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Ownership reform among state firms in China and its implications

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Abstract

Purpose – To test the effects of ownership structure on the strategy and performance of former state-owned enterprises (SOEs) in China.

Design/methodology/approach – Based on a sample of the former state-owned manufacturing firms listed on the Chinese Stock Exchanges before 1995, we study the ownership effects on firms' diversification strategies and their performances.

Findings – Diversifiers actually have a lower level of state ownership. However, firms' financial performance and other performance dimensions such as new product development and overseas investment are actually better for single-product producers. Hence, firms with lower state-ownership tend to be more likely to pursue unrelated diversifications.

Research limitations/implications – The study uses a cross-sectional design, which makes it difficult to assess the causality of the variables and to study the changes of firm behavior over the years.

Practical implications – The results highlight the need for the improvement of control system in transitional economy such as China before embarking on ownership changes. Without the changes in the control systems, the ownership reform alone seems insufficient to improve the performance of the former SOEs.

Originality/value – This study provides evidence on the effect of ownership control, diversification strategy and performance on formerly SOEs in China. It has important policy implications for reformers in the developing economies engaging in privatizing their SOEs.

Keywords Public sector organizations, Business performance, China

Paper type Research paper



The reform of state-owned enterprises (SOEs) is an important issue in China, as it may decide the success of economic reform in this world's largest emerging market. Many authors have conducted qualitative studies on SOEs in China (Boisot and Child, 1988, 1996; Child *et al.*, 1997; Nee, 1991). However, several important issues remain unclear. For example, what are the effects of changing ownership on the strategy and performance of former SOEs? What is the moderating effect of institutional environment on the relationship between firm ownership change and firm behavior? Finally, what is the implication of this ownership reform for the development of accounting theory and accounting research in a transitional economy such as China?

This study addresses these issues by investigating the effects of ownership change in China's SOEs. The study is significant because it will help to improve our understanding of the effects of changing ownership and institutional factors on organizational behavior. Some authors have suggested that the current reform in China was too slow in shifting state ownership, and the ineffectiveness of strategic management, such as overdiversification, would not be improved until the further diffusion in state ownership (Young and McGuiness, 2001). On the other hand, based on the observation of the SOEs' reform in the former Soviet Union and East European Bloc countries, some other authors have argued that changing state ownership overnight might actually prevent the former SOEs from learning effectively, and these firms might not be able to improve their performance (Newman, 2000). In other words, the latter suggested that an incremental ownership reform was better than a fast privatization of SOEs. Little empirical evidence has been obtained to show which of the arguments is more reasonable. In this paper, from a point of view of accounting and other control systems, we argue that the most critical issue may not be whether the privatization of state firms should be conducted overnight, but whether we can build effective control systems, including the accounting one, that meet the demands of the ownership reform. In the current paper, we will test this argument with empirical data.

The current study will contribute to both academic research and managerial practice. As Newman (2000) points out, current research on these issues has mainly been conducted in western societies where institutional environments change little and slowly. It remains unclear how organizations will learn and perform given the change of ownership in a society where the institutional environment itself is rapidly changing. Empirical data from such a rapid changing environment will provide new knowledge on the issue.

In the following sections we first review the relevant literature. After that, several hypotheses for empirical testing are proposed. Finally, we report a study of 587 former SOEs to test the hypotheses.

Literature review

The relationship between ownership and firm behavior

A very influential but controversial paradigm in corporate governance and control theory is agency theory (Fama, 1980). Developed from neoclassical economics, the theory naturally assumes that firm management has a tendency of opportunism (Eisenhardt, 1989). For its own interests, for example, firm management may act defensively and adopt decisions that are not in the best interests of shareholders. For example, firm management may establish anti-takeover defenses (Agrawal and Mandelker, 1990), conduct corporate restructuring (Bethel and Liebeskind, 1993), or implement business strategies of over-diversification (Baysinger and Hoskisson, 1990). Accordingly, even in a publicly listed western firm without state ownership, the above-mentioned agency problems, such as over-diversification, may still be observed.

Agency theory suggests that effective monitoring and controlling can help reduce the propensity of firm managers to serve their own interests (Mallette and Fowler, 1992). However, research has also shown that effective monitoring is often difficult. This is especially true when a large stock investor have too many firms to monitor. Given the complexity of the firms' operations, the investor's ability to collect and process relevant information may be insufficient. Therefore, it is not in the interests of

shareholders to allow their firms to overly diversify. In a transition economy such as China, this issue is even more relevant because of insufficient codified information, such as reliable accounting data (Boisot and Child, 1988).

Researchers have defined over-diversification as product diversification beyond the level optimal for shareholders (Markides, 1992). By beyond the optimal level we mean that such diversification may be beneficial to managers in the sense that it may increase their power, job security and compensation, but may not be optimal for the investment return of shareholders (Baysinger and Hoskisson, 1990). For example, high product diversification may lead to poor strategy formulation in other areas such as technology strategy and debt control (Hoskisson and Hitt, 1988).

Over-diversification can result from ineffective corporate governance. Governance structures, including boards of directors, ownership, and managerial incentives, are often inadequate to prevent high product diversification (Bethel and Liebeskind, 1993; Gibbs, 1993). For example, boards of directors with little equity ownership are unlikely to monitor firm strategy in a significant way unless firm performance suffers significantly (Johnson *et al.*, 1993). Small outside owners, i.e. those holding only very small blocks of firm equity, also do not have sufficient incentive to monitor firm strategy (Harrison, 1987). In other words, when ownership becomes dispersed among a large number of small owners, and collective monitoring costs will increase because individual owners are unlikely to be fully committed to monitoring managerial behavior than they would be were they to hold more equity (Hill and Snell, 1988). This is especially true in the case of unrelated diversification, because it is a mechanism to maintain firm growth and thereby increase managerial compensation, which has a positive relationship with the firm size increased through diversification (Tosi and Gomes-Mejia, 1989).

Over-diversification is often created through acquisitions, which are usually supported by a financial strategy of borrowing or increasing the firm's risk of debt (Hitt *et al.*, 1990). Moreover, high product diversification may create the tendency of risk-avoidance among division managers, which in turn may prevent the firms from conducting research and developing new products (R&D) (Baysinger and Hoskisson, 1990).

All of the research reviewed above can help us to understand the relationship between firm ownership and firm behavior in western societies. However, it remains unclear whether the theories are applicable to firms in transitional economies such as China, where institutional environments are very different. Many authors have suggested the importance of considering the effects of culture when study organizational behaviors in the east. For example, after showing that the Japanese family is an institutional logic for Japanese corporate networks and Japanese management practices, Bhappu (2000, p. 414) argued that "in order to further our understanding of culture as it relates to management, more work is needed to identify the culturally rooted institutional logics that shape organizations around the world". Biggart (1991) also pointed out that it is the oriental cultural tradition that produces the distinctive institutional factors that influence firm behaviors in the east. Finally, discussing the commonality in the East Asian development model, Nee (1992) pointed out a consistent cultural tradition in the economic development of China, Japan, South Korea, Taiwan, and Singapore – strong government involvement.

The Asian cultural tradition of heavy government involvement in firm activities can also be observed in China. Several authors have suggested the effects of government involvement in their studies on Chinese firms (Boisot and Child, 1988; Nee, 1992). Moreover, because of China's large size and regional differences, the involvement of government in China often has a unique characteristic, namely, direct local government involvement or indirect central government involvement. For example, according to Boisot and Child (1988), the dominant transaction structure in pre-modern China was a fief-like structure. In this structure, firm activities were heavily influenced by the hierarchical co-ordination of local governments rather than by that of the central government. One important character of this fief-like government structure is the lack of codified information, including reliable accounting data, in China. Without these data, it would be difficult to implement law and control policies in China. For example, the capital of a firm may be sent to an account abroad by a corrupt firm manager without being known until the manager herself/himself has successfully emigrated (He, 1998). In the processing of shifting state ownership to other ownership, these two factors, i.e. heavy local government involvement and insufficient codified information, are influencing the relationship between China's ownership reform and firm behavior and performance. We discuss this issue in next section.

Ownership change in China's SOEs and the effects of institutional environment

As Boisot and Child (1996) suggested, rapid economic growth in China over recent decades has been stimulated by two major developments: the shift of ownership and property rights, and the increasing role that is played by market transactions, including a growing integration with the world economy (Boisot and Child, 1996, p. 600). Both developments influence the environment in China and have significant implications for the reform of state firms. Following is a brief discussion of this issue.

The shift of ownership first occurred in China's agricultural sector. Soon after China undertook reform in 1978, land ownership was shifted from People's Communes to individual families. Although land was still collectively owned in name, each family made decisions on how and with what the land should be planted. This reform led to the rapid development of China's rural economy. From 1978 to 1985, China's agricultural output increased by 8-10 percent annually (Mckinnon, 1992). After this success in the countryside, the Chinese government began experiments to shift ownership from the state to other shareholders in the 1980s. By the end of the 1990s, many approaches to shifting state ownership, such as privatization and employee ownership, had been tested (Lin *et al.*, 1998), and some seemed to have become institutionalized (Tse and Lau, 1999).

The most popular approach to the shifting of state ownership in China today is the creation of so-called joint (shared) stock firms. These firms are limited liability joint stock (JS) companies. Different from other forms of share ownership in China, the number of shareholders in a joint-stock firm is unlimited, which means that the firm is allowed to issue stocks, and the stock can be transferred freely. The state may hold a majority of shares (e.g. China Mobile Phone and Sinopec, which is an oil and chemical producer) or a minority of shares (e.g. Shanghai Forever, which is a bicycle producer).

The idea of the JS firm is not new in China. Before 1949, there were a significant number of JS firms listed on the Shanghai stock exchange. These firms disappeared after China adopted a planned economic system in 1949. After China's economic reform

in 1978, JS firms re-appeared with the establishment of the Bao-an County Investment Company in November, 1982. Although this firm was a JS firm that raised capital from the public, it had not previously been a state-owned firm. Rather, it was a newly established firm in the Shenzhen Special Economic Zone, where firms benefited from the implementation of special state policy. The first case of transforming a state-owned firm into a JS firm occurred in 1984, when Beijing Tian Chiao Department Store shifted part of its ownership to other firms and legal entities (47.56 percent) and to individuals, including the firm's managers and employees (41.18 percent). After that, the number of similar cases steadily increased. By the end of 1997, the number of joint-stock firms had reached 9,200, which accounted for about 25 percent of all large and medium sized state firms in China (Smyth, 1998). Since then, the number of joint-stock firms has continued to increase. At the same time, the state has been reducing its shares in these firms, and private firms are allowed to become publicly listed firms by buying the controlling shares of already listed firms (McCallum, 2001).

According to the reform plan of the Chinese government, after selling shares to the public, the former state firms are expected to compete in the market in the same manner as do publicly listed firms in the west (Chen, 1999). Since 1990, there have been an increasing number of JS firms being listed on China's stock markets, which were established at the beginning of the 1990s. For example, the first JS firm mentioned above, i.e. the Bao-an County Investment Company, was listed in June, 1991, in China's Shenzhen Stock Exchange. By listing these firms, the state tries to find a new way for China to move to a true market economy. In other words, the transformation of state firms into JS firms is considered a conversion of managerial mechanism in China, or a conversion of dependent instruments of the state plan into independent market-oriented entities (Chen, 1999).

Another purpose has been to improve the firms' accounting performance and to reduce state financial subsidies to former state-owned firms (Chen, 1999). According to some scholars, total personal savings in China were 3,852 billion RMB in 1996, and this amount has been increasing. These savings alone are about four times the total capitalization of state firms. If both Chinese and international investors were allowed to buy shares in the state firms, then the state would not have to subsidize them heavily (Child, 1998). Partially because of this reason, the maxim "get help from the (stock) market, not from the mayor" (zhao shichang, buyao zhao shizhang) became common in the Chinese media at the end of the 1980s.

However, from the very beginning, this shift of ownership was influenced by China's institutional environments, which have made the successes of this shift questionable. Research has already documented many unique characteristics of the Chinese environment, including the lack of codified information, such as reliable accounting data, and emphases on Guanxi (connections) among firms and between firms and local governments (Boisot and Child, 1988, 1996). For example, as central government policy can be more or less ignored by local governments, networks between local governments and the state firms in their territories are often more influential when firms shift their ownership. For example, without sufficient control and monitoring systems, such as those that help implement law and appropriate accounting policy, the shift of state ownership has in fact become an opportunity for local government officials and state firm managers to steal state property. Even in those most economically-developed areas in China, such as in China's Guangdong

province, there have been many cases in which the local governments helped cook the books directly or indirectly in order to get their local firms listed (Xinhua News Agency, 1994). The most commonly changed accounting data have been total assets, return on assets (ROA), return on capital and total sales. For example, a state firm in Guangdong had a return on capital below 7 percent for three years before listing. In order to meet the criterion to go public, the firm management worked with an accounting firm to increase the size of capital by three times. The firm's capital changed from 170 million RMB (the Chinese currency unit) to 79 million RMB in six months, but the local government never asked a question on this issue when it checked the accounting data and approved the firm to go public (He, 1998). By cooking the books, both local government officials and managers of the former state firms may obtain lots of financial benefits, such as shares in the listed firms and cash.

Moreover, the institutional environments in China may prevent effective monitoring of these former state firms after they become JS firms. While China has decided to codify and harmonize its accounting with international standards with the promulgation of Accounting Regulation for Listed Companies on 1 January 1998, Chen *et al.* (2002) find that a lack of effective financial reporting infrastructure, as exacerbated by accounting manipulation and lack of quality auditing had thwarted its effort. Without reliable accounting information, it is often difficult to effectively monitor the firms, which partially explains the recent scandals that exposed the looseness of control systems in the Chinese SOEs (Gilley, 2002). Moreover, firm management may be asked to appoint the board members of its own firm (Tse and Lau, 1999). Consequently, board members often have some Guanxi or connections with the management, which makes effective monitoring of the firm management questionable.

Without an effective control and monitoring system, it is questionable whether the shift from state ownership to a JS one can really help improve the strategy and performance of those former state firms. It has been suggested that a firm's control system should be tailored to support a firm's strategy and especially to constrain managers to focus on what the firm can and must do best (Langfield-Smith, 1997). It would be interesting to test the consequences of this shift of state ownership on firm strategy and firm performance. Therefore, in next section, we propose some testable hypotheses according to the commonly available literature.

Research hypotheses

Hypotheses can be developed for empirical testing according to the literature. First, we predict that among the former state firms that have been transformed into JS firms, the proportion of shares that is still controlled by the state may have a significant effect on the decision to diversify. Specifically, according to the argument of some authors, state ownership was the main factor causing diversification (Young and McGuinness, 2001). Therefore, we propose,

- H1.* Among former state firms in China, the greater the proportion of state share ownership, the higher will be the degree of diversification.

Moreover, as research in the west has suggested (Bethel and Liebeskind, 1993; Gibbs, 1993), the more that management holds the shares of its firm, the less likely it is to adopt a strategy of diversification (Hitt *et al.*, 1990). The reason is that this share

ownership may make the management more responsible to the long-term performance of the firm. The management may be more willing to learn how to build long-term competitiveness for their firms. In this learning process, they may study the research results that have been obtained in the west and ascertain the negative effects of over-diversification. If this learning process does exist, then we predict:

H2. Among former state firms in China, the greater the proportion of management share ownership, the lower will be the degree of diversification.

Moreover, large block share ownership may have a significant effect on the selection of diversification strategy (Johnson *et al.*, 1993). The more shares that these large block shareholders control, the more likely that they are to avoid over-diversification because such over-diversification can increase the difficulty in monitoring firm management and firm performance. To protect their interests with more effective monitoring, large block shareholders may want a simple product portfolio. Therefore, former state firms with high proportions of large block private share ownership are less likely to adopt strategies of diversification.

H3. Among former state firms in China, the greater the proportion of large block private share ownership, the lower will be the degree of diversification.

Similarly, we predict that the proportion of shares which is owned by overseas investors has a significant effect on the firms' diversification because overseas investors are also large block shareholders (e.g. mutual funds and pension funds). Compared with small investors, these fund managers have more resources, such as time, to monitor their investments, and they are more experienced than Chinese investors in selecting and monitoring listed firms. If a former state firm diversifies too much to be monitored effectively, then these foreign investors are likely to sell their shares in the firm, which will reduce the proportion of foreign shares in the firm's ownership structure. Therefore, we predict:

H4. Among former state firms in China, the greater the proportion of large overseas investor ownership, the lower will be the degree of diversification.

Employee ownership in the firms may also help prevent over-diversification. Management and workers may have a stronger sense of responsibility toward improving firm performance when they are co-owners (Dyck, 1997). In China, studies have also shown that the organizational commitment and motivation of employees are higher in co-owned firms than in non co-owned firms (Lu and Bjorkman, 1997). This may lead to better monitoring of firm management. Accordingly, we predict:

H5. Among former state firms in China, the greater the proportion of employee share ownership, the lower will be the degree of diversification.

Research has also tested how firm performance is influenced by diversification. Firm performance can be measured by both financial-based performance (accounting performance) and stock market price performance (market performance). It has been argued that accounting performance assesses firm performance in the past, while stock market performance measures the expected future value of firms (Hoskisson *et al.*, 1994). Both approaches are useful in assessing firm performance.

Diversification may have negative effects on firm stock market performance. For example, one study has shown a significant negative path from diversification through accounting performance to stock price performance (Hoskisson *et al.*, 1993). Over-diversification may make it difficult for a firm to focus its resources on building competitive advantages. Consequently, diversifiers may have slower growth (in terms of market share or profit) than do firms that adopt a strategy of concentrative growth. This slower growth will lead to lower stock prices and poorer performance. Therefore, we predict:

H6. Other things being equal, the higher the firms' level of diversification, the poorer will be their stock market performance.

Moreover, according to previous research (Hoskisson *et al.*, 1993), diversification will lead to poorer accounting performance. Diversifiers may have insufficient knowledge and experience in managing or co-ordinating the activities of different businesses, which can lead to low efficiency. Furthermore, to finance their diversification, these firms may have to borrow money, which increases their interest costs. All of these factors may affect accounting performance. This problem can also be true in China. Some authors have already pointed out that many state firms have lost money due to their failure to realize economies of scale (Liew, 1999). Moreover, with over-diversification, the monitoring of firm management by shareholders can become more difficult. In other words, when a firm diversifies into too many industries, its board members often do not have sufficient information and expertise to predict the results of the firm's strategy, which in turn may affect their performance (Hoskisson *et al.*, 1994). This problem can be more serious for joint-stock firms in China because their board members and managers often do not have sufficient training or experience in managing firm strategy in a market economy. Accordingly, we predict:

H7. Other things being equal, the higher the firms' level of diversification, the poorer will be their accounting performance.

Method

Sample

The sample for this study consisted of the former state-owned manufacturing firms that were listed on the two Chinese Stock Exchanges before 1995 ($N = 578$). According to the category system that is used by the State Statistical Bureau of China (SSBC), these firms were from 11 different industries[1]. Each industry could be further divided into between 3 and 25 sub-industries. For example, the Chinese electronics industry was divided into 23 sub-industries, such as TV, telecommunication equipment, and the computer industry. Other data sets, such as those that are reported in *China's Industrial Markets Yearbook* (which is published by the City University of Hong Kong), also use this classification system. Based on this system, we treated a firm in one industry that had products in more than one of its sub-industries as having been involved in related diversification. An example is an electronics firm that produced TVs and mobile phones at the same time. If a firm was operating in two unrelated industries, such as electronics and real-estate development, then we considered this firm as having been involved in unrelated diversification.

The average age of the firms was 5.7 years. They were located in provinces or cities throughout China: 315 were located in the coastal provinces, and 263 were located in inner-China provinces. These 578 firms competed in 11 different industries or 118 sub-industries in China.

Information about these firms came from three sources. First, we obtained the data from the *Taiwan Economic Journal Database*, which contains the accounting information of listed firms in China. Second, we used three research assistants, who knew nothing about the purpose of this study, to check the data from the database against annual reports and web site information of the firms. At the same time, the research assistants were also asked to code information that pertained to product diversification, new product development, international operation, and purchase or acquisition activities from annual reports and web sites (see the more detailed discussion in the next section). To control for the industrial differences among these firms, we also obtained data from *China's Industrial Markets Yearbook* published by the City University of Hong Kong. The data set provided industrial-level information about Chinese firms, including average assets, average debt/assets, average number of employees, and average ROA in the firms' industries. We applied this data set in our data analysis to control for the differences among industries.

Measurement

We consider two sets of variables. Set one consists of the variables that are meaningful to firms across industries. These variables include ownership variables and the stock market performance of firms. Set two include variables that can be affected by industrial differences, such as firm size and ROA.

Set one, measurement without control for industrial difference

State ownership was measured by the ratio of shares that were controlled by the state to the total outstanding shares of a given firm. Using a similar approach, we measured ownership by employees, by firm management, by individuals in the top ten shareholder list, and by overseas investors[2]. All of these data were obtained from 1996 annual reports, which reported firm activities in 1995.

Diversification strategy was a piece of information difficult to obtain in China. Few Chinese listed firms disclose the information about their diversifications as detailed as do firms in the United States. As a result, the data about the proportion of sales from each industry, which has been commonly used by researchers to measure diversification, are not available in China. The unavailability of precise data itself can be seen as a piece of evidence of the relatively primitive stage in China's accounting and control systems. To overcome this difficulty, we had to measure diversification according to the information coded from the annual reports of the firms. Specifically, if a firm focused on a single product, then we gave it a score of one. If it was a related diversifier, i.e. it operated in two or more related sub-industries, then the score was two. Finally, if the firm was an unrelated diversifier, i.e. it operated in two unrelated industries (e.g., a manufacturing industry as well as the real-estate industry), then the score was three. We used the 1995 data to code the firms' product diversification.

Although this measurement is not very precise, we believe that this information could still be used to measure the level of diversification among the Chinese firms. Given the fact that the listed firms in China had very short history (i.e. the average age

of these firms was 5.7 years), the sales data might actually under-estimate the firms' level of diversification. For example, a Chinese diversifier might have expended many resources in developing a new product, but the sales of the product were small at the beginning. Accordingly, although the lack of sales data is a limitation of our measurement, we believe that such data may not be very critical given the fact that our sample was still in the early stages of diversification.

Finally, we coded the following variables from the firms' annual reports from 1996 to 2000. Specifically, *New product development* was measured by the number of new products that were mentioned in the annual report or the web site of a given joint-stock firm. *Purchasing other firms* was measured by the number of acquisitions that were completed by a given joint-stock firm in the same period. *International investment* was measured by the number of countries in which a firm was making investments. *International marketing* was measured by the number of markets to which a firm was exporting. Inter-rater correlations were computed among the scores from the three research assistants. Each of the three measures showed a reliability α of higher than 90 percent.

Finally, *stock performance or return (SP)* was computed by the following formula:

$$P = [(\text{stock price at the end of year} + \text{dividend received during the year}) / \text{stock price in the beginning of year}] - 1.$$

After computing this variable for each year, we computed an average of the variable over four years (i.e. 1996-2000). We used this average to control for speculation in the Chinese Stock Exchanges. The assumption was that while a firm may have been able to manipulate its stock price over a short period of time, it would have been difficult to keep the price high or low for four years. For the same reason, when we considered the ROA of firms we used a four-year average from 1996-2000.

Set two, measurement with control for industrial difference

Some measures vary across industries. For example, average firm size as measured by the amount of total sales each year can be large in some industries such as car manufacturing, while it can be small in other industries such as clothing and textiles. To control for industrial differences, we computed some variables as comparable measures in this study. Take ROA as an example. Price control by the central government can affect the profit level of different industries. To control for this effect, we generated a variable, comparable ROA, which was computed by the following formula:

$$C\text{-ROA} = (\text{firm} - \text{ROA}) - (\text{industry} - \text{ROA})$$

We checked the products of unrelated diversifiers before they became listed firms. For example, if an unrelated diversifier was historically a TV producer, then we adopted data from China's TV industry to compute its C-ROA. In this way, we controlled not only the industrial differences among the firms, but also the differences that resulted from government policies, which have been different in different industries over the years. With a similar approach, we also measured the *comparable firm size*, *comparable firm assets*, and *comparable debt/asset ratios* of the firms.

The measurements reported above can be justified by their high validities. First, they have high face validity because they have been the measures commonly used in accounting and financial analyses, such as ROA and SP. Second, since the measures are not based on self-reporting questionnaire items, the convergent and discriminative validities are not a problem, and the common method bias can also be avoided. Finally, all these measures have been used by other researchers dealing with similar issues before (Hoskisson *et al.*, 1994). According to their research findings, the predictive validity of measurements is high.

Results

Table I presents the descriptive statistics of the data. Some interesting findings can be obtained from these data. First, the international investment of the firms was positively correlated with their stock price returns and the number of their new products ($p < 0.01$), but negatively correlated with their size. This suggests that diversified firms are normally larger in firm size than are their counterparts that produce single products. Second, among the Chinese firms, stock market performance was positively correlated with international investment and marketing ($p < 0.01$). This result indicates that Chinese investors favor firms that have the ability to compete internationally. Finally, the risk of debt was negatively correlated with firm international marketing ($p < 0.01$), with stock return ($p < 0.05$), and with firm size ($p < 0.05$). According to this result, international marketing and diversification both increase the risk of debt, which may affect the stock market return of joint-stock firms.

Table II reports the results of ANOVAs that were conducted to test our hypotheses. The data provide support for our hypotheses. First, the data support $H4$ ($p < 0.001$), which predicted a negative relationship between foreign ownership and the level of diversification. Table II also shows a significant difference between diversifiers and single-product producers in state ownership ($p < 0.05$), which suggests something different from $H1$, i.e. diversifiers actually had a lower level of state ownership.

Table III compares some dimensions of performance among the three groups of firms. First, it shows a significant difference in their stock market returns over three years (1997-1999). It seems that the stock markets preferred firms that focused on a single product. However, in terms of debt ratio, ROA, and assets growth, there is no significant difference between the single product producers and the diversifiers.

It is interesting to note that, regardless of their strategies, the profitability of joint-stock firms was lower than their industrial averages. This is understandable considering the fact that local firms were normally less competitive than overseas firms in the same industry (Li *et al.*, 2001). Although these local firms were listed recently, they might have needed time to improve their profitability.

Finally, the data in Table III suggest that the diversifiers and the single-product producers differed significantly on two other dimensions, i.e. new product development and overseas investment. These results may suggest that, in the long run, single-product producers will gain more competitive advantages than will diversifiers.

To further understand the relationship between firm ownership and diversification, we conducted a multinomial logistic regression analysis. We selected this approach because our dependent variable, diversification, had three categories. In this analysis, data about the firms' ownership structure and two control variables, i.e. industrial ROA and firm size, were entered at the same time. Table IV shows the results of the analysis.

| Variables | M. | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------------------|--------------------------|--------------------------|---------|---------|---------|--------|--------|---------|-------|--------|
| 1 Overseas investment | 1.42 × 10 ⁻⁰² | 0.12 | 1 | | | | | | | |
| 2 Overseas marketing | 1.63 × 10 ⁻⁰² | 0.13 | -0.02 | 1 | | | | | | |
| 3 Stock return | 0.62 | 0.84 | 0.20** | 0.18** | 1 | | | | | |
| 4 New products | 0.53 | 0.92 | 0.18** | 0.03 | 0.34** | 1 | | | | |
| 5 C. size | -5,434,532 | 15,963,054.06 | -0.17** | 0.02 | -0.01 | 0.02 | 1 | | | |
| 6 C. debt/assets | -66.97 | 7.30 | -0.02 | -0.14** | -0.15** | 0.05 | -0.10* | 1 | | |
| 7 C. ROA | -2.02 | 3.41 | 0.05 | 0.00 | 0.01 | -0.11* | 0.01 | -0.50** | 1 | |
| 8 Acquisition | 0.65 | 0.72 | -0.08 | 0.05 | 0.11 | -0.02 | 0.02 | -0.01 | 0.03 | 1 |
| 9 Large holder S. | 8.98 × 10 ⁻⁰⁵ | 2.60 × 10 ⁻⁰⁴ | -0.04 | -0.01 | 0.04 | -0.05 | 0.03 | -0.05 | 0.01 | 0.92** |
| 10 Employee S. | 2.96 × 10 ⁻⁰² | 6.24 × 10 ⁻⁰² | -0.00 | -0.04 | -0.12 | 0.06 | -0.11* | 0.03 | -0.00 | -0.04 |
| 11 B. S. | 3.69 × 10 ⁻⁰² | 0.10 | 0.07 | -0.00 | 0.07 | -0.01 | 0.03 | -0.02 | 0.07 | 0.08 |
| 12 State S. | 0.32 | 0.29 | 0.03 | -0.03 | -0.06 | -0.02 | -0.01 | 0.02 | -0.01 | -0.10* |
| 13 Management S. | 2.15 × 10 ⁻⁰⁵ | 2.42 × 10 ⁻⁰⁴ | -0.01 | 0.00 | 0.12 | -0.01 | 0.01 | -0.08 | 0.02 | 0.03 |
| 14 Diversification (1-3) | 1.75 | 0.71 | 0.06 | 0.07 | 0.20** | 0.15** | 0.03 | 0.05 | 0.09 | 0.00 |
| <i>Variables</i> | <i>M.</i> | <i>SD</i> | 9 | 10 | 11 | 12 | 13 | 14 | | |
| 1 Overseas investment | 1.42 × 10 ⁻⁰² | 0.12 | | | | | | | | |
| 2 Overseas marketing | 1.63 × 10 ⁻⁰² | 0.13 | | | | | | | | |
| 3 Stock return | 0.62 | 0.84 | | | | | | | | |
| 4 New products | 0.53 | 0.92 | | | | | | | | |
| 5 C. size | -5,434,532 | 15,963,054.06 | | | | | | | | |
| 6 C. debt/assets | -66.97 | 7.30 | | | | | | | | |
| 7 C. ROA | -2.02 | 3.41 | | | | | | | | |
| 8 Acquisition | 0.65 | 0.72 | | | | | | | | |
| 9 Large holder S. | 8.98 × 10 ⁻⁰⁵ | 2.60 × 10 ⁻⁰⁴ | 1 | | | | | | | |
| 10 Employee S. | 2.96 × 10 ⁻⁰² | 6.24 × 10 ⁻⁰² | -0.06 | 1 | | | | | | |
| 11 B. S. | 3.69 × 10 ⁻⁰² | 0.10 | 0.00 | -0.12** | 1 | | | | | |
| 12 State S. | 0.32 | 0.29 | -0.09 | -0.09 | -0.05 | 1 | | | | |
| 13 Management S. | 2.15 × 10 ⁻⁰⁵ | 2.42 × 10 ⁻⁰⁴ | 0.92** | -0.04 | 0.08 | -0.10* | 1 | | | |
| 14 Diversification (1-3) | 1.75 | 0.71 | 0.03 | 0.12** | 0.04 | -0.07 | -0.00 | 1 | | |

Notes: One-tailed significance; **p* < 0.05; ***p* < 0.01; ****p* < 0.001

Table I.
Descriptive statistics

The data in Table IV challenge *H1* ($p < 0.05$) and suggest a negative relationship between the level of diversification and state ownership. In other words, the data do not support the argument that state ownership leads to firm diversification. Instead, firms with less state ownership seem to be more likely to diversify. We believe that this finding suggests the effect of China's institutional environments and highlights the need to improve control systems. This issue will be discussed further in later sections. Finally, the number also supports *H4* ($p < 0.05$), which predicted that an increase in foreign ownership would lead to a decrease in the level of diversification. The hypotheses about the effects of other forms of ownership were not supported.

Finally, we conducted hierarchical regressions to test the effects of diversification on firm performance. First, a main dimension of firm performance, i.e. the firms' average ROA from 1997 to 1999 (ROA) was entered as the dependent variable. Diversification was entered first as two dummies (model 1). Specifically, related diversification was coded as 1 if a firm adopted this strategy and 0 otherwise. Similarly, unrelated diversification was coded as 1 if a firm adopted this strategy and 0 otherwise. Two control variables, i.e. international operation and firm size, were entered later (model 2). Using a similar approach, we also tested the effect of diversification on the firms' average return on owners' equity (ROE) and the firms' stock market performance (from 1997 to 1999).

Table V shows the results of the analyses. First, the data suggest that diversification had no significant effects on ROA. However, unrelated diversification had a significant effect on ROE. This is true even after the control variables were entered. These results partially support *H7*, which predicts a negative relationship between diversification and accounting performance. Moreover, the data also support *H6*, which predicts a negative relationship between diversification and stock market performance.

Discussion and conclusions

The establishment of JS firms is a popular approach to the reform of SOEs in China today. However, it remains a question whether Chinese governments (both central and local ones) should adopt the "big-bang" approach to switch their ownership to other ownerships. Researchers, as we have discussed above, have different opinions on this issue. The finding in the current paper suggests that the answer to this question depends on how fast China can overcome the difficulty of codified information and build effective control systems. As the data in this paper suggested, without such systems, the change of ownership alone seems insufficient to improve the strategy or performance of the former SOEs. For example, without accounting data that allow effective monitoring the diversification among the Chinese firms and assessing the consequences of this strategy, those JS firms may simply adopt the strategy of diversification to increase the power of the management. Moreover, diversification also makes it difficult to monitor firm management, which may partially explain the corruptions found among the listed firms today.

Another issue is that, given China's institutional environments today, privatizing state firms overnight may make it even difficult to control and monitor firm management. One Chinese scholar has cited a case. In a private firm, the general manager was found to embezzle 30,000 RMB cash. However, the current Chinese law cannot punish him because his firm has no state share. In other words, the manager did

| | Single product only (<i>N</i> = 238) | Related diversification (<i>N</i> = 252) | Un-related diversification (<i>N</i> = 88) | <i>F</i> -value (Sig.) |
|----------------------------------|--|--|--|------------------------|
| Management S. (percent) | 4.23×10^{-5} | 1.87×10^{-6} | 2.45×10^{-5} | 0.55 |
| Large bloc holders' S. (percent) | 1.04×10^{-4} | $7.68 \times 10^{-0.5}$ | $6.64 \times 10^{-0.5}$ | 1.06 |
| Employees' S. (percent) | 3.51×10^{-2} | 2.43×10^{-2} | 4.83×10^{-2} | 0.02 |
| Foreign investors' S. (percent) | 4.44×10^{-2} | 3.00×10^{-2} | 9.37×10^{-3} | 5.42** |
| State-owned S. (percent) | 0.32 | 0.28 | 0.23 | 8.47** |

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table II.
Ownership and
diversification (*N* = 578)

Table III.
Differences in
performance among three
types of firms ($N = 578$)

| | Single product only ($N = 238$) | Related diversification ($N = 252$) | Un-related diversification ($N = 88$) | F-value (Sig.) |
|-------------------------------|-----------------------------------|---------------------------------------|---|----------------|
| New products | 0.67 | 0.39 | 0.43 | 19.17*** |
| Acquisition of other firms | 4.44×10^{-7} | 5.09×10^{-7} | 7.74×10^{-7} | 1.16 |
| Overseas investment | 2.10×10^{-2} | 7.94×10^{-3} | 1.43×10^{-2} | 7.95*** |
| Overseas market expansion | 2.52×10^{-2} | 7.83×10^{-3} | 4.50×10^{-8} | 0.32 |
| Stock market return (percent) | 0.80 | 0.46 | 0.54 | 6.07** |
| C-debt/assets ratio (percent) | -66.98 | -66.96 | -69.86 | 0.83 |
| C-ROA (percent) | -2.17 | -1.87 | -1.75 | 3.85* |
| Assets growth (percent) | 70.43 | 77.68 | 71.23 | 3.17 |

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

| <i>Model fitting information</i> | | | | | | |
|-----------------------------------|---------------------------|-------------------|-------------|-------------|-------------|----------------|
| <i>Model</i> | <i>- 2 Log Likelihood</i> | <i>Chi-square</i> | <i>Df</i> | <i>Sig.</i> | | |
| Intercept only | 1186.929 | | | | | |
| Final | 1099.948 | 86.981 | 14 | 0.000 | | |
| <i>Parameter estimates</i> | | | | | | |
| <i>Diversification</i> | <i>B</i> | <i>S.E.</i> | <i>Wald</i> | <i>df</i> | <i>Sig.</i> | <i>Exp (B)</i> |
| 1.00 Intercept | 17.388 | 0.733 | 562.175 | 1 | 0.000 | 1.221 |
| State ownership | -2.564 | 1.007 | 5.667 | 1 | 0.017* | 12.991 |
| Large block private ownership | -72.421 | 144.118 | 0.251 | 1 | 0.616 | 1.096 |
| Management ownership | -0.611 | 1.042 | 0.345 | 1 | 0.558 | 1.842 |
| Foreign ownership | -6.435 | 2.279 | 7.974 | 1 | 0.005** | 623.488 |
| Employee ownership | 0.387 | 1.728 | 0.050 | 1 | 0.827 | 0.679 |
| Three-year average industrial ROA | -0.287 | 2.011 | 0.049 | 1 | 0.699 | 0.593 |
| Firm size | 1.224 | 12.007 | 0.331 | 1 | 0.771 | 10.232 |
| 2.00 Intercept | 17.388 | 0.733 | 562.175 | 1 | 0.000 | 1.221 |
| State ownership | -3.398 | 1.074 | 10.01 | 1 | 0.001*** | 29.897 |
| Large block private ownership | -194.324 | 137.133 | 2.011 | 1 | 0.156 | 1.113 |
| Management ownership | -1.719 | 1.035 | 2.760 | 1 | 0.069 | 5.579 |
| Foreign ownership | -5.269 | 2.298 | 5.259 | 1 | 0.027* | 194.194 |
| Employee ownership | 2.788 | 1.588 | 0.041 | 1 | 0.733 | 0.615 |
| Three-year average industrial ROA | -0.261 | 1.778 | 0.039 | 1 | 0.643 | 0.553 |
| Firm size | 1.812 | 11.062 | 0.352 | 1 | 0.674 | 9.232 |

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table IV.
Results of multinomial
logistic regression

not steal state or public money, so the current law system is not very applicable to him (He, 1998). There have been also many reports in China showing that, the more a firm's management can reduce the state share to an insignificant level, the more benefits it will gain from this ownership restructuring. One famous example is the first Sino-overseas JS firm listed in Shenzhen Stock Exchange in 1990. Through several steps of ownership restructuring, the firm management was able to reduce the state share to only 1.4 percent. In this process, without investing his own money, the general manager of the firm was able to send millions of dollars abroad and shift the ownership of the firm to another firm under his control. Although this general manager was later arrested from abroad and put on trial in November 1995, the sentence was very light – being expelled from China (He, 1998, pp. 31-5). After all, without effective monitoring and control systems, the ownership reform among China's state firms today may simply increase the personal wealth of corrupt government officials and firm managers, without any improvement of firm strategy and performance.

On the other hand, the more the firms lost their state ownership, the more they seem to prefer diversification. This may suggest the effects of the current institutional environments in China. As many authors have already pointed out (Boisot and Child, 1996), given the institutional environment in China, networks or connections (i.e. Guanxi) are very important to firms. Of all these connections, those with the government are the most important. As state shares decrease or disappear in the JS firms, government connections and support are also likely to decrease or disappear. The government would become very reluctant to help those firms in which it has little or no shares. As the goal of reform has been to force all firms to compete fairly in the market, these former state firms cannot expect that the government will continue to take care of them by providing information and other resources. Facing this reality, the

Table V.
Hierarchical regression,
the effects of
diversification on firm
performance

| | ROA | | ROE | | Stock price perform | |
|--|---------|----------|---------|---------|------------------------|----------|
| | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 |
| <i>Independent variables</i> | | | | | | |
| Un-related diversification | -0.072 | -0.08 | -0.13** | -0.12** | -0.11* | -0.12* |
| Related diversification | -0.073 | -0.07 | -0.05 | -0.04 | -0.12* | -0.13** |
| <i>Controlled variables</i> | | | | | | |
| International operation or not | | -0.15*** | | -0.07 | | -0.18*** |
| 1995 comparative firm size | | 0.03 | | 0.09* | | 0.143** |
| Overall model F | 1.85 | 4.07** | 4.38* | 3.99** | 3.85* | 8.27*** |
| Adjusted R^2 | 0.00 | 0.02 | 0.02 | 0.02 | 0.02 | 0.06 |
| Standard error | 6.72 | 6.85 | 0.29 | 0.28 | 0.25 | 0.24 |
| Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ | | | | | | |

former state firms will have to build non-government connections and obtain resources from non-government sources. In doing this, diversification seems to be a helpful strategy. By diversifying into related or unrelated businesses, the former state firms, which normally produced only a single product before the reform, can build more connections and reduce their dependence on a single market or a single source of resources. In other words, the more that a former state firm has lost its government connections, the more uncertainties that it may perceive, and the more likely it will be to adopt a diversification strategy to build connections and obtain resources from other non-state parties. All of these actions may help the firms to reduce uncertainties that result from the reduction of state ownership. After all, for a market-oriented reform to succeed in China, there should be new control systems, including a new accounting system, to help the formal state firms to compete in the market. The Chinese government is hoping to improve the performance of state firms by transforming the state firm into JS firms, but this hope may not be realized if control systems, including accounting system, are incapable of reducing agency costs. The reason is that, if the firm managers adopt over-diversification for their own interests, the benefits from the shifting of ownership, such as faster managerial reactions to market change, may be offset by the negative consequences of this diversification. This will be especially harmful to joint-stock firms with China's entry to the World Trade Organization, which means the step by step removal of state protection. Without state protection, diversified firms that fail to develop competitiveness in their core business may be incapable of competing with multinational enterprises. This argument is consistent with research findings from former East European socialist countries (Newman, 2000). After all, a change of ownership should be matched with appropriate accounting and other control systems that encourage the firms to be more aggressive and more focused on building their competitive advantages.

Also, as our current paper shows, China's current institutional environments, especially its cultural characteristics, have significant effects on firm behavior and firm strategy. With different institutional environments, some relationships, which have been tested in the west, may become inapplicable. For example, in the Chinese environment, management ownership and large block private ownership do not seem to prevent firms from pursuing unrelated diversification. This situation may also be

true in other Asian societies. Empirical observation of conglomerates in Hong Kong, Japan, Korea, Taiwan and Singapore suggests a relationship between Confucian family values and firm preferences for diversification. While there are a number of studies examining the moderating effects of national culture on management control systems (Harrison and McKinnon, 1999), to the best of our knowledge, none has studied the interaction among cultural factor, control system and corporate strategy and this may be an interesting topic to explore.

This study also has other implications for academic researchers. When firms adopt the diversification strategy in China, for example, they seem to be influenced by both external environmental factors, such as China's economic and political systems, and internal factors, such as firm ownership. However, it remains a question which set of factors, i.e. the external ones or internal ones, have the most important effect on the firms' decision to diversify. Future study should test this issue so that we can have a better understanding of the factors influencing firm strategy and firm performance.

Finally, it should be pointed out that the current study has some limitations. First, it uses a cross-sectional design, which makes it difficult to assess the causality of the variables. Although the inclusion of industrial data allowed for some control over the differences among the industries, these cross-sectional data make it difficult to study the changes of firm behavior over the years. Specifically, given the cross-sectional data in the current study, it will be difficult to control for the industrial differences that are changing over the years. For example, the Chinese government has different policies for different industries, and these policies are changing every year and affect firm behaviors differently. Without focusing on a homogeneous sample, it will be difficult to control this environmental factor across the industries.

Future studies should consider the effect of this factor and develop more powerful and comprehensive measurements for controlled variables. For example, new dummy variables, such as whether a given firm can enjoy a certain tax benefit, can be added to allow control for the differences in government policies towards different industries.

In addition, because of data limitation in China, the current study failed to obtain data on sales proportion to measure diversification. As a result, the measurement of diversification in this study is not as precise as those reported in the western studies. Future studies should try to improve the measurement of diversification. For example, a sample of the firms may be selected to respond to a questionnaire measuring their strategy of diversification. In this way, the quality of testing diversification can be improved.

Finally, more theoretical development should be conducted to further our understanding of pros and cons related to the diversification strategy in China. In China's institutional environment, the diversification strategy may help firms to control more resources and increase their chance of survival. The current study has mainly shown the negative consequents of diversification strategy, and the positive effect of this strategy has yet to be tested. In future studies, more empirical data should be collected to test the advantage of diversification strategy for firms operating in China.

Notes

1. For a detailed discussion of this system, see, The Organization and Implementation of the Third National Industrial Survey by SSBC, 1996.

2. In 2001, China began to allow its citizens to buy B shares, which had previously been available to overseas investors alone. However, as we use data from before 2000, our results are not affected by this change of government policy.

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