

A COMPARATIVE STUDY OF BUDGETARY CONTROLS IN CHINESE STATE AND FOREIGN OWNED ENTERPRISES

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ABSTRACT

Foreign investment in China typically occurs through partnerships with state owned enterprises. An understanding of management control similarities and differences between these entities is crucial to joint venture success in China. This paper compares budgetary controls between Chinese state and foreign owned enterprises. Significant multivariate budgetary control differences were found. Interestingly, several of the hypothesized univariate differences were not confirmed. These included centralization, hierarchy, budget participation, controllability filters and incentives. State enterprises differed however with respect to several other budgetary practices, including divisional interdependence, standard difficulty, environmental uncertainty, standard operating procedures and relative performance evaluation.

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In 1978 the Chinese government adopted a policy of economic reforms culminating in the Law of the Peoples' Republic of Chinese State Owned Industrial Enterprises. Since then, while retaining asset control, the government has outsourced the management of state owned enterprises (SOEs). In return, a contractor has committed to technological and productivity improvements and profitability goals. This Contract Responsibility System was designed to encourage entrepreneurship and to stimulate managerial effort by linking productivity improvements to monetary incentives. SOE profit retention schemes have allowed firms to reward productive workers and have encouraged reinvestment in technologically innovative plant assets (Liu and Zhang 1996). These economic reforms have arguably helped develop an improved system of resource allocation that is now more accountable and responsive to managerial incentives (McMillan and Naughton 1992; Jefferson and Xu 1991).

A recent empirical study of SOEs (Groves et al. 1995) subsequent to the introduction of the New Responsibility System found managerial compensation to be positively related to firm profits. Another SOE study (Groves et al. 1994) found that output per worker and total productivity increased significantly in real terms during the 1980-1989 period. These encouraging findings belie more troubling economic data. While SOEs account for slightly less than half of China's Gross Domestic Product, the remainder being collectives and foreign ventures, these enterprises absorb approximately 70 percent of total domestic bank lending. It is estimated that only one third of the existing 100,000 SOEs realize operating profits. The remainder either break even or are in chronic deficit. The World Bank estimates that operating SOE losses range from 2.5 percent to 5.3 percent of China's GDP—\$16.7 Billion to \$36.8 Billion (Mihalca 1997).

While recently reformed SOEs operate with considerably more decision making latitude and efficiency than previously, numerous case studies suggest that budgetary planning, goal setting and performance evaluation practices of SOEs remain circumscribed by institutional constraints (Liu and Liu 1994; Liu and Zhang 1996; Davies 1995; Nee 1992). The state continues to control many of the channels of distribution. As a result, budgeted raw material input prices and quantities as well as finished goods output may be exogenously determined by government contracts. Government employment policies may also discourage performance incentives and efficient allocation of labor. Finally, given that few SOEs are publicly traded, agency problems may lead to capital misallocation. In short, institutional constraints tend to make SOEs less vulnerable, and hence less responsive, to market forces.

In tandem with SOE reform, foreign investment has been encouraged. The Chinese government has favored the formation of joint ventures between foreign owned enterprises (FOEs) and SOEs in order to encourage the transfer of both technology and management skills. FOEs routinely form strategic alliances with SOEs, increasingly acquire wholly owned SOE subsidiaries and develop supplier and customer alliances with SOEs at both spectrums of the value chain.

The Chinese market has become a priority for multinationals in the Asian region. While U.S. investment alone in China exceeded U.S. \$38 Billion in 1995, many investments have been less than successful. At the heart of the dismal performance of many alliances is the lack of effective managerial controls. Chalos and O'Connor (1998) found significant deficiencies in the budgetary control systems of the Sino-U.S. joint ventures that they studied. Firth (1996) found that FOE practices influenced the design of SOE control systems. A recently published report on SOE/FOE joint ventures (Andersen Consulting 1995) found that a key reason for joint venture failure was inadequate attention to the management control systems of the venture. Currently, very limited understanding of management controls in SOEs and FOEs exists (Hollows and Lewis 1995; Chow et al. 1994; Baliga and Jaeger 1984). Yet an understanding of budgetary planning and performance evaluation differences in FOEs and SOEs is essential to the success of any form of strategic alliance between these entities.

This study examined managerial budgetary controls in Chinese SOEs and FOEs. We provide statistical evidence that corroborates many, but not all, of the budgetary differences between SOEs and FOEs hypothesized in recent field research (Chalos and O'Connor 1998; Liu and Zhang 1996; Liu 1995; Davies 1995; Nee 1992; Boisot and Child 1988). The study proceeds as follows. The budgetary literature relevant to planning, goal setting and performance evaluation in Chinese SOEs and FOEs is first reviewed and hypotheses are developed. The methods section describes the subject sample, test instrument and test procedures. This is followed by a discussion of the results and implications for Sino-U.S. joint venture management.

LITERATURE REVIEW

Budgetary Planning

Since 1979, the Chinese government has adopted a more decentralized approach to firm autonomy. SOEs have been granted greater decision making responsibility concerning production, supply, marketing, financing, wages and bonuses (Liu and Zhang 1996). Budgetary goals and firm performance of SOEs, however, remain under the auspices of the central government. Because performance targets remain centralized within the Ministry of Commerce, centralized planning of individual state enterprises has more top down rather than bottom up characteristics (Hollows and Lewis 1995; Boisot and Child 1988). In contrast, our site visits to FOEs suggest that while Chinese FOEs remain subject to centralized corporate intervention, they nonetheless have a high degree of formal autonomy from both local government and the state.

Hierarchical review is another important aspect of budgetary planning. Vertical review insulates the firm from environmental uncertainties and reinforces the

goals of the enterprise. Excessive hierarchical review however may significantly slow decisions and stifle entrepreneurial spirit. SOE managers report not only to their firm superiors but to the state bureaucracy as well. This external dependency adds layers of vertical hierarchy to budgetary planning. As the state is simultaneously a shareholder, paternalistic employer and tax collector, its economic priorities and planning horizon may differ significantly from those of management. SOE managers frequently complain that government officials interfere with the planning activities of their firms (Taylor and Liu 1992). Although SOEs report that there has been a relaxation of upper level state controls, vertical hierarchy remains entrenched, despite the fact that the challenge of meeting market competition is not well served by such intervention. Only gradually are SOEs beginning to set their own prices, select suppliers, determine output and contract labor with less hierarchical intervention (Li et al. 1993).

Divisional interdependence in budgetary planning is common with respect to inter-divisional transfers of services and products between profit centers. Functional support areas such as sales, production and finance also commonly interact during the planning process. These interdependencies may be pooled, unilateral or reciprocal (Baliga and Jaeger 1984). That is, divisions may share a common resource, or unilaterally or reciprocally provide services and products to each other. Successful budgetary planning requires strong inter-divisional linkages. Because FOEs face an unfamiliar and uncertain business environment in China, they generally operate with a high degree of divisional interdependence that includes technical and marketing support, as well as financial planning system linkages. In our site visits of FOEs, we found that, exclusive of expatriate managers, local management often lacked the technical and business education, experience and expertise required to be divisionally autonomous. FOEs typically do not formulate their budgetary planning in isolation. In contrast, financial, marketing and production interdependence in SOEs is generally low and divisions operate relatively independently of each other (Hollows and Lewis 1995).

In summary, the results of our site visits and other field research to date suggest that budgetary planning differs significantly between SOEs and FOEs with respect to vertical hierarchy, centralization, and horizontal interdependency (see Table 1). It is hypothesized that:

- Hypothesis 1a.** The number of hierarchical levels in the budgetary process is greater in SOEs than FOEs.
- Hypothesis 2a.** The degree of centralization in the budgetary process is greater in SOEs than FOEs.
- Hypothesis 3a.** Horizontal interdependency among operating units is lower in SOEs than FOEs.

Table 1. Hypothesized Budgetary Controls

<i>Management Controls</i>	<i>Foreign Owned Enterprise (FOE)</i>	<i>State Owned Enterprise (SOE)</i>	<i>Directional Hypotheses</i>
Budgetary Planning			
Hierarchical Levels	Low	High	FOE<SOE
Centralization	Low	High	FOE<SOE
Horizontal Interdependency	High	Low	FOE>SOE
Goal Setting			
Participation	Low	Low	FOE=SOE
Standard Difficulty	High	Low	FOE>SOE
Environmental Uncertainty	High	Low	FOE>SOE
Standard Operating Procedures	High	Low	FOE>SOE
Performance Evaluation			
Controllability Filters	Low	High	FOE<SOE
Individual Incentives	High	Low	FOE>SOE
Team Incentives	Low	High	FOE<SOE
Relative Performance Evaluation	High	Low	FOE>SOE

Goal Setting

The performance measurement system of a typical SOE in many ways ostensibly resembles that of an FOE. In reality, the process is somewhat different. For example, a recent study of management accounting practices in China found that although as many SOEs used standard costing for budgets as FOEs, very few firms used these numbers to calculate variances, or to compare actual to budgeted performance (Firth 1996). This study also found that costs rather than profits were the focus of the budget and that the overwhelming majority of firms used these costs for inventory valuation, but not for decision making.

In the determination of SOE goals and standards, the historic performance of the firm and industry are considered in addition to the future prospects of the enterprise. Rather than benchmarking individual SOE performance against the best industry performers, standards are determined relative to average performers. Firms, it should be noted often operate in non-competitive industries, rife with state intervention, making standards somewhat suspect. For a significant number of chronically money losing enterprises, standards may be relaxed. Rather than face bankruptcy, firms may be expected to gradually decrease their losses, with the help of state subsidies.

Common standards of performance include production volume, product quality, standard costs, worker productivity and return on assets, against which actual managerial performance is compared to budgeted results. Unlike FOEs which begin their goal setting with financial return on investment targets for shareholders and then use this financial target to determine operational targets for individual performance metrics, SOEs have no such financial constraints. Instead, weights

are subjectively assigned to performance metrics and additively combined. The result is that performance interrelationships are ignored and standards are met at the expense of performance metrics not captured by the reporting system (Liu 1995). Not only is this detrimental to the overall financial performance of the enterprise, but the generally weak auditing practices of SOEs further encourages such behavior. "Short term performance is over-emphasized ... Poor forecasting and managerial incapability have made the setting of targets unrealistic and inaccurate" (Liu and Zhang 1996, 118).

High budget participation requires a strong sense of responsibility accounting, low power distance between superiors and subordinates, and experienced and technically proficient personnel. Our site visits to firms indicated that the notion of budgetary participation was generally alien to both FOEs and SOEs. Unlike Western firms which frequently encourage a degree of bottom up participation in developing operational budgets, Chinese enterprises in general do not. Upper level management in our site visits indicated that many employees were not yet at the stage of professional development whereby they either desired or were prepared to assume the responsibility for developing their own budgetary strategies, goals and performance targets.

In FOEs, managers remain heavily dependent upon the regional Asian office for budgetary guidance. In SOEs, the contractor has pre-determined budgetary goals to meet with the state. Little or no managerial participation is involved in the determination of these goals. Government authorities determine targets for each enterprise after consultation with the enterprise management (Taylor and Liu 1992). These observations are confirmed by survey findings of managers in FOEs and SOEs, indicating a relatively low level of budget participation (Firth 1996).

Environmental contingencies and uncertainties are inextricably linked to the setting of budgetary goals. FOEs have a high tolerance for environmental uncertainties which are de facto included in the capital budgeting projections of all start up ventures entering the Chinese market. Changing regulations, tariffs, tax incentives, sources of raw material, inflation and currency rates are only some of the environmental uncertainties included in budgetary projections. The relatively low success rate of FOEs is a testament to these uncertainties.

In contrast, SOEs until recently have been shielded from many environmental contingencies in their budgetary planning. Financing for example has been provided by the state and raw material inputs and finished goods output prices have been guaranteed. This is gradually changing as many SOEs, by some estimates upwards of half (Firth 1996, 648), move towards free market conditions for their inputs and outputs. The result has been much greater SOE exposure to uncontrollable external contingencies such as inflation and changing governmental regulations. This has led to "widespread data manipulation in an effort to reduce SOE exposure to these uncertainties" (Liu and Liu 1994, 129).

The standard operating procedures of SOEs are sporadic and informal. Accounting and auditing standards are generally weak, a culture of business con-

controls seldom exists, and external and internal monitoring devices are deficient. This has resulted in production overruns, sub-standard quality, inventory stockpiling, illicit inter-fund transfers, deferral of expense recognition, non-replacement of physical assets and excessive consumption of perquisites (Liu and Liu 1994). Weak standard operating procedures undermine the credibility and legitimate attainment of budgetary goals. Evidence from FOEs indicates that operating procedures are often more informal in China than head office procedures, but remain much tighter than SOE procedures (Kim and Whybark 1995). Our site visits to FOEs corroborated this. We found little evidence in FOEs of the abuses so prevalent in SOEs.

Field observations to date suggest that goal setting differs significantly between SOEs and FOEs with respect to performance standard difficulty, environmental uncertainty and standard operating procedures, but not budget participation. We posit that:

- Hypothesis 2a.** Performance standards are higher in FOEs than SOEs.
- Hypothesis 2b.** Environmental uncertainty is higher in FOEs than SOEs.
- Hypothesis 2c.** Standard operating procedures are more extensive in FOEs than SOEs.
- Hypothesis 2d.** Budget participation is equal in FOEs and SOEs.

Performance Evaluation

Managers are typically accountable only for outcomes over which they exercise control. When evaluating performance, uncontrollable events must be distinguished from those that are within managerial control. Evidence from SOEs suggests that managers are much more insulated from performance accountability than FOE managers. The effects of uncontrollable events are particularly recognized when granting SOE rewards if failure to achieve targets lies beyond a manager's control. For example, contraction of bank credit may limit reinvestment in fixed assets. Cost targets may not be realized because of labor employment constraints or raw material shortages (Liu and Zhang 1996).

FOEs generally have greater control over their markets and factors of production. For example, FOEs are not constrained by guaranteed factory labor employment contracts and have access to a range of expertise within the firm. FOEs also have much greater access to capital. Alternative raw material sourcing and markets for finished products may exist within the existing distribution network of the firm. Because FOEs are encouraged to be more self-reliant, they tend to be less insulated by controllability filters, that is they are held accountable for budgeted costs and revenues, regardless of environmental contingencies.

FOEs have adopted many of the incentive practices of their Western counterparts. Because base rates of pay are quite low in China, the FOEs that we visited had without exception instituted or were considering instituting generous pay for performance incentive schemes. Individual incentives ranged from 15-40 percent of total pay. Team incentives at the departmental and plant level had also been implemented.

In SOEs, incentives have also recently been introduced. Wage increases are tied to the growth rate of performance indicators. When these targets are met, bonuses are awarded to a division for actual performance exceeding target. In general, up to a maximum of 35 percent of profits can be paid out as a worker dividend for extra bonuses, wages and salaries. Although profits are distributed to employees once performance targets are reached, losses are also offset against future bonuses. Division heads have the discretion to decide how much to allocate to individual employees. The socialistic political orientation of SOEs suggests that equal distribution of incentives would take precedence over unequal merit incentives. While this egalitarian structure does exist in some enterprises, in other firms different grades of staff have different bonus coefficients. This is consistent with recent experimental evidence which found that Chinese managers engage in less equal distribution of rewards than their Western counterparts and prefer differential to egalitarian incentives (Chen 1995).

Although variable pay schemes in SOEs may represent on average 20 percent of total pay (Groves et al. 1994), SOE subsidies and controllability filters somewhat blunt the effect of these incentives. State subsidies include seniority linked pay increases, wage subsidies for social services and guaranteed employment. Controllability filters of unforeseen environmental contingencies also operate in a way such that bonuses may be granted even though targets are not attained—more upward (downward) than downward (upward) revisions for budgeted costs (budgeted revenues). Furthermore, when incentives are quite low relative to governmental subsidies, they have little motivational effect (Liu and Zhang 1996).

Relative performance evaluation is common in many FOEs. Foreign managers expect workers to accept differential responsibility in return for differential pay. Relative performance evaluation between sales or production managers with similar responsibilities is common. It is however generally anathema to SOE employees. While firm performance targets are determined in a relative sense vis a vis other firms, this evaluation does not translate to relative managerial performance evaluation. Rather, managers share in a predetermined fashion in residual claims to profit once firm performance objectives are met.

The results of our site visits and other field study observations suggest that performance evaluation in practice differs significantly between SOE and FOE managers. We hypothesize that:

Hypothesis 3a. SOEs use more controllability filters (adjustments for uncontrollable factors) in performance evaluation than FOEs.

Hypothesis 3b. SOEs use fewer individual incentives and more team incentives than FOEs.

Hypothesis 3c. SOEs rely less on relative performance evaluation than FOEs.

METHODS

Design of Study

The design of the study involved the administration of a budget test instrument (see below) to SOE and FOE managers in an experimental setting. To control for possible cultural differences, only Chinese subjects participated in the study. Managers were requested to evaluate on a 7 point Likert scale the extent of their agreement with the budget characteristics used to describe their organization. These characteristics were drawn from the budget literature (see below). As no variables were manipulated, the analysis was a simple multivariate test of overall differences across questionnaire items between the two managerial groups. In order to examine the posited hypotheses, this was followed up with post hoc univariate contrasts on individual items.

Test Instrument

Test instrument items were randomized across subjects to minimize possible order effects. The experimental test instrument (see Appendix) included all of the management planning, goal setting and performance evaluation variables previously discussed in the literature review and as posited in the hypotheses. Our site visits confirmed that all of these controls were used to varying degrees by SOEs and FOEs. These management control variables were also recently examined in several cross-cultural studies of Chinese joint ventures (Merchant et al. 1995; Chow et al. 1994). As such, these controls represent a logical framework and point of departure from which to compare SOE and FOE budgetary control differences.

Subjects

Subjects were SOE and FOE Chinese managers studying part time in evening MBA classes at two distinguished Chinese universities. The subject pool of FOE managers was restricted to Chinese investors from Hong Kong, the largest non mainland Chinese investor. This was done in order to minimize the likelihood of any non Chinese cultural differences between the two groups affecting the design of the control system. As an added control, Hofstede's (1980) cultural inventory was also administered to subjects to check for possible cultural differences between the two groups.

Table 2. Subject Profile

	<i>Foreign Owned Enterprises (n = 33)</i>	<i>State Owned Enterprises (n = 30)</i>
Firm Characteristics		
Number of Industries	24	21
Average Employees by Firm	853	670
Subject Characteristics		
Years Experience	8	9
Bachelor's Degree (Foreign)	33(7)	29(2)
Mean Age	32	35
% Male	78	82
English Spoken	33	30
Cultural Scores (Hofstede 1980)		
Individualism	33	19
Power Distance	102	93
Uncertainty Avoidance	34	23

All managers were fluent in English, and all classes, including management accounting that they had taken, were given in English. For this reason, it was considered preferable to administer the test instrument in English rather than introduce potential linguistic misinterpretations that are likely to arise when translating into Mandarin, despite back-translating into English. The managers represented a cross-section of relatively large (mean FOE employees = 853; mean SOE employees = 670) industrial and service firms from a vast array of sectors (number of FOE industries = 24; number of SOE industries = 21). Each firm was represented by only one manager (mean FOE age = 32; mean SOE age = 35). All managers had budgetary responsibilities (mean FOE years experience = 8; mean SOE years experience = 9) and all had undergraduate university degrees. The majority of subjects were male and all spoke fluent English.

RESULTS

Debriefing and Manipulation Checks

No statistically significant differences were found between the two groups on any firm or subject characteristics (see Table 2). As an external validity check, subjects rated how seriously they answered questions "as in a real world situation". A mean score of 6.1 and 6.3 was recorded on a 7 point scale for the FOE and SOE groups respectively, indicating high test instrument validity. With respect to Hofstede's cultural inventory (Hofstede 1980), relative to other cultures, both groups had high power distance scores (mean SOE = 93; mean FOE = 102); low individualism scores (SOE = 19; FOE = 33); and low uncertainty avoidance scores

(SOE = 23; FOE = 34) (see Table 2). Hofstede (1980) indicates that based on a distribution of national scores, only between nation differences of at least 20 points are material, suggesting similar cultural values between the two subject groups along these dimensions.

Budgetary Control Analysis

The analysis was a 2*11 design, with enterprise type as a between subject variable and management controls as within subject variables. The dependent variable comprised the subjects' scaled level for each management component. The Levene test for homogeneity of variance and the Lilliefors test of normality indicated no distributional violations of the data. A 2*11 MANOVA was used to test for overall management control differences between the two groups of firms. The overall main effect was highly significant (Wilks $F = 3.481$; $p < .001$), as hypothesized (see Table 3).

In order to test individual budgetary control hypotheses, Bonferroni post hoc contrasts were run between firms for all controls. Six of the eleven hypotheses were corroborated in the expected direction. Budgetary planning consisted of hierarchical levels, centralization and horizontal interdependencies. It was hypothesized that SOEs would have significantly more hierarchical levels (Hypothesis 1a) and greater centralization (Hypothesis 1b), but lower horizontal interdependencies (Hypothesis 1c) than FOEs. No differences were found between hierarchy or centralization, but interdependencies were significantly lower in SOEs, as posited ($F = 25.93$; $p = .000$).

The strongest differences between SOEs and FOEs were with respect to goal setting. It was hypothesized that FOEs would have greater standard difficulty (Hypothesis 2a), more environmental uncertainty (Hypothesis 2b), tighter standard operating procedures (Hypothesis 2c) and equal budgetary participation (Hypothesis 2d). All of these directional hypotheses were confirmed. The difficulty of standards used to evaluate performance was rated much higher by FOE employees ($F = 9.89$; $p = .003$). Environmental uncertainty was also scaled significantly higher by FOE employees ($F = 11.77$; $p = .001$). Standard operating procedures were rated as much stronger by FOEs ($F = 6.59$; $p = .013$) relative to SOEs, while budget participation, as hypothesized was no different between the two groups.

Performance evaluation controls included controllability filters, individual and team incentives and relative performance evaluation. It was hypothesized that controllability filters (Hypothesis 3a) and team incentives (Hypothesis 3b) would be higher in SOEs and that individual incentives (Hypothesis 3b) and relative performance evaluation would be lower (Hypothesis 3c) in SOEs. Only relative performance evaluation was found to differ significantly between the two groups, being significantly higher as posited in FOEs ($F = 4.93$; $p = .008$).

Table 3. Between Group Analysis of Budgetary Controls **

<i>Management Controls *</i>	<i>Foreign Owned Enterprise (FOE) Mean (Std. Dev'n)</i>	<i>State Owned Enterprise (SOE) Mean (Std. Dev'n)</i>	<i>Bonferroni F Contrasts (p < .01*)</i>
Hierarchical Levels (9)	3.82 (1.24)	3.43 (0.94)	0.34
Centralization (3)	5.36 (1.11)	4.80 (1.40)	0.45
Horizontal Interdependency (2)	5.00 (0.97)	3.60 (1.04)	25.93 *
Participation (4)	5.24 (1.15)	5.33 (0.84)	0.01
Standard Difficulty (5)	4.08 (1.23)	3.00 (1.20)	9.89 *
Environmental Uncertainty (1)	5.00 (1.37)	3.63 (2.03)	11.77 *
Standard Operating Procedures (8)	4.88 (1.36)	3.57 (1.10)	6.59 *
Controllability Filters (6)	5.52 (1.00)	5.03 (1.19)	0.41
Individual Incentives (11)	21.52 (7.55)	21.33 (7.30)	0.92
Team Incentives (10)	20.30 (7.49)	20.33 (7.06)	0.06
Relative Performance Evaluation (7)	5.00 (1.15)	3.93 (1.48)	7.93 *

Notes: * Numbers in parentheses correspond to numbers in the Appendix.

** Multivariate Wilks $F = 3.481$; $p < .001$.

DISCUSSION

The Contract Responsibility system enacted by the Law of the People's Republic of Chinese State Owned Industrial Enterprises was designed to encourage entrepreneurship and stimulate managerial effort by linking productivity improvements to monetary incentives. World Bank data with respect to SOE financial performance indicates that many firms are incurring losses or simply breaking even and continue to be subsidized by the state banking sector (Mihalca 1997). As SOE output represents close to one half of Chinese GDP, this is an issue of paramount national concern. At the same time, many SOEs are forming joint ventures with FOEs. Many of these ventures however remain unprofitable and are plagued by weak management control systems (Andersen Consulting 1995).

Empirical evidence with respect to managerial reform in SOEs is divided on this issue. Some research findings indicate that economic reforms have led to an improved system of resource allocation that is more accountable and responsive to managerial incentives (Groves et al. 1995; McMillan and Naughton 1992; Jefferson and Xu 1991). Other studies suggest budgetary planning, goal setting and performance evaluation practices remain circumscribed by institutional constraints (Liu and Liu 1996; Liu and Zhang 1996; Davies 1995; Nee 1992).

The results of this study corroborate many but not all of the hypothesized budgetary control differences between SOEs and FOEs. The most pronounced differences existed with respect to budgetary goal setting. The standard difficulty of metrics used in performance evaluation was lower in SOEs, corroborating recent case study findings (Liu and Zhang 1996; Liu 1995) and survey evidence (Firth 1995). Standards set for individual SOEs are largely determined by historic average industry performance, rather than international best-of-class benchmarking standards that we observed in more progressive FOEs. New costing initiatives such as target costing and process re-engineering are largely unknown. The standards are frequently used for inventory valuation and fulfillment of numerical quotas rather than variance analysis, discretionary pricing, comparisons of budgeted to actual results and profit maximization decisions.

Environmental uncertainties associated with product competition, production technology and product obsolescence were also rated significantly lower in SOEs. These enterprises continue to be shielded in many industries by state control of channels of distribution, product pricing and regulation, and sourcing of inputs (Firth 1996; Liu and Liu 1994). In contrast, FOEs are generally unprotected and face greater uncertainties in the Chinese market than elsewhere with respect to fiscal policies, patent protection, tariffs and sources of supply.

The extent of rules and operating procedures was rated as much lower in SOEs. This corroborates the findings of weak internal controls reported in many SOEs (Kim and Whybark 1995; Liu and Liu 1994). Weak operating procedures further undermine the credibility and legitimacy of budgetary goals. Production overruns to meet volume quotas, illicit inter-fund transfers to attain numerical targets and manipulation of expenditures are frequently reported tactics (Liu and Liu 1994).

With respect to budgetary planning, SOEs have been granted much greater decision making autonomy and responsibility from the state. Many enterprises now have responsibility for production, marketing, financing and employee incentives. Less hierarchical approval from state agencies is required (Li et al. 1993). We found no significant difference in decentralization or hierarchy between SOEs and FOEs, lending credence to claims that SOEs have been given more discretion from state intervention in their management. Horizontal interdependencies among operating units however were rated as much stronger in FOEs. This attests to the fact that FOEs have much stronger support systems between different functional areas of the enterprise. SOEs need to improve these inter-divisional coordination mechanisms.

The move towards greater decentralization and less hierarchy in SOEs has been accompanied by more focused performance incentives. Over the past decade in SOEs, variable performance incentives as a percentage of total pay have doubled and now represent some 20% of total compensation. Groves et al. (1995) found performance improvements to be linked to these incentives and that these productivity improvements benefited workers directly as labor dividends. Performance evaluation results in this study included individual and team incentives. Our results were very consistent with the Groves et al. (1995) findings. Individual and team incentives were each assessed by SOE managers to comprise approximately 20 percent of total compensation. Interestingly, this SOE incentive mix was comparable to FOEs, an indication that collectivist and egalitarian incentive designs in SOEs are becoming less common.

Since SOE managers viewed their exposure to environmental uncertainty to be much lower than FOE managers, they should have had less need for controllability filters, defined as adjustments to uncontrollable factors in performance evaluation. Yet, despite environmental uncertainty differences facing the two firm groups, controllability filters were not rated significantly differently. This suggests that SOE managers expect greater controllability filters relative to environmental contingencies than FOE managers. Finally, SOEs also rated relative performance evaluation lower, as expected, than FOEs.

Together, these results confirm several of the budgetary control differences speculated to exist between FOEs and SOEs (Liu and Zhang 1996; Davies 1995), particularly with respect to budgetary goal setting. This suggests that FOEs should anticipate management control differences when forming joint venture alliances with SOEs. At the same time, the results also suggest that SOEs are rapidly adopting FOE budgetary planning and incentive schemes. In China's centrally planned economy, foreign firms represent a constructive element in the dissemination of free enterprise management control methods.

APPENDIX

Please indicate where your firm lies on each of the following. Please read through the entire list before making any of your choices.

- (1) **The extent of product competition and rapidity of changes in production technology and in product obsolescence.**

Extremely low 1 2 3 4 5 6 7 *Extremely High*

- (2) **The extent of horizontal interdependency among operating units. For example, the level of dependence between the production, marketing and sales department.**

None 1 2 3 4 5 6 7 *Extremely High*

- (3) **The extent to which day-to-day decision making authority is delegated from central management to lower levels.**

No Delegation 1 2 3 4 5 6 7 *Total Delegation*

- (4) **The extent to which the annual goals and budgets for lower level managers are set by negotiation with central management.**

Not at all 1 2 3 4 5 6 7 *Totally*

- (5) **The difficulty of the standards that are used to evaluate your performance.**

Extremely Easy 1 2 3 4 5 6 7 *Extremely Difficult*

- (6) **The extent to which adjustments are made for both the favorable and unfavorable effects of noncontrollable factors in performance evaluation.**

No Adjustment 1 2 3 4 5 6 7 *Full Adjustments for All Non-controllables*

- (7) **The extent to which a manager's performance is evaluated vs. that of other managers at a comparable hierarchical level, as opposed to being evaluated vs. an absolute standard.**

Totally vs. absolute Standard 1 2 3 4 5 6 7 *Totally vs. other Managers*

- (8) **The extensiveness of rules and standard operating procedures.**

Extremely low 1 2 3 4 5 6 7 *Extremely High*

- (9) **The number of vertical levels or layers in the management hierarchy.**

One 1 2 3 4 5 6 7 *A large Number*

- (10) **What is the percentage of annual compensation that is VARIABLE based on divisional and FIRM PERFORMANCE. (Circle the number closest to your rating)**

0% 10% 20% 30% 40% 50%

(11) What is the percentage of annual compensation that is VARIABLE based on your INDIVIDUAL PERFORMANCE.

0% 10% 20% 30% 40% 50%

(12) To what extent did you make decisions in this exercise as if they were real job decisions?

Not
At All

1 2 3 4 5 6 7

Totally

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