ELSEVIER
www.elsevier.com/locate/worlddev

World Development Vol. 37, No. 10, pp. 1651–1662, 2009

0305-750X/$ - see front matter

doi:10.1016/j.worlddev.2009.03.007

The Transformation of Collectively Owned Enterprises and its Outcomes in China, 2001–05

JUN XIA
Montclair State University, NJ, USA

SHAOMIN LI
Old Dominion University, Norfolk, VA, USA

and

CHERYL LONG *
Colgate University, Hamilton, NY, USA
School of Economics and Management, UESTC, Chengdu, Sichuan, China

Summary. — Previous studies have primarily focused on the relative success of collectively owned enterprises (COEs) in China during the early years of reform, but they have ignored the agency problems inherent in this type of organizational form that may be an obstacle to further improving performance in a changing environment. Drawing on agency theory and the privatization literature, we argue that the transformed COEs in the ongoing organizational transformation process may achieve better performance by reducing agency costs. We examine a sample of COEs in Chinese manufacturing industries and track their ownership statuses from 2000 to 2005. Our findings reveal that the transformed firms achieved better performance than the traditional, untransformed COEs by mitigating agency problems.

Key words — ownership transformation, agency problems, performance, collectively owned enterprises

1. INTRODUCTION

The organizational transformation–performance relationship is a central issue in public property management across the transition economies. Since the mid-1990s, the transformation of public enterprises in China has been marked by government-initiated corporatization and privatization. The transformation of state-owned enterprises (SOEs) has been a central theme in the transition literature (Jefferson & Su, 2006; Liu, Sun, & Woo, 2006; Megginson & Netter, 2001; Wang, Xu, & Zhu, 2004), whereas the transformation of another type of public organizational form—collectively owned enterprises (COEs)—has been relatively less studied. It remains unclear whether COE transformation in China enhances firm performance.

In this research, we expand and integrate agency theory and privatization studies to examine whether COE transformation can satisfactorily deal with agency problems and thus enhance firm performance. Agency theory is "a theory of the ownership (or capital) structure of the firm" (Jensen & Meckling, 1976, p. 309; see also Fama and Jensen (1983) for a similar definition), focusing on agency costs and problems due to the conflicts of interest between the principal (local governments in the case of the COEs) and the agent (the COE managers). Agency problems, including managerial pursuit of private benefit at the expense of the firm, have been widely identified in public ownership structures in the developed countries. The theory is also useful for understanding agency problems, including state intervention, managerial incentives to change, and private expropriation hazards, in transition economies (Hoskisson, Eden, Lau, & Wright, 2000). Recent studies have extended agency theory in transition economies to understand the mismanagement by SOE managers (Lau, 1999; Shirley & Xu, 2001; Xu, Zhu, & Lin, 2005). We argue that the agency problems that exist in the traditional COEs make it difficult for these traditional COEs to achieve higher performance than the transformed firms.

During the early years of reform, COEs were viewed as a competitive organizational form with impressive performance under China's partial reform (Guiheux, 2006; Nee, 1992; Simon, 1996; Walder, 1994). Unlike most previous studies focusing on the relative success of collective ownership structures as a final state, our study focuses on whether or not the change from COEs to transformed firms results in better performance.

Since the mid-1990s, many COEs have undergone a status change by moving away from state and collective ownership. Such a change provides opportunities to examine our research question: does organizational transformation effectively deal with the agency problems inherent in COEs and lead to greater improvements in performance? To address this issue, we add to the existing studies by examining various outcomes (agency costs, productivity, profitability, and growth) associated with the transformed COEs. We argue that agency theory (Jensen & Meckling, 1976) and privatization studies (Boycko, Shleifer, & Vishny, 1996; Megginson & Netter, 2001) provide useful insights to understand the relationship between organizational transformation and firm performance. Although COEs were more efficient and profitable than SOEs during the early years of the Chinese reform, we argue that later on it was difficult for them to outperform private or corporatized firms due to

* Final revision accepted: March 18, 2009.

the inherent agency problems associated with the ambiguous property rights and the intervention by local governments. We believe that addressing this research question not only fills a gap in the literature on organizational transformation, but also has policy and strategic implications.

Recent studies have focused on the antecedents of COE transformation by showing that external changes, such as relaxed state restrictions, market liberalization, changes in the lending preferences of banks, and the hardening of budget constraints facilitated COE changes (Kung & Lin, 2007; Liu *et al.,* 2006; Park & Shen, 2003). Yet little effort has been made to track the outcomes of the transformed COEs. There is very limited empirical evidence of the impact of COE transformation on performance. In an effort to shed light on this issue, we examine whether or not such a transformation will effectively reduce agency costs and thus enhance firm performance by comparing the outcomes of corporatized and privatized firms with those of COEs that have not undergone change during the same period, we examine whether or not such a transformation will effectively reduce agency costs and thus enhance firm performance. Empirically, we examine these research questions based on the National Industrial Census of the early 2000s.

2. THE BACKGROUND TO COE TRANSFORMATION IN CHINA

Before China's economic reform began in 1978, organizational diversity was limited to two sole ownership structures: state-owned enterprises and collectively owned enterprises. Privately owned enterprises (POEs) emerged in the 1980s. The expansion of the private sector was mainly due to the establishment of new firms, rather than due to the transformation of state or collective property into private firms. During the early years of the reform, POEs were typically small, family-owned *de novo* entrepreneurial startups that faced problems of political legitimacy (Nee, 1992; Peng, Tan, & Tong, 2004). The economic landscape changed substantially in the 1990s as the emergence of hybrid ownerships led to more organizational diversity. In 1997, the Chinese government re-defined the public economy to include both state and collective enterprises, legitimated the private sector as a "necessary and beneficial supplement" to the public economy, and endorsed various hybrid ownership forms in the transformation of public enterprises (Lau, 1999; Taylor, 2002). As a result, corporatized forms, such as cooperative enterprises, limited liability companies, and shareholding corporations, developed rapidly in the late 1990s.

The development of a given type of organizational form in a society is not only subject to market demands, but also subject to institutional support or constraints by state policy. During the early years of the reform, China created a favorable environment for COE success. One theoretical explanation is that, under the conditions of partial reform, the COEs benefited not only from the redistribution of resources by the government in state socialism, as compared to the POEs, but also from the market competition under the hardened budget constraints, as compared to the SOEs (Kung & Lin, 2007; Nee, 1992). By definition, the POEs are profit-maximizing economic entities because their growth and survival depend on performance owing to the hard budget constraints. However, in a shortage economy in which different types of organizations compete for critical resources, POEs lacked legitimacy and political backing during the early years of the reform and thus faced difficulties in accessing critical resources controlled by the state. As a result, the private sector remained small and undercapitalized (Li, 1996; Nee, 1992; Tian, 2000).

Unlike the POEs, the COEs received more institutional support to access critical resources as they were more closely tied to local governments (Peng *et al.,* 2004). China began decentralizing its fiscal system in 1984. Local governments increasingly relied on revenues gained from the COEs under their supervision, which, in turn, created strong economic incentives for local officials to protect and support the COEs (Nee, 1992; Walder, 1995). Given the rise of local corporatism, the COEs also benefited from massive loans from the state banking system, often on rather soft terms (Kung & Lin, 2007; Park & Shen, 2003).

Unlike SOEs still operating under central planning, COEs operated outside the scope of central planning and were controlled by local governments (Kung & Lin, 2007; Peng *et al.,* 2004; Simon, 1996). Various studies show that the COEs outperformed the SOEs (Guiheux, 2006; Simon, 1996) because they were marketized and enjoyed a transaction cost advantage over the non-marketized SOEs under the conditions of partial reform in China (Nee, 1992). By the mid-1990s, the COEs had become the most dynamic sector in the economy. In 2003, for example, COEs in China employed 4.8 million workers and generated a gross product of 946 billion yuan (US$117 billion) (NSB, 2004). Scholars have argued that the COEs allowed a unique route to economic prosperity in China, even without massive privatization (e.g., Bolton, 1995; Walder, 1994).

Different ownership structures, however, are usually associated with different levels of efficiency and agency problems (Boycko *et al.,* 1996; Jensen & Meckling, 1976; Megginson & Netter, 2001), implying that organizational transformation may lead to better performance under the changed conditions. Although the collective sector benefited from China's economic reform before corporatization and privatization were introduced into the economy, there was a "mechanism degeneration" of the COEs, referring to the increased bureaucratization toward similar SOE mechanisms in local communities (Guiheux, 2006; Perotti, Sun, & Zou, 1999). In the mid-1990s, the public economy—the SOEs and COEs—underwent a decline (Jefferson & Su, 2006, p. 154; NSB, 2004). In contrast, the rise of the private sector due to the ongoing economic reform in the 1990s resulted in private firms becoming the most dynamic part of the economy in terms of their growing number, total registered capital, and share of output (NSB, 2004). From an agency theory perspective, as our study shows, many aspects of the mechanism degeneration are associated with the agency problems inherent in the collective ownership and governance structures due to the lack of a mechanism to inhibit opportunistic behaviors by managers and local officials.

Given the fact that the private sector is more efficient than the public sector, in 1995 the central government formulated a policy that allowed the privatization of small public firms (Cao, Qian, & Weingast, 1999; Lin & Zhu, 2001; Wang *et al.,* 2004). Privatization and corporatization were viewed as two alternatives to transform the COEs. It has been observed that large numbers of public enterprises were either privatized or turned into corporatized entities (Kung & Lin, 2007; Li & Rozelle, 2003, 2004; Liu *et al.,* 2006). In their case study at the county level, for example, Cao *et al.* (1999) find that local governments pooled their SOEs and COEs to reform their ownership and transform their ownership status. Some were turned over to private hands whereas others were transformed into hybrid forms. The corporatization approach resulted in various hybrid ownership forms, whereas the privatization approach gave rise to private enterprises with a clearer demarcation of property rights. To expand the existing studies, we seek

to examine the outcomes of the transformed COEs based on agency theory.

3. THEORY DEVELOPMENT AND HYPOTHESES

Agency theory is directed at the ubiquitous agency relationship in which the principal (the owner) delegates work to the agent (the manager) who performs that work (Eisenhardt, 1989; Jensen & Meckling, 1976). Because COE managers are not the owners of the collective assets or property (even though they may be members of the so-called "collective"), they play the role of agents. The owner or principal of COEs can be the employees of the enterprise and/or the local government. In general, agency problems arise under two conditions: first, when the desires or goals of the principal and agent conflict, and, second, when it is difficult for the principal to verify the actual actions of the agent owing to information asymmetries (Eisenhardt, 1989). We argue that in COEs, due to the dual principal–agent relationships associated with "value-destroying" government intervention and managerial "self-dealing problems" (to be described in more detail below), it is unclear whether or not COE managers are acting in the owners' best interests to improve firm performance.

Organizational transformation may enhance firm performance because it may reduce agency costs by (1) separating the corporate goal (profit-maximizing) and the political objectives (maximizing social welfare such as employment) and (2) allowing better monitoring due to the stronger incentives of the owners (Boycko *et al.,* 1996; Megginson & Netter, 2001). As Boycko *et al.* (1996, p. 318) note, to be effective large shareholders must be parties whose objective is to maximize profits. Applying these arguments in our research context, COE transformation leads to a change in the principal–agent relationship and the new owners will place high demands on managers to increase efficiency. COE transformation thus provides an opportunity to expand the existing theories for a better understanding of organizational transformation in transition economies.

Collectively owned enterprises are a unique Chinese organizational form that is difficult to be defined by the standards of advanced market economies. COEs fall between state and private property rights structures (Lau, 1999; Walder, 1994). There are three different views regarding their nature. The first stream of literature differentiates COEs from SOEs because traditional SOEs are under the control of government planning, whereas COEs are marketized (Lau, 1999; Li, 1996; Nee, 1992; Walder, 1994). Thus, both COEs and POEs are categorized as part of the non-state, marketized sector. In contrast, a second stream of literature suggests that collective ownership is essentially another form of state ownership, in which it is difficult for local communities to enforce collective ownership rights (Xu *et al.,* 2005). Like SOE managers, COE managers are still under the supervision of local governments. Finally, a third line of study suggests that research focusing on the nature of COEs should move away from attempts to fit this type of organizational form into other more familiar forms, such as SOEs and POEs (Peng *et al.,* 2004; Wang & Chang, 1998; Weitzman & Xu, 1994). Following this line of inquiry, we view COEs as a distinct organizational form with mixed characteristics to identify their inherent agency problems.

Owing to their mixed characteristics, COEs have dual principal–agent relationships. The first relationship is between the local government and the COE manager. Although COE managers have more managerial autonomy than SOE managers to distribute residual returns, the local government can appoint managers, auction off managerial jobs, or sublease whole COEs to individuals (Park & Shen, 2003; Simon, 1996), all of which are associated with managerial job security. A major concern in this relationship is that some local officials may interfere in an economically short-sighted way by imposing political objectives beyond profit-seeking or in a corrupt way by demanding personal favors (Perotti *et al.,* 1999; Simon, 1996).

In theory, COEs are collectively owned by all the citizens of the local community and they are run by cities, counties, towns, or street communities (Xu, 2000), in which the owners of the COEs are often ambiguously specified and the rights of the owners are poorly protected (Li, 1996). In practice, COEs are part of a semi-state sector, owned by a group of people and jointly controlled by COE managers and government bodies at the local levels. On the one hand, the expansion of the collective sector was unwittingly driven by the growing fiscal and job-creation pressures of local governments (Kung & Lin, 2007). On the other hand, because of the growing corruption, the lack of effective monitoring systems became increasingly serious with respect to the COE managers' decision making regarding collective assets (Perotti *et al.,* 1999; Simon, 1996; Sun, 2000). COEs may not be profit-maximizing due to their strong political lineages with local governments (Peng *et al.,* 2004).

The second relationship is between COE workers and managers. Although by law the COEs are under the control of both the management and the workers, the latter's legal rights are weakly protected and they usually have little power (Simon, 1996). The problem of insider control is prevalent because COE managers capture the control rights *de facto* and use these rights to benefit their own interests by pursuing non-profit-maximizing objectives at the expense of the firm. Due to information asymmetries and bounded rationality, potential opportunistic actions by COE managers in critical decisions cannot be effectively monitored by local governments (Shirley & Xu, 2001; Sun, 2000) or by employees (Simon, 1996). As a result, the lack of both strong profit incentives and monitoring mechanisms allow managers to act in their own self-interest, leading to a decline in COE performance.

Additionally, accounting and auditing systems that may help reduce the risks of malfeasance are still in their infancy (Hussain & Chen, 1999). China, like most other transition economies, still needs time to develop professional monitoring mechanisms. Researchers have argued that ambiguous or hybrid property rights can be more efficient than unambiguously defined private property rights in an imperfect market environment (Bolton, 1995; Li, 1996; Nee, 1992; Walder, 1994), yet these studies do not take agency problems into account. As the favorable market conditions for COEs have changed over time with increased competition from the private sector, since the mid-1990s the idea of ownership transformation has become popular. Whether COE transformation will improve firm performance by reducing agency costs in rapidly changing market conditions becomes an intriguing question.

(a) *The transformation and performance linkage*

Organizational transformation has been used by governments in many transition economies as a core tool of statecraft to enhance the performance of public enterprises. Public enterprises are less efficient because they address political objectives

rather than maximizing efficiency (Boycko *et al.,* 1996; Megginson & Netter, 2001). As noted, there are two types of agency problems inherent in COEs. Boycko, Shleifer, and Vishny argue that "the critical agency problem that explains the inefficiency of public firms is the agency problem with politicians rather than that with managers" (1996, p. 318). We concur with this view. Although COE managers have steadily increased authority over firm decisions during China's reform process, local governments typically maintain appointment power over COE managers and retain approval authority over major investments (Park & Shen, 2003), due to the *lishu* (administrative) relationship between the COE and the local government (Li, 2004; Tan, Li, & Xia, 2007). The decision making by COE managers is likely to be subject to political objectives as the COE managers depend on the support of local government officials for their career advancement. Transformation may enhance efficiency because it limits the political influence of government officials (Boycko *et al.,* 1996; Megginson & Netter, 2001). Thus, one way to enhance firm performance is to widen the separation between the manager and the politician (e.g., the *lishu* relationship) *via* organizational transformation.

Privatization and corporatization have been the two main ways to transform collective property for profit-maximizing purposes. In the relative absence of effective monitoring before privatization, COEs are likely to be associated with agency problems, such as excessive perquisite consumption, overinvestment, corruption, and other opportunistic behaviors. Collective owners may exert less effective control over agency costs than the new owners after privatization, leading to a lower level of firm efficiency and profitability. In contrast, a privatized COE may deal effectively with the traditional agency problems. The new owners are likely to impose constraints on themselves and place efficiency demands on themselves. As a consequence, replacing collective ownership with private ownership may considerably improve the efficiency and profitability of the firm.

Corporatization may also change the incentive mechanisms in attenuating agency problems. In a COE, property rights are subject to certain limitations that cause either inequalities in financial distributions or disincentives for good performance. According to industry regulations in China, a COE manager's salary cannot exceed five times that of an average worker (Simon, 1996). In a corporatized firm, executives may have greater latitude and legitimacy to increase their compensation. Furthermore, the share distribution may not be equal during the corporatization process, as managers usually receive more shares (Cao *et al.,* 1999; Sun, 2000). Given that monitoring mechanisms are weak in traditional COEs, the new owners in transformed firms may face an environment where they can exert more effective management monitoring. Therefore, corporatization may improve the profitability of a COE by reducing agency costs.

We first examine the combined effects of privatization and corporatization, and then we examine their separate effects. Transformation in general may enhance a firm's profitability by solving the problem of "collective irresponsibility" in a socialist economy (Major, 1999), and "by the mitigation of agency costs through the introduction of more effective corporate governance mechanisms such as one-share one-vote and shareholding-based board structure composition" (Xu *et al.,* 2005, p. 3). Additionally, transformation may make the major stakeholders better off since their interests are at stake (Cao *et al.,* 1999). Recent studies find that the transformation of SOEs to shareholding firms contributed to overall increases in both productivity and innovative effort (Jefferson & Su, 2006). Building on these theoretical arguments and empirical evidences, we expect that:

Hypothesis 1a. The transformed (privatized and corporatized) COEs will reduce agency costs as compared to traditional COEs, *ceteris paribus.*

Hypothesis 1b. The transformed (privatized and corporatized) COEs will enhance firm performance as compared to traditional COEs, *ceteris paribus.*

(b) *The privatization approach*

Since privatization and corporatization are different approaches, the magnitude of their influence may vary. Thus, it is necessary to examine their respective outcomes. Privatization occurs when local governments deliberately sell the assets of a COE to a domestic individual, who is usually the firm manager, thus substantially reducing or even eliminating the *lishu* relationship with the local government (see further explanation in the subsection on "Dependent Variables"). Privatization has appeared in China as a legitimate practice to transform public ownership since 1997. But, because COE privatization in China is a relatively recent event, empirical studies are rare and provide mixed results. For example, Li and Rozelle (2003) find in their survey data that many privatized township and village enterprises (TVEs), as a type of COE, experienced an increase in performance. In contrast, Dong, Putterman, and Unel (2006) found that the positive effect of privatization on TVEs was not significant.

Privatization is attractive to COE managers because, among other reasons, the collective ownership structure substantially curtails their financial incentives to manage the COEs well. Li and Rozelle (2004) find that in the rural sector a COE's post-privatization performance increases with the new owners' post-privatization incentives. Unlike property rights in a POE, the property rights in a COE are owned by its members as a collective, and they are not individually appropriable or transferable (Simon, 1996). In a COE, "[T]he member cannot sell her rights; she cannot liquidate her anticipated future benefits into a present lump sum; and she cannot continue to enjoy her rights after she has left the collective" (Simon, 1996, p. 277). In contrast, privatization subsequently changes the incentive mechanisms of the privatized COEs, which may motivate COE managers to use their insider's position to buy the existing COEs. It stands to reason that privatization will improve the performance of privatized COEs by transforming managers into owners, thus mitigating or eliminating principal–agent problems.

Hypothesis 2a. The privatized COEs will reduce agency costs as compared to traditional COEs, *ceteris paribus.*

Hypothesis 2b. The privatized COEs will enhance firm performance as compared to traditional COEs, *ceteris paribus.*

(c) *The corporatization approach*

Corporatization has been the principal vehicle in China for transforming public enterprises since 1993, but a large number of COEs were corporatized only after the restructuring initiatives from 1997 to 1998 (Jefferson & Su, 2006). Previous studies have not reached an unambiguous conclusion to the

question of whether or not the corporatization of COEs will enhance a firm's profitability, and empirical findings are still lacking (Xu, 2000; Zhu, 1999; for a review, see Jefferson and Su (2006, pp. 150–151)).

Corporatization can take the form of shareholding cooperatives or the form of limited liability companies. It allows shares to be sold not only to employees, but also to the public, local government agencies, and/or other organizations (Simon, 1996; Sun, 2000). It also allows private and foreign investor participation. The basic idea behind corporatization is to allocate the collective assets or invested capital in shares that can be sold to inside and outside investors based on the principle of one vote per share, resulting in clearly defined property rights (Jefferson & Su, 2006; Simon, 1996). As such, a corporatized COE is likely to strengthen monitoring mechanisms by enhancing internal constraints on the managerial entrenchment and embezzlement of firm property for on-the-job perquisite consumption by managers in transition economies (Dharwadkar, George, & Brandes, 2000). Through corporatization, the previously collectively owned property becomes financial assets with some (market) evaluation and a certain degree of market liquidity, which is supposed to enhance firm performance (Simon, 1996).

Hypothesis 3a. The corporatized COEs will reduce agency costs as compared to traditional COEs, *ceteris paribus.*

Hypothesis 3b. The corporatized COEs will enhance firm performance as compared to traditional COEs, *ceteris paribus.*

4. METHODS

(a) *Data collection*

The primary data we analyzed were drawn from the National Industrial Census (NIC) from 2000 to 2005, conducted by the National Bureau of Statistics (NBS) of China. All manufacturing enterprises that have annual sales of 5 million yuan or more are required by law (*Regulation of the PRC on the Management of Registration of Corporate Enterprises*) to report detailed information about their operations. After collecting the data, the NBS checked their accuracy and consistency by using a set of financial ratios and statistical tests that assess data consistency and integrity. If any inconsistencies were found, census takers followed up with the firms to obtain accurate information (Cui & Lui, 2005; Pan, Li, & Tse, 1999). The database has been used in organizational research in the context of China (Jefferson & Su, 2006).

From the NIC database, we initially collected all COEs in 2000 and then tracked the ownership status change for each firm during the following five consecutive years (2001–05) according to the legal person code (i.e., firm ID). To ensure the accuracy of the initial data in 2000, we also collected all COE data in 1999 for cross-validation (i.e., we only included a firm in our sample when it was registered as a COE in both 1999 and 2000). To facilitate analysis, we focused on firm transformations that occurred in 2001 and excluded firms that were transformed after 2001 from our sample. A total of 3,125 manufacturing COEs were identified, among which 310 were corporatized and 245 were privatized in 2001, while 2,570 COEs remained untransformed during the 2001–05 window. According to our conceptualization of the ownership transformation, firm transformation is identified in our sample if its registered ownership status changed to a private enterprise or a corporatized firm (a shareholding cooperative or a limited liability company).

Public listing has also been used in China to corporatize public firms with the aim of transforming them into modern corporate forms (Wang *et al.,* 2004). Publicly listed shareholding corporations were excluded from our study because they are very large in size and only 15 COEs have been transformed into this ownership structure. Additionally, listed firms are closely monitored and highly regulated as they are subject to monitoring of the stock market and the Chinese Securities and Regulatory Commission. Some firms were also excluded due to missing values of key financial variables (i.e., total assets, sales, administrative costs, and/or liabilities), leaving us with a sample of 2,901 firms, among which 266 were corporatized and 224 were privatized in 2001 and 2,411 remained untransformed during 2001–05. Thus, our final sample was a balanced panel with 17,406 observations (2,901 firms observed annually over 6 years from 2000 to 2005).

(b) *Dependent variables*

To measure the agency costs of the firm, we used two variables: the *administrative expense ratio* (AdminR) and a dummy, *NonLiShu,* indicating whether a firm is subordinate to a government agency (value = 1 if no, and = 0 if yes). The administrative expense ratio was calculated by the selling, administrative, and general expenses scaled by annual sales for each firm-year. It reflects the perquisite consumption by managers related to a certain ownership structure (Ang, Cole, & Lin, 2000; Davidson, Bouresli, & Singh, 2006; Wang & Deng, 2006). *Lishu* is the Chinese word for "subordinate to," or "belong to." Due to Chinese Communist Party's ideology of total control and China's legal origins in continental law (which favors more government control), the Chinese government exerts controls or interferes to various degrees in all firms through the *lishu* relationship. Such controls and interferences are much stronger for publicly owned firms (such as SOEs and COEs) than for non-publicly owned firms (such as private and foreign-owned firms). Even for the latter, however, the controls and interferences can be clearly felt, which may include the naming of firms, regulating organizational structures (such as the appointments of directors or top managers), reviewing of feasibility studies, and approving of major projects (Li, 2004; Tan *et al.,* 2007). These activities involve political objectives, thus increasing the agency costs of the firm and hurting firm performance (Fan, Wong, & Zhang, 2007). As the reforms deepened, such interferences through *lishu* began to decline, especially for non-public firms. However, the government never clearly or formally states that non-public firms are free from *lishu*. According to the law, even private firms need to receive approval from the government to change their *lishu* status (China's State Business Administration Bureau, 1997). In order to reduce the interference, many newly established non-public firms opt not to have any *lishu* relations with the government.

We used three indicators to measure firm performance (*labor productivity, profitability*, and *sales growth*) for each firm-year. Productivity was measured as the logarithm of the ratio of net sales to the number of employees. Since many COEs still faced the problem of surplus labor, a lower level of labor productivity might reflect a higher proportion of employment associated with a certain ownership structure. ROA is a commonly used accounting-based measure of firm profitability (computed by dividing net income by total assets). But, as in other transition economies, accounting standards are often not well followed in China, making ROA an easy

target of manipulation (Yu, Du, & Sun, 2006). As a result, we used ROS as the profitability measure (computed by dividing net income by total sales), as sales are less subject to manipulation compared to assets. The profitability measure is appropriate because the evaluation of performance usually differs between the state and the collective sectors. It is difficult to evaluate a SOE manager in terms of profitability because most SOEs are running at a loss. However, COE managers are usually evaluated by profitability (Perotti *et al.,* 1999; Sun, 2000). Sales growth, as a market-based measure, was calculated by the percentage change in net sales from the previous year. These variables are important indicators reflecting the firm's outcomes of the status change because sub-par performance may occur when the interests of the owners and managers are poorly aligned in a given ownership structure.

(c) *Independent variables*

To test the combined transformational effect on performance (Hypotheses 1a and 1b), we created a dummy variable, coded 1 if a COE was transformed to a privatized firm or a corporatized firm in 2001, and 0 otherwise. To test the separate effects of the two types of transformations, we used two sub-samples: the privatization sample (privatized COE = 1, untransformed COE = 0) was used to test Hypotheses 2a and 2b, while the corporatization sample (corporatized COE = 1, untransformed COE = 0) was used to test Hypotheses 3a and 3b. According to the definition of the National Industrial Census of China, a privately owned enterprise refers to a for-profit economic organization that is invested in or controlled by a natural person(s) (as opposed to a corporation, which is called a "legal person" in Chinese business law) with more than eight employees registered under China's Private Company Law. In contrast, a corporatized firm is the status change of a COE to an ownership structure with capital coming from the employees as their shares, or with a proportion of capital from the outside (e.g., institutional investors, private investors, or foreign investors), and dividends paid according to capital share. Thus, shareholders bear liabilities to the company according to their investment proportions and the company bears liabilities according to its debt to assets.

We have conceptualized that organizational transformation, through privatization or through corporatization, leads to performance improvements because it reduces agency costs. Accordingly, we used a two-step approach. First, we estimated the effect of transformation on agency costs and performance. Second, we incorporated the two agency costs variables (the AdminR and NonLiShu dummies) into the three performance models (labor productivity, profitability, and sales growth), respectively. In the second step, agency costs were used as intermediate variables to explain the causal relationship between ownership transformation and subsequent firm performance.

(d) *Control variables*

To account for potential alternative explanations, we controlled for firm age, size, financial leverage, and leadership change. *Firm age* (AgeLog) was measured by the logarithm of the number of years since the firm was established. Older firms are less likely to change their established routines and thus it may be more difficult for them to enhance performance through change. Thus we expect new firms to achieve better performance after the status change. An increase in firm size may also increase difficulties in monitoring managerial behavior. Firm size is usually measured by total assets, net sales, or the number of employees. Because these three measures were highly correlated in our sample, we measured *firm size* (Assetslog) using the logarithm of the assets measure for each firm-year (lagged by one year).

A change in the top leadership may bring about a new climate for organizational change, which in turn may affect firm performance. *Leadership change* (LeaderCg) was measured by the change in the legal representative or the top leader of the firm, coded 1 if a firm's representative of the legal person was changed after the baseline year of 2000, and 0 otherwise. The emerging debt problem faced by COEs reflects their urgent need for restructuring and better performance. We controlled for the *debt-to-asset ratio* (DebtAsset), measured by total liabilities divided by assets in the past year, and *capital intensity* (Kintensity), measured by the logarithm of invested capital divided by the number of employees for each firm-year. Finally, it has been well documented that state ownership tends to display inferior performance compared to firms with other types of ownerships (Megginson & Netter, 2001). To control for this possibility, we included a variable indicating the share of state ownership (StateO) for each firm-year.

(e) *Methodology*

We now discuss the estimation methodology to analyze the transformation, which will be applied to examine both privatization and corporatization. A standard OLS estimation of the impact of transformation on firm behavior and firm performance is likely to be biased due to the omitted variable bias. Specifically, firms that are transformed may be different from those that are not transformed and such differences may be unobservable to researchers. Furthermore, these differences may be correlated with the firm's transformation decisions. Without controlling for these unobserved firm differences, we may mistakenly attribute the differences in firm performance to the effects of firm transformation. These differences can be either time-invariant or time-varying. On the one hand, for time-invariant differences, transformed COEs may have the best initial management and performance. Then the OLS will over-estimate the effects of the transformation. On the other hand, if the COEs with the worst management and performance are the ones to be transformed (Li & Rozelle, 2003, 2004), the OLS estimates will understate the effects of the transformation. Or it may be the potential for improvement that factors into the transformation decision, which will lead to time-varying differences between the two types of COEs. For example, if the COEs with greater potential for improvement are chosen to be transformed, then the OLS estimation will exaggerate the impact of the transformation.

To control for the unobserved firm characteristics that are time-invariant and that differ from firm to firm, we use a fixed-effects model. To allow the effects of the transformation to change over time, we include the transformation indicator, the length of time after the transformation, as well as the interaction term between the transformation and the length of time. Specifically, we begin by estimating the following model:

$$y_{it} = \alpha_t + \alpha_i + \beta_1 \cdot TRANS_{it} + \beta_2 \cdot length_{it} + \beta_3 \cdot length_{it} \cdot TRANS_{it} + \Gamma_{it} z_{it} + \varepsilon_{it}, \quad (1)$$

where y_{it} is the firm performance or agency cost measure of firm i in year t, $TRANS_{it}$ is the indicator for firm transformation (which takes a value of 1 in years after the transformation, and 0 otherwise), $length_{it}$ is the length of time since the firm was transformed (measured in number of years, thus

ranging from 0 to 5),[1] and z_{it} is a vector of the firm characteristics, including firm age (in logarithm), assets (in logarithm), debt/equity ratio, the percentage of state shares, and an indicator for whether there was a leadership change. The coefficient β_1 thus gives the effect of the transformation in the year of its occurrence, while β_3 gives the additional effect of the transformation in each additional year since its occurrence. The firm-fixed effects and year-fixed effects are estimated by α_i and α_t, and the random error term is given by ε_{it}.

According to the theory outlined in the previous sections, transformation is expected to improve firm behavior and performance, although it may take time. As a result, we expect β_3 to be positive for performance measures, whereas β_1 may be negative if the process of transformation implies immediate costs for the firm. For agency costs measures, we expect a negative β_3, whereas β_1 may be positive.

The limitation of the above model, however, is that it addresses only the unobserved differences between transformed and non-transformed firms that do not change over time. It does not address the potential endogeneity issue whereby firms that have been chosen to undergo transformation first also tend to have a better potential for improvement, a variable that changes over time but unfortunately is unobservable to researchers. To partially account for such unobserved time-varying differences (as well as to better control for time-invariant firm characteristics), we further adopt the propensity score matching method. The propensity score matching method does not completely address all the omitted variable biases. But to the extent that they are reflected in the choice of which firms underwent transformation, this method makes use of all the information that is available to us. In particular, the method allows us to compare firms that have experienced transformation with those that appeared similar prior to the transformation but did not undergo transformation.

Specifically, we estimate the propensity for a firm to experience transformation as a logistic function of the firm's pre-transformation characteristics, which include the firm's sales/asset ratio, administrative expenses/sales ratio, ROA, sales growth (and its square), labor productivity, debt/equity ratio, per worker welfare payment (in logarithm), value-added tax rate, capital/labor ratio, assets (in logarithm, and its square), firm age (in logarithm), state ownership share, collective ownership share, a dummy indicating whether the firm is a TVE, as well as the firm's region and sector. Since the transformation occurred in 2001, we use the values from 2000 to compute the propensity score, which is the predicted probability from the following logistics estimation:

$$Pr(TRANS_i) = f(X_{i,2000}), \tag{2}$$

where $X_{i,2000}$ is the sector of firm characteristics discussed above, valued in 2000.

We then use the combination propensity score regression method as discussed in Imbens (2004). Using the propensity score $p(X_i)$ predicted from Eqn. (2), the regression weights are

$$\lambda_i = \sqrt{\frac{TRANS_i}{p(X_i)} + \frac{(1 - TRANS_i)}{(1 - p(X_i))}}. \tag{3}$$

Essentially this gives the firms with different propensity scores different weights in the estimation, allowing the transformed firms to be more closely matched with those more likely to undergo transformation but did not (and similarly allowing the non-transformed firms to be more closely matched with those less likely to undergo transformation but were transformed). Adding these weights to the estimation of Eqn. (1) thus gives our estimates, which are shown in Table 2. As before, the theory argues that β_3 is positive in the performance regressions (and negative in the agency costs regressions) if the transformation is expected to improve firm behaviors and performance.

By using the combination of the propensity score matching method and the fixed-effects model, we attempt to better address both the time-varying and time-invariant sample selection biases discussed above. Estimation results on the separate effects of privatization and corporatization are given in Tables 3 and 4, using the same methodology.

(f) *Results*

Table 1 presents a summary of the descriptive statistics for all the predicting variables. The correlation between any two independent variables is low, thus ruling out multicollinearity concerns. Table 2 studies the effects of transformation on firm agency costs and performance. Columns 1–5 present the regression results of transformed COEs *versus* untransformed COEs for the five dependent variables (administrative expense ratio, *NonLiShu* relationship, labor productivity, profitability, and sales growth). To further study whether reduced agency costs are indeed the mechanisms by which transformed firms improve their performance, we include the two agency costs in the explanatory variable list, with the estimation results shown in Columns 6–8. Similarly, we study the effects of privatization and corporatization, with Tables 3 and 4 giving the regression results of (1) privatized COEs *versus* untransformed COEs, and (2) corporatized COEs *versus* untransformed COEs, respectively.

Hypothesis 1a predicts that transformed firms will reduce agency costs as compared to untransformed COEs. As shown in Table 2, transformation helps reduce agency costs in COEs as the likelihood of AdminR decreases and NonLiShu increases with the passage of each additional year after transformation (since the interaction term between transformation and length is negative and significant in Column 1 but positive and significant in Column 2). Hypothesis 1a is supported. Hypothesis 1b predicts that transformed firms will outperform untransformed COEs. In Table 2, for each additional post-transformation year, labor productivity, sales growth, and ROS all rise (since the interaction term between transformation and length is positive and significant in Columns 3–5). Although the benefit from transformation is swift in one type of agency cost (NonLiShu), the short-term effects of transformation on firm performance may be detrimental. As shown in Columns 3 and 4, labor productivity and sales growth actually dropped in the year of transformation. But such setbacks are made up for within 4–5 years.[2] Hypothesis 1b is thus also supported.

Columns 6–8 in Table 2 include the two agency costs among the explanatory variables in the three performance regressions. As predicted by the theory, higher agency costs are shown to hurt firm performance. Thus, the lower agency costs after transformation (Columns 1 and 2) will lead to better firm performance, consistent with the theoretical predictions. Furthermore, with the inclusion of the agency cost variables, all the effects of each additional year after transformation on firm performance decreased in magnitude (with the effect on ROS no longer significant). This supports our theory that reduced agency costs are indeed the mechanisms through which firms improve their performance.

Similarly, Hypotheses 2a and 3a predict that the status change of COEs through privatization and corporatization will reduce agency costs as compared to those of untransformed COEs, respectively. Hypotheses 2b and 3b predict that

Table 1. *Descriptive Statistics and Correlations (2,895 firms, 6 years)*

	Variable	Mean	s.d.	1	2	3	4	5	6	7
1	Trans	0.141471	0.348517							
2	Priv	0.064699	0.246001	0.6479***						
3	Corp	0.076772	0.266237	0.7104***	−0.0758***					
4	Length	2.49766	1.707117	0.1196***	0.0774***	0.0850***				
5	AdminR	0.098401	0.109266	−0.0104	−0.0401***	0.0234***	−0.0325***			
6	NonLiShu	0.164809	0.371018	0.4300***	0.5351***	0.0684***	0.1228***	0.0389***		
7	Productivity	4.988319	1.01805	0.0684***	0.0441***	0.0488***	0.2008***	−0.3579***	−0.0246***	
8	SaleGr	0.227117	1.045393	−0.0023	−0.0040	0.0006	0.0277***	−0.0780***	−0.0064	0.1484***
9	ROS	0.023079	0.11269	0.0366***	0.0344***	0.0162**	0.0000	−0.4547***	−0.0044	0.2864***
10	StateO	0.013663	0.101422	−0.0304***	−0.0286***	−0.0133*	−0.0162**	0.0517***	−0.0046	−0.0494***
11	AgeLog	2.880003	0.551395	−0.0098	−0.0882***	0.0686***	0.1990***	0.1696***	−0.0256***	−0.2034***
12	Assetslog	9.827139	1.14175	0.0283***	−0.0656***	0.0976***	0.0219***	0.0815***	0.0152**	0.0470***
13	DebtAsset	0.619563	0.293995	−0.0077	−0.0160	0.0047	−0.0180	0.1099	−0.0202***	−0.1817***
14	Kintensity	0.039291	0.061745	0.0261***	−0.0027	0.0367***	0.0741***	0.0036	−0.0283***	0.2572***
15	LeaderCg	0.277974	0.448013	0.0186**	0.0082	0.0167**	0.3362***	0.0376***	0.0657***	0.0223***
				8	9	10	11	12	13	14
9	ROS	0.023079	0.11269	0.0627***						
10	StateO	0.013663	0.101422	−0.0126*	−0.0409***					
11	AgeLog	2.880003	0.551395	−0.0085	−0.1123***	0.0001				
12	Assetslog	9.827139	1.14175	−0.0169**	−0.0769***	0.0154**	0.0853***			
13	DebtAsset	0.619563	0.293995	−0.0041	−0.3051***	0.0356***	0.1122***	0.0989***		
14	Kintensity	0.039291	0.061745	0.0056	−0.0049	0.0020	−0.0763***	0.2055**	−0.1947***	
15	LeaderCg	0.277974	0.448013	0.0119	−0.0349***	0.0001	0.0839***	−0.0041	0.0072	0.0149*

*$p < 0.10$.
**$p < 0.05$.
***$p < 0.01$.

Table 2. *Effects of transformation on firm agency costs and firm performance*

	Agency costs		Performance			Performance (controlling for agency costs)		
	(1) AdminR	(2) NonLiShu	(3) Productivity	(4) SaleGr	(5) ROS	(6) Productivity	(7) SaleGr	(8) ROS
Trans	0.006	0.372***	−0.103***	−0.170***	−0.004	−0.106***	−0.141**	−0.001
	(0.004)	(0.013)	(0.026)	(0.061)	(0.005)	(0.025)	(0.062)	(0.004)
Length	−0.002***	0.000	0.123***	0.033***	−0.001	0.119***	0.029***	−0.002***
	(0.001)	(0.002)	(0.004)	(0.010)	(0.001)	(0.004)	(0.010)	(0.001)
Transl	−0.003***	0.037***	0.023***	0.026**	0.002**	0.017***	0.023*	0.000
	(0.001)	(0.003)	(0.005)	(0.012)	(0.001)	(0.005)	(0.012)	(0.001)
StateO	0.019***	−0.022	−0.047	−0.196*	−0.011	−0.012	−0.166	0.000
	(0.007)	(0.023)	(0.045)	(0.106)	(0.008)	(0.043)	(0.105)	(0.007)
AgeLog	0.012	0.169***	−0.172***	−0.266**	0.003	−0.157***	−0.237*	0.010
	(0.008)	(0.029)	(0.056)	(0.132)	(0.010)	(0.054)	(0.131)	(0.009)
Assetslog	0.000	−0.001	0.012**	−0.079***	−0.002**	0.013**	−0.079***	−0.002**
	(0.001)	(0.003)	(0.006)	(0.013)	(0.001)	(0.005)	(0.013)	(0.001)
Kintensity	0.032**	−0.042	1.759***	0.095	−0.024	1.818***	0.145	−0.005
	(0.013)	(0.046)	(0.088)	(0.208)	(0.016)	(0.085)	(0.207)	(0.014)
DebtAsset	0.008**	0.012	0.049**	0.042	−0.048***	0.063***	0.056	−0.044***
	(0.004)	(0.012)	(0.024)	(0.056)	(0.004)	(0.023)	(0.056)	(0.004)
LeaderCg	0.001	0.007	0.000	0.021	0.000	0.002	0.024	0.001
	(0.002)	(0.006)	(0.012)	(0.029)	(0.002)	(0.012)	(0.029)	(0.002)
AdminR						−1.800***	−1.671***	−0.602***
						(0.054)	(0.131)	(0.009)
NonLiShu						0.036**	−0.053	0.002
						(0.015)	(0.038)	(0.003)
Constant	0.062**	−0.398***	4.978***	1.673***	0.068**	5.104***	1.756***	0.106***
	(0.024)	(0.084)	(0.162)	(0.383)	(0.030)	(0.156)	(0.381)	(0.026)
Observations	17,275	17,275	17,275	17,275	17,275	17,275	17,275	17,275
R^2	0.69	0.75	0.85	0.17	0.55	0.86	0.17	0.66

Standard errors are given in the parentheses.
*$p < 0.10$.
**$p < 0.05$.
***$p < 0.01$.

Table 3. *Effects of privatization on firm agency costs and firm performance*

	Agency costs		Performance			Performance (controlling for agency costs)		
	(1) AdminR	(2) NonLiShu	(3) Productivity	(4) SaleGr	(5) ROS	(6) Productivity	(7) SaleGr	(8) ROS
Priv	−0.004	0.766***	−0.098***	−0.182**	0.003	−0.131***	−0.156*	0.002
	(0.006)	(0.017)	(0.037)	(0.088)	(0.007)	(0.039)	(0.094)	(0.006)
Length	−0.003***	0.006***	0.129***	0.026**	−0.000	0.125***	0.022**	−0.002**
	(0.001)	(0.002)	(0.005)	(0.011)	(0.001)	(0.004)	(0.011)	(0.001)
Privl	−0.001	0.027***	0.014*	0.025	0.002*	0.011	0.025	0.002*
	(0.001)	(0.003)	(0.007)	(0.017)	(0.001)	(0.007)	(0.017)	(0.001)
AgeLog	0.014	0.084***	−0.256***	−0.155	−0.006	−0.236***	−0.130	0.003
	(0.009)	(0.027)	(0.061)	(0.144)	(0.011)	(0.059)	(0.143)	(0.010)
Assetslog	0.000	−0.001	0.009	−0.082***	−0.002	0.010*	−0.082***	−0.002
	(0.001)	(0.003)	(0.006)	(0.014)	(0.001)	(0.006)	(0.014)	(0.001)
Kintensity	0.028*	−0.056	1.705***	0.156	−0.018	1.756***	0.199	−0.001
	(0.014)	(0.043)	(0.094)	(0.223)	(0.018)	(0.091)	(0.221)	(0.015)
StateO	0.022***	−0.021	−0.062	−0.206*	−0.014*	−0.023	−0.172	−0.001
	(0.007)	(0.021)	(0.046)	(0.108)	(0.009)	(0.044)	(0.108)	(0.007)
DebtAsset	0.010***	0.017	0.043*	0.059	−0.048***	0.060**	0.076	−0.042***
	(0.004)	(0.011)	(0.025)	(0.058)	(0.005)	(0.024)	(0.058)	(0.004)
LeaderCg	0.002	0.000	−0.007	0.019	0.000	−0.005	0.022	0.001
	(0.002)	(0.006)	(0.013)	(0.031)	(0.002)	(0.013)	(0.031)	(0.002)
AdminR						−1.739***	−1.615***	−0.629***
						(0.055)	(0.134)	(0.009)
NonLiShu						0.034*	−0.042	−0.003
						(0.019)	(0.046)	(0.003)
Constant	0.054**	−0.159**	5.233***	1.378***	0.088***	5.331***	1.458***	0.121***
	(0.027)	(0.079)	(0.175)	(0.414)	(0.033)	(0.169)	(0.412)	(0.028)
Observations	15,951	15,951	15,951	15,951	15,951	15,951	15,951	15,951
R^2	0.68	0.80	0.85	0.17	0.55	0.86	0.17	0.67

Standard errors are given in the parentheses.
* $p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

privatized and corporatized firms will outperform untransformed COEs, respectively. Tables 3 and 4 present the effects of privatization and corporatization on firm agency costs and performance. As can be seen in the tables, although all the four hypotheses are supported, there are two differences: privatized firms tend to suffer larger short-term reductions in performance that take a longer time to recover from, whereas corporatized firms tend to increase their administrative costs in the year of change.

5. DISCUSSION AND CONCLUSION

Our study provides empirical support for the argument that organizational transformations, including both privatization and corporatization, may be viable strategies to enhance firm performance by mitigating agency costs. Given that few studies have focused on the outcomes of transformed COEs, our study makes several contributions to the transition literature.

This research extends and integrates agency theory and privatization studies in the area of organizational transformation associated with a unique type of organizational form, the COE, in a transition economy. We have highlighted the dual principal–agent relationships associated with local government intervention and managerial self-dealing problems. Accordingly, we have incorporated the two agency costs variables (NonLiShu and AdminR) to capture the two aspects of agency problems in COEs, respectively. As is well known, in most modern corporations, ownership is separate from control (Berle & Means, 1932). China's corporatization drive intends to transform SOEs and COEs into a "modern enterprise system" in which managers have more discretion to operate based on market rules. Agency theorists hold that managers may seek perquisites for their personal benefits, even if doing so reduces the owners' wealth (Jensen & Meckling, 1976). In the context of China, local governments, as the controllers of COEs, play an important role resulting in the agency problems of COEs (Kung & Lin, 2007). Local governments have also been viewed as the dominant player to facilitate the transformation process by dumping poor performers in order to eliminate financial and social burdens (Li & Rozelle, 2003, 2004). Drawing on privatization theories (Boycko *et al.,* 1996; Megginson & Netter, 2001), we have extended the idea that organizational transformation distinguishes between political discretion and managerial discretion, leading to better performance.

We have also examined the idea that agency problems, coupled with the lack of adequate monitoring mechanisms during the transition, may impede the further growth of COEs, which may not be able to compete with the newly emerging more efficient ownership structures, such as privatized or corporatized firms. By comparing agency costs between the transformed and untransformed COEs, our study provides new empirical evidence that the two types of firms exhibit different agency costs, which in turn results in different performance. We found that the abandonment of *lishu* relations with the local government enhanced firm performance. Previous studies that focused on IPO firms in China show that having a

Table 4. *Effects of corporatization on firm agency costs and firm performance*

	Agency costs		Performance			Performance (controlling for agency costs)		
	(1) AdminR	(2) NonLiShu	(3) Productivity	(4) SaleGr	(5) ROS	(6) Productivity	(7) SaleGr	(8) ROS
Corp	0.014***	0.044***	−0.103***	−0.163**	−0.009	−0.081**	−0.138*	−0.000
	(0.005)	(0.017)	(0.034)	(0.083)	(0.006)	(0.033)	(0.082)	(0.005)
Length	−0.002***	0.000	0.123***	0.029***	−0.001	0.120***	0.026**	−0.002***
	(0.001)	(0.002)	(0.005)	(0.011)	(0.001)	(0.004)	(0.011)	(0.001)
	−0.005***	0.046***	0.032***	0.027*	0.002	0.021***	0.021	−0.002
	(0.001)	(0.003)	(0.007)	(0.016)	(0.001)	(0.006)	(0.016)	(0.001)
AgeLog	0.002	0.164***	−0.147**	−0.185	0.004	−0.152***	−0.174	0.004
	(0.009)	(0.030)	(0.060)	(0.145)	(0.011)	(0.058)	(0.145)	(0.010)
Assetslog	0.000	−0.000	0.012**	−0.074***	−0.002	0.012**	−0.073***	−0.002*
	(0.001)	(0.003)	(0.006)	(0.014)	(0.001)	(0.006)	(0.014)	(0.001)
Kintensity	0.027**	−0.020	1.736***	0.041	−0.033*	1.786***	0.085	−0.016
	(0.014)	(0.045)	(0.090)	(0.220)	(0.017)	(0.087)	(0.219)	(0.014)
StateO	0.015**	−0.017	−0.039	−0.196*	−0.012	−0.012	−0.172	−0.003
	(0.007)	(0.022)	(0.045)	(0.109)	(0.008)	(0.043)	(0.108)	(0.007)
DebtAsset	0.008**	0.022*	0.019	0.033	−0.050***	0.032	0.048	−0.045***
	(0.004)	(0.012)	(0.025)	(0.061)	(0.005)	(0.024)	(0.061)	(0.004)
LeaderCg	0.002	0.010	−0.016	0.012	0.001	−0.014	0.015	0.002
	(0.002)	(0.006)	(0.013)	(0.031)	(0.002)	(0.012)	(0.031)	(0.002)
AdminR						−1.774***	−1.662***	−0.627***
						(0.055)	(0.137)	(0.009)
NonLiShu						0.045***	−0.050	0.003
						(0.017)	(0.042)	(0.003)
Constant	0.091***	−0.400***	4.922***	1.409***	0.063*	5.102***	1.541***	0.122***
	(0.027)	(0.087)	(0.175)	(0.425)	(0.033)	(0.169)	(0.424)	(0.028)
Observations	16,165	16,165	16,165	16,165	16,165	16,165	16,165	16,165
R^2	0.69	0.64	0.85	0.17	0.56	0.86	0.18	0.68

Standard errors are given in the parentheses.
* $p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

government-connected CEO reduced a firm's investment returns (Fan *et al.,* 2007), and weakened the performance-turnover linkage (Kato & Long, 2006). Our study extends these findings by showing that a close government connection in general, measured by *lishu*, is an obstacle to improving firm performance in China.

According to agency theory, it is important for the principal to design incentive and monitoring mechanisms that align the agent's interests with those of the principal. Based on privatization-based views, ownership transformation works because it changes the traditional principal–agent relationship in the COEs since the new owners may place more demands on firm efficiency and profitability. Our findings suggest that when managers become owners, agency problems can be substantially mitigated. Due to substantially curtailed incentives in traditional COEs, managers are less likely to behave in a profit-maximizing manner. In contrast, transformation provides managers with more incentives and makes the monitoring mechanisms more meaningful because the new owners have a strong interest in monitoring and can install a board that can better represent the owners' interests. Thus, managers are more likely to be motivated to increase firm efficiency and profitability. Our findings suggest that in general organizational transformation has enhanced the performance of transformed firms.

This study has implications for COE managers and policy makers alike with respect to how to enhance performance by recognizing and minimizing the potential agency problems inherent in COEs. For multinational corporations (MNCs) seeking partners or acquiring firms in China, our study may have the following implications. First, transitional COEs may be valuable partners or acquisition targets in the sense that their efficiency and profitability can be significantly improved after ownership transformation. Second, MNCs should be alert when the government insists on imposing the *lishu* relationship on the target firm after the completion of the acquisition or the partnership deal, as such a relationship tends to increase agency costs.

Our study suggests several directions for future research, which may further our understanding of COE transformation. We only study two ways of transformation. Collaboration with foreign investors may be another avenue for COEs to transform their ownership structure and enhance firm performance. Inward foreign direct investment (FDI) has benefitted COEs in China since 2001 (Buckley, Clegg, & Wang, 2004/2005), the beginning of the observation window for our study. Due to the positive effect of inward FDI, we expect that FDI will enhance the competitiveness of COEs as they increasingly become FDI recipients. Thus, future studies may examine the outcomes when a COE is transformed into a foreign-invested firm, such as a joint venture or a wholly foreign-owned subsidiary.

Because available longitudinal data were limited, we were only able to examine the COE transformation process over a period of 5 years. Future studies may also explore whether the performance of the transformed firms can be further

improved over the longer term (e.g., more than 5 years). From a long-term perspective, some of the transformed forms we observed may be transitory. Cao *et al.* (1999) note that shareholding cooperatives may not be a permanent corporate form since a cooperative can be further transformed into a standard limited liability firm. Moreover, corporatization may also be a transitional arrangement in the process of eventual privatization. In this study, we treat privatization and corporatization as two alternatives in the ownership transformation of Chinese collective enterprises according to their registration status, but we were unable to identify the actual status of a firm during the transformational process. We realize that some firms in the corporatized sample might actually be in private hands, but in the form of corporatization to enhance the legitimacy of insider privatization. This may not be a critical issue in our study, given that our main argument is that transformation will reduce agency costs and hence enhance the firm performance of transformed firms, as compared to traditional, untransformed firms. Future studies might use survey data to identify the firm ownership status to broaden understanding of the actual sequential process of change.

We also realize that we had to use what is available in the census data to approximate agency costs associated with governments, such as *NonLiShu* and state ownership. Future studies might develop measures of other agency costs on the part of local governments, such as asset expropriation and reallocation problems, and test their effects. Furthermore, organizational transformation is not the only way to enhance COE performance. Shirley and Xu (2001) argues that because local governments can only observe outcomes and cannot accurately measure the efforts of SOE managers, performance contracts (contracts signed between the local government and managers) may be useful in reducing agency problems if they can systematically lessen the information asymmetries and improve incentives when transformation such as privatization is not an option. Future studies may also use follow-up survey data that enable one to control for these factors when comparing the outcomes with or without the transformation of COEs.

In summary, this study reveals some previously unknown outcomes of transformed COEs. We found that transformation is more likely to mitigate agency problems and subsequently turn traditional COEs into more competitive firms. Our findings imply that without organizational transformations, COEs, as compared to transformed firms, are less likely to improve performance. We conclude that although COEs have achieved a relatively better performance than SOEs under the conditions of partial reform, a further transformation in the form of corporatization or privatization is necessary to enhance their competitive capabilities after market institutions have been established. Our empirical findings provide insights into the transformation–performance relationship and some useful information for future studies.

NOTES

1. In particular, length = 0 in 2000 for all firms. Assume that transformation occurred at the beginning of the year, thus for firms that went through transformation in 2001, length = 1 in 2001 and = 5 in 2005. For firms that were not transformed, length = 0 in all years.

2. Other interesting results include that agency costs tend to decrease whereas performance tends to improve over time, state ownership tends to increase agency costs but hurts performance, older firms tend to display inferior performance, but the effects of firm size on performance are not clear-cut.

REFERENCES

Ang, J. S., Cole, R. A., & Lin, J. W. (2000). Agency costs and ownership structure. *Journal of Finance, 55*(1), 81–106.

Berle, A., & Means, G. (1932). *The modern corporation and private property*. New York: Macmillan.

Bolton, P. (1995). Privatization and the separation of ownership and control: Lessons from Chinese enterprise reform. *Economics of Transition, 3*(1), 1–11.

Boycko, M., Shleifer, A., & Vishny, R. (1996). A theory of privatization. *Economic Journal, 106*(435), 309–319.

Buckley, P., Clegg, J., & Wang, C. (2004/2005). The relationship between inward foreign direct investment and the performance of domestically-owned Chinese manufacturing industry. *Multinational Business Review, 12*(3), 23–40.

Cao, Y., Qian, Y., & Weingast, B. R. (1999). From federalism, Chinese style to privatization, Chinese style. *Economics of Transition, 7*(1), 103–131.

China's State Business Administration Bureau (1997). *Notice to strengthen the verification of economic type for firms*. <http://www.whhd.gov.cn/news/oldnews/103855423529020300.html>. Accessed 25.01.09.

Cui, G., & Lui, H.-K. (2005). Order of entry and performance of multinational corporations in an emerging market: A contingent resource perspective. *Journal of International Marketing, 13*(4), 28–56.

Davidson, W. N., Bouresli, A. K., & Singh, M. (2006). Agency costs, ownership structure, and corporate governance in pre- and post-IPO firms. *Corporate Ownership & Control, 3*(3), 88–95.

Dharwadkar, R., George, G., & Brandes, P. (2000). Privatization in emerging economies: An agency theory perspective. *Academy of Management Review, 25*(3), 650–669.

Dong, X. Y., Putterman, L., & Unel, B. (2006). Privatization and firm performance: A comparison between rural and urban enterprises in China. *Journal of Comparative Economics, 34*(3), 608–633.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review, 14*(1), 57–74.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law & Economics, 26*(2), 301–325.

Fan, J., Wong, T. J., & Zhang, T. (2007). Politically connected CEOs, corporate governance, and post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics, 84*(2), 330–357.

Guiheux, G. (2006). The political "participation" of entrepreneurs: Challenge or opportunity for the Chinese Communist Party?. *Social Research, 73*(1), 219–244.

Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal, 43*(3), 249–267.

Hussain, A., & Chen, J. (1999). Changes in China's industrial landscape and their implications. *International Studies of Management & Organization, 29*(3), 5–20.

Imbens, G. W. (2004). Nonparametric estimation of average treatment effects under exogeneity: A review. *Review of Economics & Statistics, 86*(1), 4–29.

Jefferson, G. H., & Su, J. (2006). Privatization and restructuring in China: Evidence from shareholding ownership, 1995–2001. *Journal of Comparative Economics, 34*(1), 146–166.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360.

Kato, T., & Long, C. (2006). CEO turnover, firm performance, and enterprise reform in China: Evidence from micro data. *Journal of Comparative Economics, 34*, 796–817.

Kung, J. K-S., & Lin, Y.-M. (2007). The decline of township-and-village enterprises in China's economic transition. *World Development, 35*(4), 569–584.

Lau, W. K. (1999). The 15th congress of the Chinese Communist Party: Milestone in China's privatization. *Capital & Class, 68*, 51–87.
Li, D. (1996). A theory of ambiguous property rights in transition economies: The case of the Chinese non-state sector. *Journal of Comparative Economics, 23*(1), 1–19.
Li, H., & Rozelle, S. (2003). Privatizing rural China: Insider privatization, innovative contracts, and the performance of township enterprises. *The China Quarterly,* (176), 981–1105.
Li, H., & Rozelle, S. (2004). Insider privatization with a tail: The screening contract and performance of privatized firms in rural China. *Journal of Development Economics, 75*(1), 1–26.
Li, S. (2004). The puzzle of firm performance in China: An institutional explanation. *Economics of Planning, 37*(1), 47–68.
Lin, Y., & Zhu, T. (2001). Ownership restructuring in Chinese state industry: An analysis of evidence on initial organizational changes. *The China Quarterly,* (166), 305–341.
Liu, G. S., Sun, P., & Woo, W.-T. (2006). The political economy of Chinese-style privatization: Motives and constraints. *World Development, 34*(12), 2016–2033.
Major, I. (1999). The transforming enterprise: Company performance after privatization in Hungary between 1988 and 1997. *Comparative Economic Studies, 41*(2–3), 61–110.
Megginson, W., & Netter, J. (2001). From state to market: A survey of empirical studies on privatization. *Journal of Economic Literature, 39*(2), 321–389.
Nee, V. (1992). Organizational dynamics of market transition: Hybrid forms, property rights, and mixed economy in China. *Administrative Science Quarterly, 37*(1), 1–27.
NSB (National Bureau of Statistics) (2004). *China Statistical Yearbook on CD*. Beijing: China's Statistical Press [Table 14-3].
Pan, Y., Li, S., & Tse, D. K. (1999). The impact of order and mode of market entry on profitability and market share. *Journal of International Business Studies, 30*(1), 81–103.
Park, A., & Shen, M. (2003). Joint liability lending and the rise and fall of China's township and village enterprises. *Journal of Development Economics, 71*(2), 497–531.
Peng, M., Tan, J., & Tong, T. (2004). Ownership types and strategic groups in an emerging economy. *Journal of Management Studies, 41*(7), 1105–1129.
Perotti, E. C., Sun, L., & Zou, L. (1999). State-owned versus township and village enterprises in China. *Comparative Economic Studies, 41*(2–3), 151–179.
Shirley, M. M., & Xu, L. C. (2001). Empirical effects of performance contracts: Evidence from China. *Journal of Law, Economics, & Organization, 17*(1), 168–200.
Simon, W. H. (1996). The legal structure of the Chinese "socialist market" enterprise. *Journal of Corporation Law, 21*(2), 267–306.
Sun, L. (2000). Anticipatory ownership reform driven by competition: China's township-village and private enterprises in the 1990s. *Comparative Economic Studies, 42*(3), 49–75.
Tan, J., Li, S., & Xia, J. (2007). When iron fist, visible hand, and invisible hand meet: Firm-level effects of varying institutional environments in China. *Journal of Business Research, 60*(7), 786–794.
Taylor, B. (2002). Privatization, markets and industrial relations in China. *British Journal of Industrial Relations, 40*(2), 249–272.
Tian, G. (2000). Property rights and the nature of Chinese collective enterprises. *Journal of Comparative Economics, 28*(2), 247–268.
Walder, A. (1994). Corporate organization and local government property rights in China. In V. Milor (Ed.), *Changing political economies: Privatization in post-communist and reforming communist states* (pp. 53–66). Boulder: Lynne Rienner.
Walder, A. (1995). Local governments as industrial firms: An organizational analysis of China's transitional economy. *American Journal of Sociology, 101*(2), 263–301.
Wang, X., Xu, L. C., & Zhu, T. (2004). State-owned enterprises going public: The case of China. *Economics of Transition, 12*(3), 467–487.
Wang, Y., & Chang, C. (1998). Economic transition under a semifederalist government: The experience of China. *China Economic Review, 9*(1), 1–23.
Wang, Z., & Deng, X. (2006). Corporate governance and financial distress. *The Chinese Economy, 39*(5), 5–27.
Weitzman, M., & Xu, C. (1994). Chinese township-village enterprises as vaguely defined cooperatives. *Journal of Comparative Economics, 18*(2), 121–145.
Xu, L. C., Zhu, T., & Lin, Y.-M. (2005). Politician control, agency problems and ownership reform: Evidence from China. *Economics of Transition, 13*(1), 1–24.
Xu, Y. C. (2000). State-assets depletion and economic reform in China. *Studies in Comparative International Development, 35*(1), 73–100.
Yu, Q., Du, B., & Sun, Q. (2006). Earnings management at rights issues thresholds: Evidence from China. *Journal of Banking & Finance, 30*(12), 3453–3468.
Zhu, T. (1999). China's corporatization drive: An evaluation and policy implications. *Contemporary Economic Policy, 17*(4), 530–539.