart, 1986; Hart and Moore, 1990). In theory, privatization affects a firm's performance through transferring the control rights from the hands of the government to the hands of private owners. A common feature of privatization around the world, however, is the incompleteness in transferring control rights, i.e., the government retains significant ownership in privatized firms (Jones et al., 1999; Gupta, 2005). Since the government has political goals that are often different from profit-maximization, government control is likely

[5] *A priori*, the impact of concentrated ownership on performance is ambiguous. On the one hand, concentrated ownership has the benefit of mitigating the free-rider problem in monitoring managers and, in the case of insider ownership, aligning managerial interests with those of shareholders. On the other hand, a large shareholder can expropriate the resources from outside minority shareholders. This expropriation problem is potentially strongest in countries with weak property rights protection, where much privatization occurs. As pointed out by Deng, Gan, and He (2008), expropriation by large shareholders is the root cause of the failure of share issue privatization in China. Thus it remains to be seen as to how the incentives of large shareholders play out in among non-SIP.

to alter the effectiveness of privatization. Thus the first set of questions that we ask in understanding the China's privatization is: Has the government retreated from key corporate decision making? How do different methods of privatization reallocate control rights of the firms? What are the consequences of state control on post privatization restructuring and performance?

### *III.A Re-allocation of Control Rights*

In our survey, we explicitly designed questions on the allocation of control rights among the local government, the party committee at the firm, board of directors, general manager, workers representative committee, board of supervisors, and shareholder committee in making key corporate decisions. These corporate decisions include the appointment of senior managers, investment, hiring and laying-off of employees, salary and bonus, distribution of profits, production and marketing, financing, and use of funds. We asked the firms to rank, for each of the above corporate decisions, the importance of different decision makers, ranging from 0 to 5, where 0 means negligibly unimportant and 5 indispensably important. For privatized firms, we obtain this information before and after the privatization.

The results are summarized in Table 3 and Figure 2. As shown in Panel A of Table 3, for non-privatized SOEs and for pre-privatization SOEs, government enjoys a fairly strong control power over major decisions of these firms, with average scores of 2.3 and 1.9 respectively (columns (1) and (3) in Panel A of Table 3)[6]. The government's control right is particularly strong on the appointment of top management, scoring 3 and 2.5. In contrast, the government has no control power over decisions within *de novo* private firms (columns (2) in Panel A of Table 3).

Figure 2 illustrates that the most striking change in control rights after privatization is the reduction of government influence, with the average score dropping from 1.8 to 0.4. Among different privatization methods, the reduction of the government's control right is the most for MBOs, with the average score dropping from 1.8 to 0.07. Direct sales to outsiders come the second, with average government control reduced from 1.8 to 0.15. For other methods, the average score is reduced from 1.9 to 0.9.

A unique feature of corporate governance in China is that almost all the firms in China, including domestic *de novo* private firms and foreign firms, have a committee (or a branch) of the Chinese Communist Party. As shown in Panels A and B of Table 3, party committees are also

[6] One should keep in mind that the pre-privatization reform of SOEs has been focused on delegating decision power to SOEs

involve in decision-makings of the firm and their influence are similar to that of the government for Non-privatized SOEs and pre-privatization SOEs (columns (1) and (3)). After privatization, the reduction in control by party-committees is generally less than that by the government.

Conceivable, the government may influence corporate decisions both through its direct control rights and through its indirect intervention via firm-level party committees. Thus it is useful to provide an overall picture of the state control in privatized firms. To this end, we use the max of these two as the score for overall state influence in corporate decisions. Despite an drop of the score of overall state influence from 2.8 to 1.4 after privatization, state influence is still quite important in a significant proportion of firms, with 39% firms having a score above 2 (*Somewhat Important*) and 15% above 3 (*Moderately Important*). In addition to state influence in corporate decision making, our survey also indicates that the government's retained significant ownership of the firms. The retained government ownership is 20% on average.

In Table 4, we report the proportion of firms with overall state influence score above 2 or government ownership above sample mean of 20%, which is an ownership level that is likely to allow government to exert influence on the firms. Across different privatization methods, MBO firms have the lowest level of state control in both measures. Only 1% of MBO firms have government ownership above 20%, significantly lower than the sample average of 50%. MBOs are also much less likely to have state intervention in its major decision making (16% vs. 59% sample mean). Compared with MBOs, the other direct sales method, sales to the outsiders, has substantially more state control. However, compared to other methods of privatization, firms sold to outsiders have less state influence, though the difference is only significantly for state control in corporate decision making but not in state ownership.

Among other changes in control rights, Figure 2 indicates that the board of directors and shareholder meetings gain the most importance in corporate decision making, which suggest a general trend of professionalization of management in privatized firms. Moreover, this change is most prominent among MBOs and in the case of shareholder meetings, privatization methods other than direct sales.

### *III.B The Influence of State Control on Post-Privatization Performance*

Given that the state retains substantial control in about half of the privatized firms, we now investigate the impact of state control on post-privatization performance. We estimate the following model:

$$Performance_{it} = \alpha_i + \beta_t + \gamma\ Post_{it} + \lambda\ State\ Control_i \times Post_{it} + \delta X_{it} + \varepsilon_{it}, \qquad (1)$$

where $Performance_{it}$ is measured by both ROA and earnings per employee. $Post_{it}$ is a dummy variable indicating years after privatization (it is set to zero for those SOE that has never been privatized). *State Control* is a dummy variable indicating strong state control, which is measured either as state ownership above the sample mean or reported government control above 2 as discussed above. $X_{it}$ are firm control variables that might be related to profitability, including size (measured as log of assets), leverage (debt over assets), and lag of profitability to account for potential mean reversion in profits. $\alpha_i$ is a firm fixed effect, which controls for any time-invariant firm characteristics that may affect privatization decisions. $\beta_t$ is a year fixed effect. Coefficient $\gamma$ is the differences-in-differences estimate of the effect of state control on post-privatization firm performance.

Table 5 demonstrates that state control significantly hinders performance of privatized firms. In columns (1) and (2) of Table 5, high state ownership is associated with significant worse post-privatization performance, for both operating efficiency measures (at the 5% and the 10% levels). In columns (3) and (4) of Table 5, state influence in firms' decision making is associated with significant lower operating efficiency (at the 1% and 10% levels). These results highlight that the success of privatization depends critically on whether the government could commit to retreating from the daily operations of firms and refraining from using the firms to achieve its political objectives.

### *III.C Post-Privatization Restructuring Measures*

Related to reallocation of control rights, privatized firms may undertake different restructuring measures that could enhance incentives and important efficiency. In our survey, we asked about four restructuring measures. The first is whether the firm changed its core management team — introduction of new human capital into management is shown to be important in improving efficiency in other privatization settings (Barberis, Boycko, Shleifer, and Tsukanova, 1996). The second is whether the firm incentivizes its executives through increased performance-based pay. In restructuring corporate governance, we asked whether the firm established a board of directors after privatization and whether it adopted international accounting standard after privatization.

Panel A of Table 6 reports the proportion of firms adopting the above restructuring measures for different privatization methods. Compared to the overall privatization sample, MBO firms are most likely to change members of core management team (64% vs. 62%), to establish a board of directors (84% vs. 76%), and to adopt international accounting standard and professional independent auditing (11% vs. 8%). The latter two differences are significant at the 5% or 10% levels. Direct sales to outsiders are less likely to establish a board (67% vs 76%) and but are more likely to adopt performance based compensation (15% vs. 7%), both differences are significant at the 1% level.

The logit model in Panel B of Table 6 further confirms the findings in the univariate analysis. MBO firms are significantly more likely to change core members of the management team, to establish a board of directors, and to adopt international accounting standard and professional independent auditing (at the 1% or the 5% levels). All these are consistent with the findings that MBOs represent the most transfer of control rights from the state to the firm. MBO firms are not likely to have performance-based pay to executives, which is not surprising — owners of MBOs firms are also managers and thus ownership and control are already aligned. [7]

In contrast, firms sold to outsiders are not more likely to change core management team or to introduce governance measures. Probably reflecting separated ownership and control, however, these firms are more likely to use performance-based pay to align incentives.

Anecdotal evidences as well as our own conversations with managers suggest that board of directors is often established because the firm, at the time of MBO, needs to raise financing from other investors who eventually sits on the board and because the board can help with professionalization of the firm. Adopting international accounting standard is also a way to professionalize the firm. Thus it appears that MBO firms have more incentive to professionalize the firm, which is also consistent with an incentive to prepare the firm for public listing. [8] Indeed eventually listing the firms in the public capital market provides an exit strategy for the owner-managers of the firms. This can be part of the reasons why, in contrast to the failure of insider privatization in Eastern Europe and Russia (Barberis et al., 1996) MBOs in China are successful, although further research would be necessary to confirm this hypothesis in detail.

[7] Among 471 MBOs in our sample, except for 2 firms, managers are the largest shareholder. In the remaining two firms, one has the government and the other has workers as the largest shareholder.

[8] One of the coauthors of this paper served on the board of an MBO company that intended to be listed in NASDAQ, along with lawyers and accountants. That board indeed provided valuable professional advice to the company.

As a summary, we find that firms privatized through MBO have resulted in substantial reduction of government controls over the firm; whereas other privatization methods are much less effective in transferring the control rights to the firm. Further, freedom from state control is associated with significantly better operating performance. Finally, MBO firms are more likely to adopt restructuring measures including change of core management team, adoption of international accounting standards, and establishment of a board of directors.

## IV. Political Constraints, Governments' Incentives, and MBO Choices

We have shown in the previous section, MBOs are most effective in transferring the control rights to the private sector and in promoting post-privatization restructuring. This leads us inevitably to ask why not all privatizations are MBOs. In this Section, we answer this question by examining the incentives of the local governments and the political and economical constraints they faced at the time of privatization.

As discussed earlier, by the late 1990s, most SOEs were losing money and deep in debt. In addition to poor management, there are two main reasons for SOEs' weak performance. One is surplus workers -- according to various estimates, surplus workers ranged from 23.5% to 44% of the SOE labor force during 1993−96 (Li and Xu, 2001, and Dong and Putterman, 2003).[9] Given that unemployment is politically incorrect, these surplus workers are kept in the SOEs even if the SOEs could not pay them in full or give them enough work (this "no work" status without being formally laid off is called *xia gang*). The other main reason for SOE's poor performance is various policy burdens, such as pension, social welfare, and uncompensated uses of corporate resources by the local governments. Thus without government intervention, private owners aiming at efficiency would lay off redundant workers and refuse to shoulder many of the policy burdens, both are politically and financially painful to the local government. As we have shown, MBOs represent a commitment from the government to relinquish its control. Several factors could affect the incentive for the local government to make such a commitment.

The first is local political opposition to layoffs. Empirically, we measure it as the share of SOE employment in total urban employment. A greater share of SOE employment indicates slower development of *de novo* private sector, which makes it harder for the laid-off workers to find new jobs and political opposition to layoffs stronger. Moreover, the implicit unemployment

[9] According to a World Bank survey in 1994, one-third of firms reported a labor redundancy rate exceeding 20% (Bai et al., 2006).

problem discussed above is most severe in areas dominated by SOEs, again resulting in stronger political pressure against layoffs. Thus we expect that in regions with a greater share of SOE employment are less likely to implement MBOs in privatization. [10]

The second factor is the ability of local governments to bear the costs of layoff and social responsibilities. One measure of such ability is the government's fiscal resources. The more the fiscal resources, the greater ability the government has to pay for the layoffs and/or redeployment of laid-off workers. Moreover, the impact of greater government fiscal capacity is likely to be non-linear: it is more important in regions where unemployment is a bigger concern because greater fiscal capacity allows the government to provide better support for redeployment of laid-off workers in MBOs. Fiscal resources also reduce the reliance of local governments on SOEs to achieve their social and political goals, as well as for uncompensated use of resources.

In our survey, we also asked about various government policy subsidies that might affect the government's choice of MBO. The policy subsidies include the city government's loan guarantees and direct allocation of land (for free or at below market price). To the extent that these policy subsidies reflect pre-existing "ties" between the firm and the government, it may be harder for the government to commitment to a more complete withdrawal of influence.

We estimate the following logit model to quantify the influence of government incentives on the choice of MBOs.

$$\begin{aligned} &Prob(MBO = 1) = \Lambda(Y), \text{ where} \\ &Y = a + b\ \textit{Government Incentives} + cX + \textit{Industry Dummies} \\ &\quad + \textit{Privatization-Year Dummies}, \end{aligned} \tag{2}$$

and $\Lambda(.)$ is the logistic cumulative distribution function. *Government Incentives* include government fiscal resources as measured by government revenue as a percent of GDP, the share of SOE employment in total urban employment, government allocation of land, and government guarantee of loans. To capture the greater impact of fiscal resources in regions where unemployment is a greater concern, we also include an interaction term between fiscal resources and a dummy variable indicating high share of SOE employment (defined as % of SOE

[10] There is a more subtle reason why the share of SOEs may be negatively related to MBOs. Cross region differences in the development *de novo* private sector is related to the local governments' attitudes towards private ownership. In earlier days of reform, some local governments provided *ad hoc* local protections (promises) and other supports to private firms when the constitution did not protect private ownership; whereas many others discouraged the development of private sector. To the extent that MBOs represent a more "thorough" privatization, city governments that are more "pro" private ownership are more likely to choose MBOs.

employment greater than the sample median). All *Government Incentives* variables are measured in the year prior to privatization. *X* is a set of control variables. We include two sets of controls. One is the city level, including GDP per capita and population growth. The other set of controls is at the firm-level, including profitability (EBIT over sales), size (log of assets), and leverage – again all measured at the year prior to privatization.

Table 8 presents the summary statistics of the variables used. Indicative our later findings, MBOs are significantly more popular among cities with greater fiscal balance, or with lower share of SOE output. Moreover, MBO firms are less likely to have obtained land from government.

Table 9 presents our regression results. In column (1) of Table 7A, the impact of a higher share of SOE employment is negative as expected (at the 5% level). The interaction term between *Fiscal revenue/GDP* and *High share of SOE employment* enters with a positive sign (at the 1% level), suggesting that in regions where political opposition to layoff is stronger, greater fiscal resources allows the government to provide better support for redeployment of laid-off workers in MBOs. Government allocation of land is significantly negative (at the 5% level), suggesting that pre-existing government-firm ties make it harder for the government to commit to MBOs.

In column (3) of Table 2, we further add firm-level variables in the year prior to privatization, including size, profitability and leverage. Firm size is significantly related to MBO choices with a negative sign (at the 10% level). This is not surprising because the cost of layoff and policy burdens tends to be greater for larger firms, and such a large cost would be difficult for the government to absorb. Notably, profitability is not statistically significant in determining the restructuring choices.

As a summary, the choice of privatization methods is mainly driven by political and social considerations, particularly the impact of unemployment and government's fiscal ability to absorb the cost of privatization. Economic factors, such as firm profitability, do not play a significant role in privatization choices. These findings demonstrate the importance of political economy factors in shaping the design of economic institutions. They are also useful in interpreting our results on post-privatization performance in the next section.

## V. Choice of Privatization Methods and Firm Performance

Results in the previous sections show that MBOs require most commitment from the government to refrain from intervening corporate decision making. As a result, MBOs are most effective in reallocation control rights from the state to private owners and in implementing

restructuring measures. All these suggest that MBOs are likely to bring about the most efficiency gain. In this section, we empirically evaluate the performance of different privatization methods. Specifically, we focus on the difference-in-difference estimates of performance gain of MBOs vs. other methods of privatization.

In our sample, firms are privatized in different years since the late 1990s, whereas the National Statistical Bureau financial information is only available during 1998-2006. Thus, to fully utilize the data, we use the following panel regression of privatized firms as our main empirical model:

$$Performance_{it} = \alpha_i + \beta_t + \gamma\, Post_{it} + \lambda\, MBO_i \times Post_{it} + \delta X_{it} + \varepsilon_{it}, \qquad (3)$$

where $Performance_{it}$ is measured as earnings over assets (or ROA) and earnings per employee. $Post_{it}$ is a dummy variable indicating years after privatization. $X_{it}$ contains firm control variables, including size (measured as log of assets), leverage (debt over assets), and lag of profitability to account for potential mean reversion in profits. $\alpha_i$ is the firm fixed effect, which controls for any time-invariant firm characteristics. $\beta_t$ is the year fixed effect to capture changes in macro economic conditions that might affect performance. Coefficient $\gamma$ is the difference-in-difference estimate and captures the differences in performance improvement between MBOs and other methods of privatization.

### *V.A. A First Look at the Performance of Chinese Firms*

Before we report the effect of different privatization methods on performance, we first present an overall picture of the operating performance of Chinese firms, including privatized firms, non-privatized SOEs, and *de novo* private firms. Columns (1) and (2) in Panel A of Table 8 show that, consistent with popular reports that SOEs are in much weaker competitive position as compared to *de novo* private firms, privatized and non-privatized SOEs have significantly worse performance than *de novo* private firms for both performance measures (at the 1% levels). In columns (3) and (4) of Panel A, we add the *Post* dummy. It is not significantly different from zero.

In Panel B of Table 8, we estimate the performance regression on SOE firms (including privatized and non privatized SOEs) and thus compare the relative performance of privatized vs. non-privatized SOEs, which should be a better benchmark. In the first two columns, we report results without firm fixed effects. For both performance measures, the *Post* dummy is positive,

marginally significant at the 15% level for ROA and significant at 1% for profit per employee. However, when we add firm fixed effects in columns (3) and (4) of Table 11, the coefficient on the *Post* dummy becomes statistically insignificant, suggesting that the results in columns (1) and (2) are driven by unobserved firm heterogeneity.

### *V.B. The Impact of Privatization Methods on Firm Performance*

We now report the effect of privatization methods, particularly MBOs, on firm performance. Estimation results of Equation (3) are presented in Table 9. In the first two columns of Table 9, we report results without firm fixed effects. The interaction between *MBO and* the *Post* dummy is significantly positive for both measures of performance (at the 5% and the 10% levels). The coefficient on the *Post* dummy itself is not significant, suggesting that privatization methods other than MBOs do not improve performance. In columns (3) and (4) of the table, we add firm fixed effects. The coefficient on *MBO*Post* remain positive and significant (at the 1% levels). Interestingly, the *Post* dummy itself is not significantly different from zero for ROA but is significantly negative for profits over employment (at the 5% level), which suggests that non-MBOs do not improve efficiency and even lead to decline in operating efficiency based on earnings per employee.

In columns (5) and (6) of Table 9, we further examine the effectiveness of the other type of direct sales method, that is, *Direct Sales to Outsiders*. The interaction between *Direct Sales to Outsiders* and *Post* is not significantly different from zero, suggesting that direct sales to outsiders do not improve performance. This result is fully consistent with our earlier findings about the state control and a lack of restructuring measures in this kind of privatization programs in China.

A common concern about performance comparison is the selection bias: for example, better firms may have been systematically chosen for MBOs. Or managers may have private information about the future prospects of the firms and choose to buy out those with good prospects. Or managers may have manipulated the earnings downward prior to MBOs so that they could buy out the firms more cheaply, causing a mechanical increase in earnings post-privatization. We must stress that our earlier findings that political incentives, rather than economic considerations, determine the choice of privatization method guard against these possibilities. Indeed, as shown in Figure 3, there is not any pre-existing trend in the difference in performance between MBOs and non-MBOs. More importantly, we have documented the mechanism of potential efficiency gain

among MBOs, that is, retreat of state control from daily corporate decisions and implementation of restructuring measures, which is probably the strongest guard against endogeneity.

Nevertheless, to provide further evidence that the performance results are not driven by selection, we use the government's political incentives, namely %SOE Employment, Fiscal Revenue/GDP, government allocation of land and loan guarantees as instruments to estimate the effect of restructuring on performance. We employ the limited information maximum likelihood (LIML) estimation of the two-stage least square (TSLS) regressions, which is more robust to weak IV problems. The results are reported in Table 10. The instrumental variable estimates are quantitatively similar to our OLS estimates, further confirming that selection is not a big concern.

## VII Conclusion

Based on a large-scale nationwide survey of Chinese firms that we carried out in 2006, this paper conducts a systematic study of China's privatization. Our intention is two folded. First, we aim to use the Chinese case to shed light on important but unanswered questions in the privatization literature as to what makes privatization work and, more generally, what role political factors play in shaping the design of economic institutions and their performance. Second, we intend to fill the gap in our understanding of China's privatization, and, given its role in China's private sector development, the growth of the Chinese economy.

We find that privatization in China has made substantial progress in reallocating control rights from the government to the private sector. There are, however, significant variations in the degree of government influence in corporate decisions across different privatization methods. Particularly, the state influence is the weakest in direct sales to insiders (or MBOs), which account for about half of all privatization programs. The state, however, retains substantial control in direct sales to outsiders and other methods. Since the state often has objectives other than profit maximization, state intervention in privatized firms is associated with significant worse post-privatization performance.

Firms privatized through different methods also undertake different restructuring measures that could potentially improve performance and/or professionalize the firms. MBOs are the most successful in implementing restructuring measures, including change of core management teams, establishing a board of directors, and introducing international accounting and independent auditing.

We find that the incentives of the local governments and the political constraints they face are the key determinants of their choices of privatization methods. The MBO method, which requires commitment from the government to withdraw its influence in corporate decision, are more like to be chosen when political opposition to layoffs are weaker or when the local government has more fiscal resources to bear the cost of layoff and to fill the gap in social welfare left by privatized firms.

Finally, consistent with its effectiveness in reallocating control rights from the state to private owners and in implementing various restructuring measures, we find that MBOs are associated with significant performance gain. In contrast, sales to outsiders and other methods fail to improve efficiency. These results are robust to IV estimates using government incentives.

In principle, our findings confirm those in the previous literature that aggregate results of the success of privatization could be misleading — different ownership and governance structure matter critically for restructuring and performance (Frydman et al., 1999, Estrin et al., 2009). The Chinese experience that privatization to insiders is most successful in restructuring and performance, however, is in sharp contrast to other transition economies. In those economies, it was firms privatized to outsiders, particularly foreigners, that enjoyed significant efficiency gains; whereas firms privatized to insider did not work well (Djankov and Murrell, 2002; Estrin et al., 2009). The difference is likely due to some key differences in the institutional environment at the time of privatization. When mass privatization started in other transition economies, the countries had not established product markets, labor markets, or financial markets. Private ownership was an unfamiliar phenomenon. Under this situation, managers or private owners may not have had sustained interest in running their firms, nor do they have a clear exit strategy. In contrast, privatization in China was delayed but when it actually occurred, the private sector had already become a big part of the economy and market institutions had been developed, including a functioning capital market which potentially provide the new owners with an exit strategy to fully capitalize on the efficiency gains. Of course, further research is necessary to confirm this hypothesis in detail. This, we leave for future research.

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Figure 1. Regional distribution of Privatized Firms in the Survey

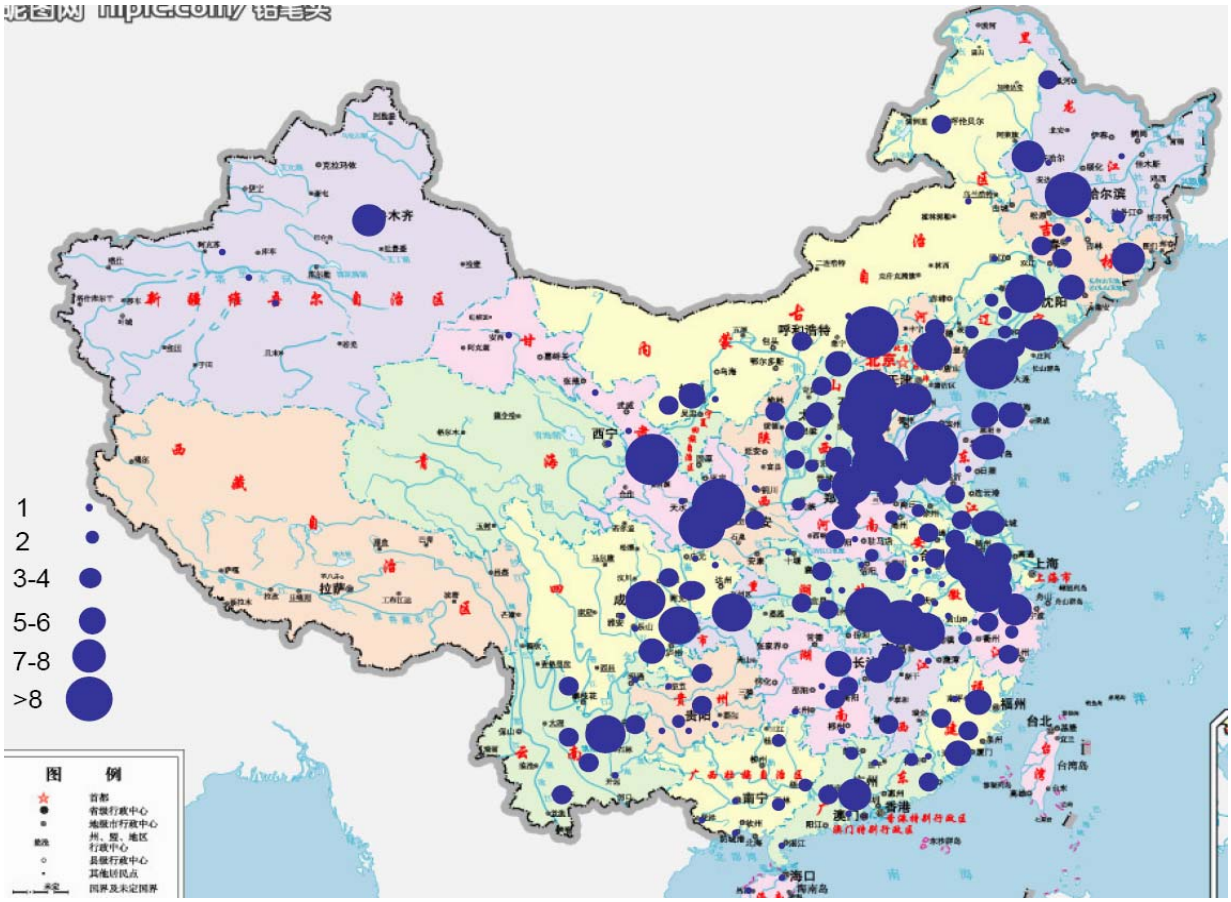


Figure 2. Reallocation of Control Rights Before & After Privatization

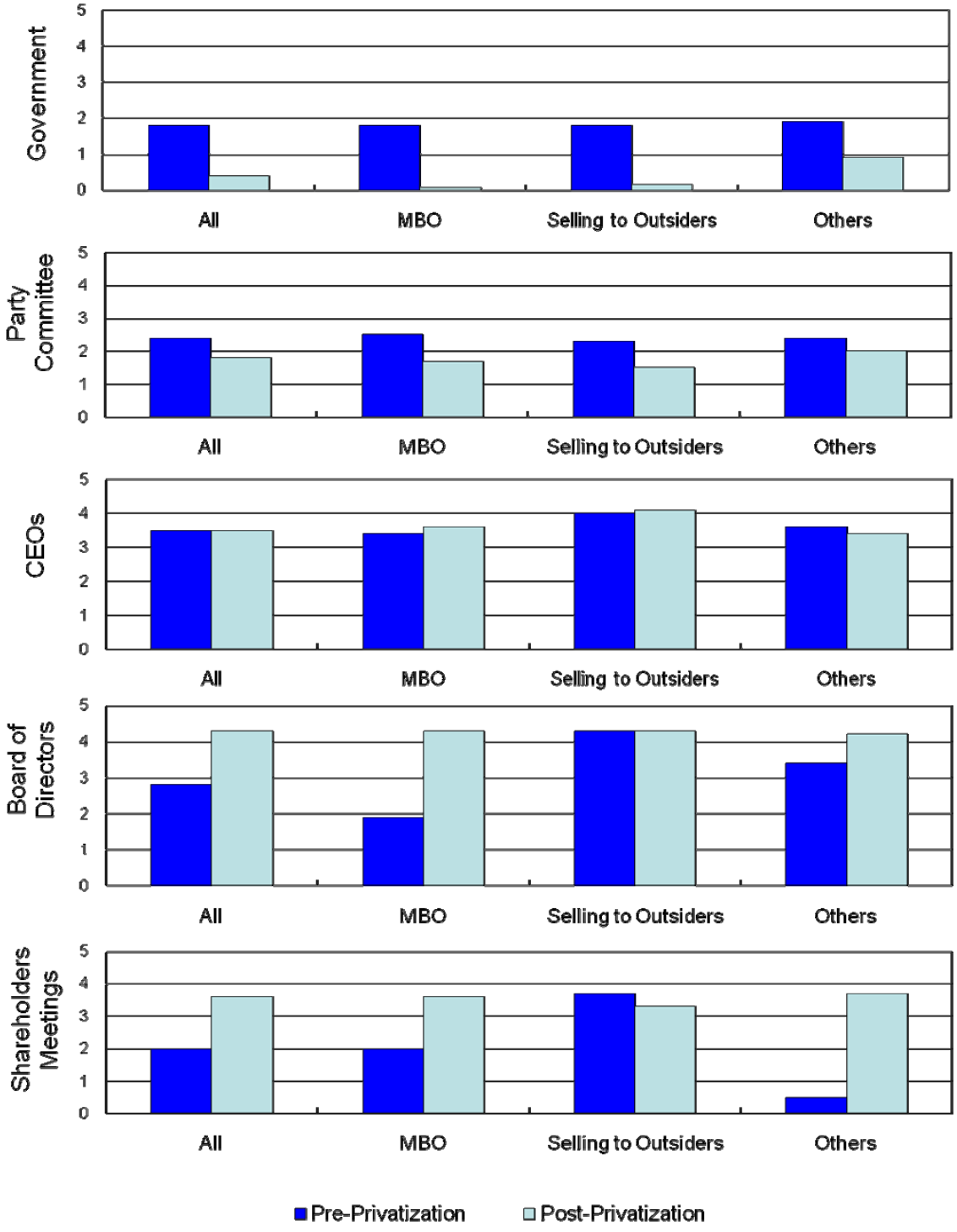
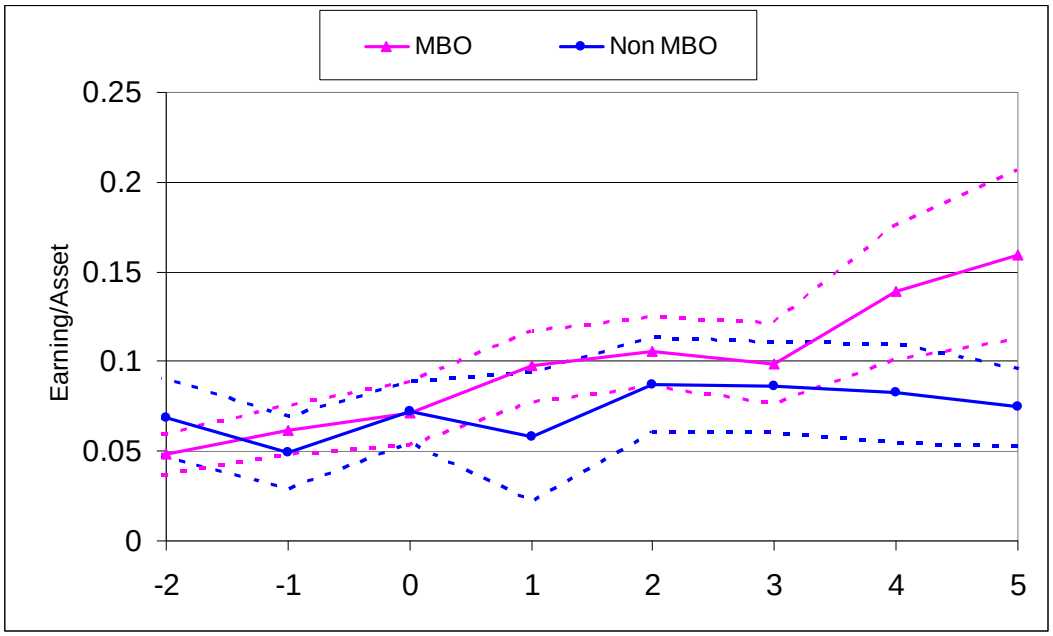
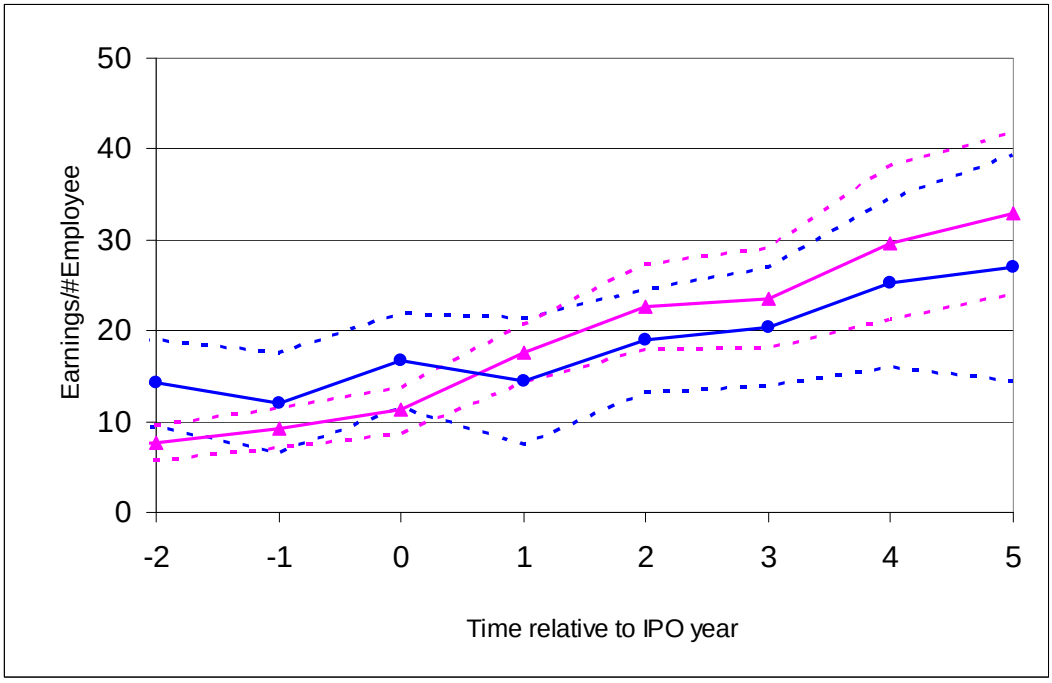


Figure 3. No Pre-existing Trend of Performance Differences between MBOs and Other Privatization Methods




Note: Solid lines are the mean; dashed lines are 90% confidence intervals.

**Table 1. Sample Distribution of Ownership, Size, Location, and Industry**

This table compares the distribution of our survey sample with that of the population by ownership, size, location, and industry. The NBS database does not have information on ownership; thus we infer ownership based on registration type. North China includes Beijing, Tianjin, Hebei; North-East: Heilongjiang, Jilin, Liaoning; North-West: Xinjiang, Qinghai, Ningxia, Gansu, Shaanxi, Innermongolia; Noth-Central: Shanxi, Henan, Shandong; South-West: Xizang, Yunan, Guizhou, Sichuan, Chongqing; East: Shanghai Jiangsu, Zhejiang; South: Guangxi, Guangdong, Fujian, Hainan; South-Central: Hubei, Hunan, Jiangxi, Anhui.

| | Survey Sample | | Population | |
|---|---|---|---|---|
| | Number | % | Number | % |
| | (1) | (2) | (3) | (4) |
| *Panel A: Size Distribution* | | | | |
| Large | 87 | 3% | 3,242 | 1% |
| Medium | 491 | 17% | 35,660 | 11% |
| Small | 2,419 | 80% | 285,284 | 88% |
| | | | | |
| *Panel B: Regional Distribution* | | | | |
| North | 300 | 10% | 25,936 | 8% |
| North-East | 209 | 7% | 22,693 | 7% |
| North-West | 150 | 5% | 12,967 | 4% |
| North-Central | 480 | 16% | 48,628 | 15% |
| South-West | 180 | 6% | 16,209 | 5% |
| East | 1,019 | 34% | 113,465 | 35% |
| South | 419 | 14% | 58,353 | 18% |
| South-Central | 240 | 8% | 25,935 | 8% |
| | | | | |
| *Panel C: Industry Distribution* | | | | |
| non-manufacturing industries | 1 | 0% | 13 | 0% |
| Mining | 273 | 9% | 37,662 | 12% |
| Food, Beverage & Tobacco | 264 | 9% | 29,431 | 9% |
| Textiles | 366 | 12% | 49,402 | 15% |
| Timber and Paper Products | 275 | 9% | 28,441 | 9% |
| Petroleum & Chemical | 495 | 17% | 49,159 | 15% |
| Metals | 633 | 21% | 66,682 | 21% |
| Machine and Electronics | 515 | 17% | 53,351 | 16% |
| Electricity, Gas and Water | 175 | 6% | 10,045 | 3% |

**Table 2. Basic Facts and Summary Statistics**

This table presents basic facts of China's privatization and summary statistics of financial variables used in the empirical analysis. Profits are defined as earnings before interest, tax, and depreciation. Significance levels are all based on two-tailed tests of differences. In Panel A.3 differences between the MBO firms and other methods and between Selling to Outsiders and other methods are tested. Differences between SOEs and non-SOEs are tested in column (5) of Panel B.1, differences between MBOs and non-MBOs are tested in column (4) of Panel B.2 . Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

*Panel A: Basic Facts of China's Privatization*

*A.1 Year of Privatization*

| Year | # of firms | Percentage |
|---|---|---|
| 1999 | 60 | 8% |
| 2000 | 103 | 14% |
| 2001 | 102 | 14% |
| 2002 | 109 | 15% |
| 2003 | 129 | 18% |
| 2004 | 95 | 13% |
| 2005 | 108 | 15% |
| 2006 (Year of survey) | 11 | 2% |
| Total | 717 | 100% |

*A2. Methods of Privatization*

| | # of firms | Percentage |
|---|---|---|
| Direct Sales | | |
| MBO | 338 | 47% |
| Selling to Outsiders | 157 | 22% |
| Other Methods | | |
| Public Offerring | 8 | 1% |
| Joint Ventures | 11 | 2% |
| Leasing | 56 | 8% |
| Employee Holding | 70 | 10% |
| Others | 77 | 11% |
| Total | 717 | 100% |

*A3. Ownership of Privitized Firms*

| | | MBO | Selling to Outsiders | Other | All |
|---|---|---|---|---|---|
| Ownership by the Largest Shareholder | Mean | 37%*** | 64% | 91%*** | 60% |
| | Median | 30%*** | 70% | 100%*** | 51% |
| Ownership by the Second and Third Largest Shareholder | Mean | 27%** | 20%*** | 30%* | 26% |
| | Median | 22%** | 15%*** | 30%** | 20% |

**Table 2. Basic Facts and Summary Statistics (Cont'd)**

*Panel B: Financial Information of Chinese Firms*

*B1. Overview of Financial Information of Chinese Firms*

| | | | State-Owned Enterprises (SOEs) | | | | |
|---|---|---|---|---|---|---|---|
| | | Whole Sample | Privatized | Non-Privatized | Difference | Non-SOEs | Difference |
| | | (1) | (2) | (3) | (2)-(3) | (4) | (2)-(4) |
| Assets (in thousands) | Mean | 170,704 | 316,182 | 218,203 | 97,979*** | 46,373 | 269,809*** |
| | Median | 25,626 | 54,166 | 42,914 | 11,252*** | 14,543 | 39,623*** |
| Sales (in thousands) | Mean | 116,336 | 197,552 | 131,049 | 66,504*** | 52,451 | 145,101*** |
| | Median | 20,371 | 26,178 | 19,668 | 6,510*** | 18,360 | 7,818*** |
| Leverage | Mean | 0.095 | 0.138 | 0.138 | 0.000 | 0.045 | 0.093*** |
| | Median | 0.004 | 0.061 | 0.051 | 0.010* | 0.000 | 0.061*** |
| Profit / Assets | Mean | 0.105 | 0.071 | 0.059 | 0.013*** | 0.150 | -0.079*** |
| | Median | 0.065 | 0.045 | 0.038 | 0.007*** | 0.098 | -0.053*** |
| Profit / #Employee | Mean | 21.285 | 13.865 | 16.174 | -2.310** | 28.796 | -14.931*** |
| | Median | 8.819 | 6.467 | 4.667 | 1.800*** | 13.483 | -7.016*** |
| Number of Firms | | 15,109 | 4,959 | 3,149 | | 6,927 | |

*B2. Financial Variables Before and After Privatization*

| | | Privatized SOEs | | | MBOs | | |
|---|---|---|---|---|---|---|---|
| | | Before | After | Difference | Before | After | Difference |
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| Assets (in thousands) | Mean | 278,753 | 389,630 | 110,877** | 119,987*** | 176,863 | 56,976*** |
| | Median | 54,221 | 53,989 | -232 | 43,968*** | 38,823 | -5,145 |
| Sales (in thousands) | Mean | 161,631 | 268,043 | 106,412*** | 78,563*** | 149,584 | 71021*** |
| | Median | 24,686 | 31,691 | 7,005*** | 22,634*** | 24,785 | 2151*** |
| Leverage | Mean | 0.144 | 0.126 | -0.018*** | 0.132*** | 0.112 | -0.020** |
| | Median | 0.073 | 0.04 | -0.033*** | 0.070** | 0.029 | -0.041*** |
| Profit / Assets | Mean | 0.055 | 0.102 | 0.047*** | 0.050* | 0.128 | 0.078*** |
| | Median | 0.04 | 0.057 | 0.017*** | 0.038 | 0.064 | 0.026*** |
| Profit / #Employee | Mean | 10.838 | 19.682 | 8.843*** | 8.185*** | 21.291 | 13.105*** |
| | Median | 5.133 | 10.693 | 5.560*** | 4.541*** | 10.896 | 6.355*** |

**Table 3. Privatization and Change of Control Rights**

This table reports allocation of control rights in Chinese firms. Average scores across firms are reported; standard deviations are in parenthesis. Significance levels in columns (4), (6), (8), and (10) are based on two-tailed tests of differences in scores from their previous columns, between before- and after- privatization. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

| | | | Privatization Methods | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Non-privatized* | *de novo* | All | | MBO | | Selling to Outsiders | | Others | |
| | *SOEs* | Private Firms | Before | After | Before | After | Before | After | Before | After |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| *Panel A. Control Rights of Government* | | | | | | | | | | |
| Appointment of top management | 3.0 (1.9) | 0.0 (0.1) | 2.4 (1.9) | 0.6 (1.2)*** | 2.4 (2.0) | 0.1 (0.4)*** | 2.4 (1.8) | 0 .2 (0.8)*** | 2.5 (1.9) | 1.3 (1.6)*** |
| Employment/layoff | 2.2 (2.0) | 0.0 (0.2) | 1.9 (2.0) | 0.4 (1.0)*** | 1.9 (2.0) | 0.1 (0.3)*** | 2.0 (1.9) | 0.2 (0.6)*** | 1.9 (2.0) | 0.9 (1.5)*** |
| Wages/compensations | 1.9 (2.0) | 0.0 (0.1) | 1.6 (2.0) | 0.4 (1.0)*** | 1.5 (2.0) | 0.1 (0.4)*** | 1.5 (1.8) | 0.1 (0.6)*** | 1.7 (2.0) | 0.8 (1.4)*** |
| Investment | 2.6 (2.2) | 0.0 (0.2) | 2.0 (2.1) | 0.4 (1.1)*** | 2.0 (2.2) | 0.1 (0.4)*** | 1.8 (2.0) | 0.2 (0.7)*** | 2.0 (2.1) | 1.0 (1.6)*** |
| Fund raising | 2.4 (2.2) | 0.0 (0.2) | 1.9 (2.1) | 0.4 (1.2)*** | 1.9 (2.2) | 0.1 (0.5)*** | 1.8 (2.1) | 0.2 (0.8)*** | 2.0 (2.1) | 0.9 (1.6)*** |
| Distribution of profits | 2.0 (2.0) | 0.0 (0.1) | 1.6 (2.0) | 0.4 (1.0)*** | 1.6 (2.0) | 0.0 (0.3)*** | 1.5 (1.8) | 0.1 (0.6)*** | 1.8 (2.0) | 0.9 (1.4)*** |
| Production and marketing | 1.8 (1.9) | 0.0 (0.2) | 1.5 (2.0) | 0.3 (1.0)*** | 1.4 (2.0) | 0.1 (0.3)*** | 1.3 (1.8) | 0.1 (0.5)*** | 1.7 (2.0) | 0.8 (1.4)*** |
| Average | 2.3 | 0 | 1.8 | 0.4 | 1.8 | 0.07 | 1.8 | 0.15 | 1.9 | 0.9 |
| *Panel B. Changes of Control Rights of Party Committee* | | | | | | | | | | |
| Appointment of top management | 2.7 (1.8) | 1.9 (1.4) | 2.7 (1.3) | 2.0 (1.3)*** | 2.8 (1.3) | 1.9 (1.2)*** | 2.6 (1.5) | 1.6 (1.5) *** | 2.7 (1.3) | 2.3 (1.3)*** |
| Employment/layoff | 2.8 (1.8) | 2.2 (1.5) | 2.8 (1.3) | 2.0 (1.2)*** | 2.9 (1.3) | 1.9 (1.2)*** | 2.4 (1.5) | 1.6 (1.2)*** | 2.7 (1.2) | 2.2 (1.2)*** |
| Wages/compensations | 2.4 (1.8) | 2.1 (1.5) | 2.6 (1.3) | 2.0 (1.1)*** | 2.7 (1.3) | 1.9 (1.1)*** | 2.4 (1.5) | 1.7 (1.3)*** | 2.6 (1.3) | 2.1 (1.2)*** |
| Investment | 2.5 (1.8) | 1.9 (1.5) | 2.1 (1.7) | 1.5 (1.4)*** | 2.1 (1.7) | 1.4 (1.3)*** | 2.2 (1.6) | 1.4 (1.3)*** | 2.1 (1.6) | 1.7 (1.4)*** |
| Fund raising | 2.5 (1.8) | 1.6 (1.5) | 2.1 (1.7) | 1.6 (1.4)*** | 2.0 (1.7) | 1.4 (1.3)*** | 2.2 (1.6) | 1.3 (1.3)*** | 2.1 (1.7) | 1.7 (1.4)*** |
| Distribution of profits | 2.4 (1.8) | 1.8 (1.4) | 2.5 (1.3) | 1.8 (1.2)*** | 2.5 (1.3) | 1.7 (1.2)*** | 2.3 (1.5) | 1.5 (1.2)*** | 2.5 (1.3) | 2.0 (1.2)*** |
| Production and marketing | 2.2 (1.7) | 1.8 (1.5) | 2.3 (1.4) | 1.7 (1.2)*** | 2.4 (1.4) | 1.6 (1.2)*** | 2.3 (1.5) | 1.5 (1.3)*** | 2.2 (1.3) | 1.8 (1.2)*** |
| Average | 2.5 | 1.9 | 2.4 | 1.8 | 2.5 | 1.7 | 2.3 | 1.5 | 2.4 | 2 |

**Table 3. Privatization and Change of Control Rights (Cont'd)**

| | | | Privatization Methods | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Non-privatized* | *de novo* | All | | MBO | | Selling to Outsiders | | Others | |
| | *SOEs* | Private Firms | Before | After | Before | After | Before | After | Before | After |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| *Panel C. Control Rights of CEOs* | | | | | | | | | | |
| Appointment of top management | 3.9 (1.2) | 4.4 (0.9) | 3.6 (1.2) | 3.6 (1.2)*** | 3.5 (1.2) | 3.5 (1.2)*** | 3.8 (1.2) | 4.0 (1.2)*** | 3.6 ( 1.2) | 3.4 (1.2)*** |
| Employment/layoff | 4.1 (1.0) | 4.4 (0.8) | 3.7 (1.0) | 3.6 (1.2)*** | 3.6 (1.0) | 3.5 (1.2)*** | 4.0 (1.0) | 4.1 (1.2) | 3.7 (1.0) | 3.4 (1.2)*** |
| Wages/compensations | 4.0 (1.1) | 4.3 (1.0) | 3.7 (1.1) | 3.7 (1.3)*** | 3.6 (1.1) | 3.6 (1.3) | 4.1 (1.0) | 4.1 (1.2)* | 3.7 (1.2) | 3.6 (1.2)*** |
| Investment | 3.8 (1.3) | 4.4 (0.9) | 3.2 (1.8) | 3.3 (1.6)*** | 3.0 (1.9) | 3.3 (1.5)*** | 3.8 (1.4) | 4.0 (1.3)*** | 3.3 (1.8) | 3.2 (1.6)*** |
| Fund raising | 3.8 (1.2) | 4.2 (1.1) | 3.1 (1.8) | 3.3 (1.6)*** | 2.9 (1.9) | 3.2 (1.6)*** | 3.7 (1.5) | 4.0 (1.4)*** | 3.1 (1.8) | 3.0 (1.7)*** |
| Distribution of profits | 3.9 (1.1) | 4.4 (1.0) | 3.7 (1.2) | 3.6 (1.2)*** | 3.5 (1.2) | 3.6 (1.2)** | 4.0 (1.1) | 4.1 (1.1)*** | 3.7 (1.2) | 3.5 (1.2)*** |
| Production and marketing | 4.0 (1.1) | 4.2 (1.1) | 3.8 (1.2) | 3.7 (1.4)*** | 3.6 (1.2) | 3.6 (1.4)*** | 4.1 (1.1) | 4.2 (1.2)*** | 3.8 (1.2) | 3.6 (1.3)*** |
| Average | 3.9 | 4.3 | 3.5 | 3.5 | 3.4 | 3.6 | 4 | 4.1 | 3.6 | 3.4 |
| *Panel D. Control Rights of Boards of Directors* | | | | | | | | | | |
| Appointment of top management | 4.5 (1.1) | 4.4 (0.9) | 3.0 (2.1) | 4.4 (0.8)*** | 1.8 (2.1) | 4.4 (0.8)*** | 4.3 (0.7) | 4.5 (0.7) | 3.9 (1.7) | 4.3 (0.8)*** |
| Employment/layoff | 3.9 (1.6) | 3.8 (1.4) | 2.7 (2.2) | 3.7 (1.5)*** | 1.6 (2.2) | 3.1 (1.7)*** | 4.4 (0.5) | 4.3 (0.9) | 3.2 (2.0) | 4.3 (1.0)** |
| Wages/compensations | 3.9 (1.6) | 3.4 (1.4) | 2.6 (2.1) | 3.9 (1.1)*** | 1.6 (2.2) | 3.8 (1.2)*** | 3.8 (1.2) | 3.9 (1.2) | 3.4 (1.8) | 4.1 (1.1)** |
| Investment | 4.3 (1.3) | 4.4 (1.0) | 3.3 (2.2) | 4.6 (1.0)*** | 1.8 (2.3) | 4.7 (0.7)*** | 4.8 (0.7) | 4.8 (0.5) | 4.1 (1.6) | 4.4 (1.3)** |
| Fund raising | 4.3 (1.4) | 4.3 (1.1) | 3.0 (2.1) | 4.4 (1.1)*** | 2.5 (2.4) | 4.5 (0.9)** | 4.4 (1.1) | 4.4 (1.0)** | 2.4 (2.0) | 4.3 (1.3)*** |
| Distribution of profits | 4.4 (1.3) | 4.3 (1.0) | 2.7 (2.1) | 4.4 (0.8)*** | 1.4 (1.8) | 4.3 (0.8)*** | 4.0 (0.9) | 4.5 (0.7)** | 3.9 (1.7) | 4.4 (0.8)** |
| Production and marketing | 3.9 (1.5) | 3.5 (1.3) | 3.8 (1.2) | 4.0 (1.1)*** | 1.4 (1.9) | 4.0 (1.1)*** | 4.1 (1.3) | 3.9 (1.1)* | 2.4 (2.1) | 4.0 (1.1)*** |
| Average | 4.2 | 4 | 2.8 | 4.3 | 1.9 | 4.3 | 4.3 | 4.3 | 3.4 | 4.2 |
| *Panel E. Control Rights of Shareholders Meetings* | | | | | | | | | | |
| Appointment of top management | 3.4 (1.6) | 3.6 (1.4) | 2.0 (2.1) | 3.5 (1.2)*** | 1.8 (2.0) | 3.4 (1.2)** | 4.2 (0.8) | 3.3 (1.1)** | 0.2 (0.9) | 3.7 (1.1)*** |
| Employment/layoff | 2.5 (2.0) | 3.0 (1.6) | 2.0 (2.1) | 3.4 (1.3)*** | 1.9 (2.1) | 3.3 (1.3)*** | 3.2 (1.6) | 3.1 (1.6) | 1.1 (1.8) | 3.6 (1.1)*** |
| Wages/compensations | 2.8 (1.8) | 2.8 (1.6) | 1.6 (1.8) | 3.3 (1.3)*** | 1.7 (1.9) | 3.3 (1.3)*** | 3.1 (0.8) | 2.7 (1.6) | 0.2 (1.0) | 3.4 (1.2)*** |
| Investment | 3.7 (1.7) | 3.8 (1.5) | 2.4 (2.4) | 4.1 (1.2)*** | 2.4 (2.5) | 4.3 (1.1)*** | 4.4 (0.5) | 3.7 (1.4)** | 0.2 (1.0) | 4.0 (1.3)*** |
| Fund raising | 3.4 (1.9) | 3.8 (1.4) | 2.7 (2.3) | 4.3 (1.2)*** | 2.7 (2.3) | 4.4 (1.2)*** | 4.3 (0.5) | 4.1 (1.2) | 1.4 (2.2) | 4.2 (1.2)*** |
| Distribution of profits | 3.4 (1.7) | 3.7 (3.5) | 1.6 (1.9) | 3.6 (1.3)*** | 1.5 (1.8) | 3.6 (1.2)*** | 3.3 (1.9) | 3.3 (1.3)** | 0.1 (0.2) | 3.6 (1.3)*** |
| Production and marketing | 2.7 (1.8) | 2.8 (1.5) | 1.7 (1.8) | 3.2 (1.3)*** | 1.8 (1.9) | 3.1 (1.3)*** | 3.2 (0.8) | 3.0 (1.6) | 0.2 (1.0) | 3.3 (1.3)*** |
| Average | 3.1 | 3.4 | 2 | 3.6 | 2 | 3.6 | 3.7 | 3.3 | 0.5 | 3.7 |
| Number of Firms | 475 | 1226 | 717 | 717 | 338 | 338 | 157 | 157 | 222 | 222 |

**Table 4. State Control in Privatized Firms**

This table reports the percentage of firms in each privatization methods that are still have strong state influence. Significance levels are based on two-tailed tests of differences between the MBO firms and other methods and between Selling to Outsiders and other methods. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

| | State Ownership Above Mean | Strong State Control in Corporate Decision Making |
|---|---|---|
| MBO | 1%*** | 16%*** |
| Selling to Outsiders | 15% | 25%* |
| Other | 50% | 59% |
| Whole Sample | 19% | 31% |

**Table 5. State Control in Privatized Firms and Its Influence on Performance**

This table presents the effect on state control on performance. Performance measures are calculated as operating profits (earnings before interest, tax, and depreciation) over assets and number of employees, respectively. Robust standard errors are in parentheses. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

| | Performance Measures | | Performance Measures | |
|---|---|---|---|---|
| | Profits / Assets | Profits / #Employee | Profits / Assets | Profits / #Employee |
| | (1) | (2) | (3) | (4) |
| Lag of Perfmance | 0.055 | 0.054 | 0.052 | 0.053 |
| | (0.173) | (0.077) | (0.173) | (0.077) |
| Log (sales) | 0.067*** | 13.697*** | 0.068*** | 13.759*** |
| | (0.013) | (1.362) | (0.013) | (1.361) |
| Leverage | -0.009 | 5.67 | -0.012 | 5.399 |
| | (0.020) | (3.730) | (0.020) | (3.707) |
| Post Dummy | 0.020* | 0.995 | 0.033*** | 2.095 |
| | (0.010) | (1.334) | (0.012) | (1.410) |
| State Share Above Mean * Post | -0.051* | -7.203* | | |
| | (0.031) | (3.964) | | |
| State Control in Decision Making * Post | | | -0.065*** | -6.846** |
| | | | (0.018) | (2.699) |
| Year Dummies | Yes | Yes | Yes | Yes |
| Firm Fixed Effects | Yes | Yes | Yes | Yes |
| Observations | 4168 | 4062 | 4168 | 4062 |
| R-squared | 0.62 | 0.62 | 0.63 | 0.62 |

**Table 6. Restructuring and Professionalization of Privatized Firms**

Panel A presents the percentage of firms in each privatization methods that are still have strong state influence. Significance levels are based on two-tailed tests of differences between the MBO firms and other methods and between Selling to Outsiders and other methods. Panel B presents the logit model of restructuring measures after privatization. Robust standard errors are in parentheses. The financial variables are the three-year average after privatization. In both Panels, Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

*Panel A. Post-Privatization Restructuring Measures*

| | Change of Core Management Team | Performance Based Compensation | International Accounting & Independent Auditing | Establishing Board of Directors |
|---|---|---|---|---|
| MBO | 64% | 8% | 11%** | 84%*** |
| Selling to Outsiders | 61% | 15%*** | 7% | 67%*** |
| Other | 60% | 2% | 5% | 71% |
| Whole Sample | 62% | 7% | 8% | 76% |

*Panel B. Logit Regression of Post-Privatization Restructuring Measures*

| | Change of Core Management Team | Performance Based Compensation | International Accounting & Independent Auditing | Establishing Board of Directors |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Lag of Perfmance | -0.073** | -0.264*** | 0.192*** | 0.244*** |
| | (0.036) | (0.080) | (0.065) | (0.046) |
| Log (sales) | -0.223 | 0.45 | -3.570*** | -0.069 |
| | (0.343) | (0.773) | (0.992) | (0.408) |
| Leverage | -0.631** | 0.422** | -0.522 | -0.501*** |
| | (0.302) | (0.187) | (0.575) | (0.182) |
| Selling to Private Sector | -0.166 | 1.793*** | -0.094 | -0.055 |
| | (0.171) | (0.423) | (0.369) | (0.203) |
| MBOs | 0.388** | -1.253*** | 0.991*** | 0.782*** |
| | (0.151) | (0.272) | (0.318) | (0.189) |
| Industry Fixed Effects | Yes | Yes | Yes | Yes |
| Observations | 606 | 606 | 606 | 606 |

**Table 7. Government Incentives and Choices of MBO Methods**

This table presents the effect of government incentives on MBO choices. Panel A reports the summary statistics of variables. Significance levels are based on two-tailed tests of differences between the MBO firms and other methods. Panel B presents the logit regression of MBO choices. *Fiscal resources* is defined as fiscal revenue over GDP; High share of SOE employment is a dummy variable indicating *Share of SOE Employment* above the median. Robust standard errors are in parentheses. In both Panels, significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

*Panel A. Summary Statistics of Government Incentives and City-Level Variables*

| | | Privatized SOEs | MBOs |
|---|---|---|---|
| *Government Incentives* | | | |
| Fiscal resources | Mean | 0.67 | 0.70*** |
| | Median | 0.71 | 0.71*** |
| Share of SOE employment | Mean | 0.25 | 0.24 |
| | Median | 0.17 | 0.16* |
| Government allocation of land | Mean | 0.69 | 0.62*** |
| Government guarantee of loans | Mean | 0.07 | 0.07 |
| *City-Level Controls* | | | |
| Log (GDP per Capita) | Mean | 9.72 | 9.77* |
| | Median | 9.71 | 9.78* |
| Population Growth | Mean | 0.03 | 0.04* |
| | Median | 0.01 | 0.01*** |

**Table 7. Government Incentives and Choices of MBO Methods (Cont'd)**

*Panel B. Logit Regression of MBO Choices*

| | Independent Variable: MBO | |
|---|---|---|
| | (1) | (2) |
| *Government Incentives* | | |
| Fiscal resources | -0.979 | -1.173 |
| | (0.230) | (0.159) |
| Share of SOE employment | -0.748** | -0.754** |
| | (0.024) | (0.026) |
| Government allocation of land | -0.142*** | -0.142*** |
| | (0.000) | (0.001) |
| Government guarantee of loans | 0.053 | 0.078 |
| | (0.464) | (0.314) |
| Fiscal resources * High share of SOE employment | 2.660*** | 2.372*** |
| | (0.002) | (0.008) |
| *City-Level Controls* | | |
| Log (GDP per Capita) | -0.021 | -0.022 |
| | (0.568) | (0.554) |
| Population Growth | 0.216 | 0.233 |
| | (0.242) | (0.241) |
| *Firm-Level Controls* | | |
| Log (sales) | | -0.021* |
| | | (0.054) |
| Performance | | -0.023 |
| | | (0.874) |
| Leverage | | -0.103 |
| | | (0.330) |
| Observations | 708 | 678 |
| R-squared | 0.199 | 0.207 |

**Table 8. A First Look at Performance of Chinese Firms**

This table presents the OLS estimates of the effect of privatization on firm performance, based on the sample containing both privatized and non-privatized SOEs. Performance measures are calculated as operating profits (earnings before interest, tax, and depreciation) over assets, sales, and number of employees, respectively. Robust standard errors are in parentheses. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

| | Performance Measures | | Performance Measures | |
|---|---|---|---|---|
| | Profits / Assets | Profits / #Employee | Profits / Assets | Profits / #Employee |
| | (1) | (2) | (3) | (4) |
| *Panel A. Performance of Chinese Firms* | | | | |
| Lag of Perfmance | 0.606*** | 0.066 | 0.606*** | 0.066 |
| | (0.059) | (0.062) | (0.059) | (0.062) |
| Log (sales) | 0.012*** | 12.464*** | 0.012*** | 12.440*** |
| | (0.002) | (1.750) | (0.002) | (1.729) |
| Leverage | -0.016* | 5.131 | -0.016* | 5.159 |
| | (0.009) | (7.200) | (0.009) | (7.189) |
| Privatized Firms | -0.039*** | -27.608*** | -0.040*** | -28.941*** |
| | (0.005) | (3.529) | (0.005) | (4.628) |
| SOE | -0.042*** | -19.880*** | -0.042*** | -20.037*** |
| | (0.005) | (2.935) | (0.005) | (3.029) |
| Post Dummy | | | 0.002 | 2.983 |
| | | | (0.008) | (3.407) |
| Year Dummies | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes |
| Observations | 12120 | 11868 | 12120 | 11868 |
| R-squared | 0.29 | 0.04 | 0.29 | 0.04 |
| | | | | |
| *Panel B. Effect of Privatization on Performance* | | | | |
| Lag of Perfmance | 0.605*** | 0.364*** | 0.077 | -0.15 |
| | (0.061) | (0.120) | (0.150) | (0.100) |
| Log (sales) | 0.009*** | 6.189*** | 0.058*** | 15.989*** |
| | (0.001) | (0.899) | (0.009) | (3.725) |
| Leverage | -0.023** | 6.585 | -0.04 | 7.679 |
| | (0.010) | (6.659) | (0.033) | (6.242) |
| Privatized Firms | -0.001 | -5.474*** | | |
| | (0.004) | (1.942) | | |
| Post Dummy | 0.014 | 3.105** | 0.012 | 2.988 |
| | (0.009) | (1.501) | (0.009) | (2.182) |
| Year Dummies | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | | |
| Firm Fixed Effects | No | No | Yes | Yes |
| Observations | 6799 | 6618 | 6799 | 6618 |
| R-squared | 0.32 | 0.26 | 0.6 | 0.55 |

**Table 9. The Influence of Privatization Methods on Post-Privatization Performance**

This table presents the influence of different privatization methods on firm performance, based on the sample of privatized firms. Performance measures are calculated as operating profits (earnings before interest, tax, and depreciation) over assets, sales, and number of employees, respectively. Robust standard errors are in parentheses. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

| | Performance Measures | | Performance Measures | | Performance Measures | |
|---|---|---|---|---|---|---|
| | Profits / Assets | Profits / #Employee | Profits / Assets | Profits / #Employee | Profits / Assets | Profits / #Employee |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Lag of Perfmance | 0.586*** | 0.550*** | 0.055 | 0.052 | 0.055 | 0.052 |
| | (0.015) | (0.016) | (0.172) | (0.077) | (0.172) | (0.077) |
| Log (sales) | 0.010*** | 4.370*** | 0.067*** | 13.682*** | 0.067*** | 13.685*** |
| | (0.002) | (0.304) | (0.013) | (1.357) | (0.013) | (1.357) |
| Leverage | -0.030* | -0.544 | -0.008 | 5.784 | -0.007 | 5.845 |
| | (0.016) | (2.466) | (0.020) | (3.740) | (0.020) | (3.723) |
| Post Dummy | -0.003 | -1.192 | -0.009 | -3.893** | -0.001 | -3.516 |
| | (0.010) | (1.540) | (0.014) | (1.954) | (0.018) | (2.677) |
| MBO * Post | 0.036*** | 5.961*** | 0.041*** | 7.389*** | 0.034* | 7.036** |
| | (0.013) | (1.986) | (0.016) | (2.134) | (0.020) | (2.845) |
| Outsider Control * Post | | | | | -0.02 | -1.015 |
| | | | | | (0.018) | (3.148) |
| Year Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | | | | |
| Firm Fixed Effects | No | No | Yes | Yes | Yes | Yes |
| Observations | 4168 | 4062 | 4168 | 4062 | 4168 | 4062 |
| R-squared | 0.33 | 0.39 | 0.62 | 0.62 | 0.63 | 0.62 |

**Table 10. Two-Stage Least Square Estimates of the Effect of MBOs on Performance**
This table presents the two-stage least square (TSLS) estimates of the effect of MBO on performance. The model is estimated using Limited Information Maximum Likelihood (LIML) estimation. *Government Incentives* are used as instruments. Performance measures are calculated as operating profits (earnings before interest, tax, and depreciation) over assets, sales, and number of employees, respectively. Robust standard errors are in parentheses. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

| | Performance Measures | |
|---|---|---|
| | Profits / Assets | Profits / #Employee |
| | (1) | (2) |
| Lag of Perfmance | 0.614*** | 0.560*** |
| | (0.017) | (0.018) |
| Log (sales) | 0.010*** | 4.385*** |
| | (0.002) | (0.357) |
| Leverage | -0.031 | 0.306 |
| | (0.022) | (3.358) |
| Post Dummy | -0.044** | -4.514 |
| | (0.020) | (3.070) |
| MBO * Post | 0.124*** | 12.770** |
| | (0.037) | (5.568) |
| Year Dummies | Yes | Yes |
| Firm Fixed Effects | Yes | Yes |
| Observations | 3044 | 2992 |
| Cragg-Donald Wald F statistic | 21.823 | 21.775 |
| 10% maximal LIML size | 3.27 | 3.27 |