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**THE CONTROLLABILITY PRINCIPLE OF
PERFORMANCE EVALUATION:
A COMPARATIVE STUDY OF CHINA AND HONG KONG**

KIN CHEUNG LIU

**A thesis submitted to the University of Huddersfield
in partial fulfilment of the requirements for
the degree of Doctor of Philosophy**

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ABSTRACT

This dissertation investigates the factors that explain why managers are held accountable for uncontrollable items of performance. It examines, in particular, the influence of the various determinants of this controllability principle in China, a socialist economy, and compares them with those in Hong Kong, a capitalist economy.

Previous studies in this controllability principle are either theoretically based or non-generalisable. They were mostly carried out in the western countries. This study attempts to test this principle empirically and to ascertain whether western accounting theories can be equally applied in the oriental areas with different socio-economic settings.

Based on data collected from 71 managers in China and 57 managers in Hong Kong, empirical results show that variations in the treatment of uncontrollables can be explained by ten factors, namely, risk-averse attitude, managerial influenceability, environmental uncertainty, management subjectivity, information cost, performance observability, levels of hierarchy, firm size, divisional diversity and coordination need. Among these factors, the most influential ones in China are coordination need and information cost, and the most influential ones in Hong Kong are coordination need, divisional diversity and managerial influenceability. Comparison of the results between China and Hong Kong reveals that all the ten factors differ in degree and managerial accountability of uncontrollables was shown to be more likely in Hong Kong than in China.

Contrary to the theories in the literature, this research discovers that managers are more likely held accountable for uncontrollables if they and/or their superiors are more risk-averse and coordination need is low. It was also found that managers in China are more ready to take risks than their Hong Kong counterparts. These findings indicate that certain theories of the controllability principle need to be reviewed. Risk attitude of the evaluator, institutional factors and divisional interdependency may exert significant influence on managerial practices.

INTRODUCTION

1. The Importance of the Controllability Principle

It is generally accepted by both academics and practitioners that uncontrollable items of performance should be excluded during managerial evaluation. Unfortunately, in the accounting literature very little is elaborated on the scope of the controllability principle apart from this basic belief. Different interpretation of the controllability principle arises because managerial attitudes and values vary widely given similar situations. The purposes of this thesis is to fill this gap in the accounting literature. The scope of controllability will be examined and the reasons for the different interpretation of the controllability principle will be investigated. It is believed that this exercise will improve the managerial motivation by helping senior management in setting budgets and targets and in enhancing the fairness of reward systems.

2. Applicability of the Controllability Principle in China

Practices of performance evaluation and discussions on related problems of the controllability principle were mainly recorded in western countries. There was little documentation of the above issues in the oriental areas. However, empirical evidence shows that there are differences in firm and management behaviours between the east and the west, and this may be due to economic, institutional, cultural, and environmental factors. It is therefore interesting to examine whether these western-oriented practices and discussions are equally relevant in the oriental areas. China, being the largest socialist country in the world and with growing economic strength, may be a meaningful oriental candidate for such an examination.

In order to assess the extent to which these managerial practices and principles are adopted in China, it may be helpful to use Hong Kong as a reference point for comparison purpose. Hong Kong, like China, is mainly a Chinese society. However, under British rule, it adopts western capitalism for its commercial operations. Comparing China to Hong Kong can reduce the influence of cultural factors on the differences of adopting such practices.

3. Objectives of the Research

The purpose of this research is threefold:

- (1) It attempts to understand the practices of performance evaluation and the related controllability principle in China.
- (2) It investigates the factors that explain why managers are held accountable for uncontrollable items of performance.
- (3) It compares these factors between China and Hong Kong.

4. Summary of Chapters

Chapters 1 and 2 describe how controllables in the context of performance evaluation is defined, interpreted and treated in western countries and in China respectively. Chapter 3 shows in detail how the Chinese government evaluates the aggregate performance of business enterprises through the Contract Responsibility System and how an enterprise measures the performance of its divisions. Chapter 4 supplements the limited amount of related research in China by conducting ten cases to illustrate the current practices of performance evaluation and the specific issues of controllability. Drawing on the literature review and the case studies in the previous chapters, Chapter 5 generates two sets of hypotheses: one is to investigate the relationships between the accountability of uncontrollables and ten organisational/environmental factors; the second is to compare these factors between Hong Kong and China. Chapter 6 explains how the survey methodology is developed and implemented by administering a questionnaire to two groups of managers – one in Hong Kong and one in China. Chapter 7 reports and analyses the results of the questionnaire surveys in both places and the interviews of the respondents, which show that, overall the two sets of hypotheses are statistically supported by the findings. Chapter 8 discusses the usefulness and contributions of the research and comments on its limitations. It also hints on some future research directions.

CHAPTER 1

LITERATURE REVIEW ON WESTERN PRACTICES OF PERFORMANCE EVALUATION

It is a commonly cited principle of responsibility accounting that managers should only be held accountable for those events under their control. This basic notion has been generally accepted by both accounting academics and practitioners. They believe that it is fair to reward or penalise people for the results which can be attributed to their efforts and decisions. Empirical evidence has shown that holding managers accountable for their performance without excluding the uncontrollable elements would produce demotivation and even opportunistic behaviours counter-productive to the objectives of the firm. While the arguments for the controllability principle seems theoretically sound, in practice it is difficult to implement, because in many occasions the separation of the controllables from the uncontrollables is problematic. Textbooks of management accounting often spend considerable space in demonstrating and discussing the advantages and importance of the controllability principle without illustrating when and how it should be implemented. In the absence of a classification system for managerial controllability, it is not surprising to see that senior management in practice would use different criteria to distinguish between controllable and uncontrollable items, thus giving rise to a diversity of evaluation practices. This chapter draws evidence from the literature to examine what uncontrollable items of performance are identified, whether managers are held accountable for them, and why they are so treated in practice.

1.1 Definition and Scope of the Controllability Principle

The controllability principle of performance evaluation is a central problem of responsibility accounting. In accounting literature and textbooks, it is concisely defined and clearly described. There is consensus on the importance of the principle that uncontrollables should be excluded from the evaluation of managerial performance.

For example, the force of the controllability principle is recognised by Solomons (1965, p.83),

It is almost a self-evident proposition that in appraising the performance of

divisional management, no account should be taken of matters outside the division's control.

Ronen and Livingstone (1975, p.680) note,

...only controllable activities in the budget should constitute the basis for evaluation and reinforcement of the subordinate...

Drury (1996, p.504) states,

Responsibility accounting is based on the principle that it is appropriate to charge to an area of responsibility only those costs that are significantly influenced by the manager of the responsibility centre.

Horngren et al. (1997, p.192) defines controllability in the context of responsibility centre as,

...the degree of influence that a specific manager has over costs, revenues, or other items in question.

They also stress that,

...ideally, responsibility accounting systems either exclude all uncontrollable costs from a manager's performance report or else segregate such costs from the controllable costs.

Similar concepts were already expressed in the early work of Ferrara (1964) and Gordon (1963) and some early management accounting textbooks, such as Dopuch et al. (1974) and Bierman and Drebin (1972).

All the above statements, albeit consistent, only emphasise the importance of controllability without addressing its scope. Several writers, nevertheless, attempt to define the scope of controllability by using examples to illustrate when performance is considered uncontrollable.

Choudhury (1986), summarising from the literature, points out that controllability may be affected by the elements of environmental uncertainty, role conflict, task ambiguity, and managers' influence over reward.

The effects of environmental uncertainty on controllability have been discussed in a normative way in the literature as exemplified in Demski (1976), Demski and Feltham (1978), Baiman and Demski (1980), and Baiman (1982). However, environmental uncertainty has been measured through managers' perceptions in empirical studies of its effects on firm performance (e.g. Govindarajan 1986, 1988; Gupta 1986; Gul 1991; Mia 1993; Gul and Chia 1994). Perceived environmental uncertainty is therefore usually operationalised in terms of managers' perceptions about the predictability and stability in various aspects of their organisations' external environment, such as the competitors' actions in the market, economic and technological changes and customers' preferences (Gordon and Narayanan 1984).

Role conflict may occur when a profit centre manager is prevented from fulfilling his role because of limited access to resources or insufficient authority. It exists when demands of or messages about roles are essentially clear but also somewhat contradict one another (Moorhead and Griffin 1995). A subordinate may be caught in the crossfire between two superiors or the needs of two functional groups (Jones 1995). Task (or role) ambiguity may arise when an individual is unable to anticipate the consequence of his actions, or where there is a lack of information available to guide appropriate behaviours (McNally 1980). Under this situation, a person is uncertain as to the exact nature of a particular role. Inadequate job descriptions, vague instructions for a supervisor, or unclear cues from co-workers are examples (Moorhead and Griffin 1995). Clear descriptions of task and authority relationships solve conflict and ambiguity problems because when people know the dimensions of their positions in the organisation, they find it easier to take responsibility for their actions and to interact with each other (Jones 1995). The aspects of role conflict and task ambiguity were discussed in Thompson (1967), Kahn et al. (1964), March and Olsen (1976), and Rizzo et al. (1970).

The view that managers' influence over the reward scheme affects controllability is generally understood to refer to the control of outcome/reward. It is based on the notion that a manager does not value outcome/reward per se and if he is able to influence outcome/reward he will perceive the situation to be controllable (Ronen and Livingstone 1975; Staw 1977). The view simply indicates that performance evaluation

should always be supported by an effective reward system and controllability depends on a person's self-perception of the value of reward. The level of controllability is therefore purely subjective.

Textbook writers of management accounting have highlighted some difficulties of measuring controllability because responsibility has to be measured across time and divisions. Horngren et al. (1997) cite two examples to demonstrate the problems of shared responsibility and inherited inefficiencies.

(1) Shared responsibility

Few costs are clearly under the sole influence of one manager. For example, prices of direct materials may be influenced by a purchasing manager, but prices also depend on market conditions beyond the manager's control. Quantities used may be influenced by a production manager, but quantities used also depend on the quality of materials purchased. Moreover, managers often work in groups or teams. How can individual responsibility be evaluated in a group decision? (Horngren et al. 1997, p.192)

This is also supported by Magee's (1986, p.318) argument of joint decision making. He points out that when decision makers jointly affect the payoffs to the organisation, difficulty may be encountered in providing incentives for each decision maker while a reasonable level of controllability has to be maintained. For example, the additional costs of processing rush orders are affected by the inventory decisions of the production manager and by the actions of the sales manager in accepting such rush orders. If these costs are attributed to one of these decision makers, he or she will be evaluated, in part, on performance that he or she cannot control. Further, the other manager is placed in an incentiveless position, thereby biasing the decisions he or she might make.

(2) Inherited inefficiencies

With a long enough time span, all costs will come under somebody's control. However, most performance reports focus on periods of a year or less. A current manager may have inherited problems and inefficiencies from his or her predecessor. For example, the present manager may have to work under undesirable contracts with suppliers or labour unions that were negotiated before he or she became manager. How can we separate what the current manager actually controls from the results of decisions made by others? Exactly what is

the current manager accountable for? In practice, answers to such questions may not be clear-cut.
(Horngren et al. 1997, p.192).

Drury (1996, p.505) demonstrates that indirect costs may sometimes be apportioned arbitrarily to department managers who are then made responsible for such costs. Examples are costs of personnel department and industrial relations department apportioned to production departments. While some writers argue that since the apportionment is made on an arbitrary basis, the expenditure is uncontrollable and the responsibility centre concerned should not be made responsible for them, others argue that the apportionment is justified because the responsibility centres concerned are using the required services and they have at least some indirect influences over the costs; therefore they should be made aware of the sums involved and unnecessary requests for the services may be deterred. Although there is no conclusive answer yet, the following guidelines published by the Report of the Committee of Cost Concepts and Standards in the United States in 1956 still prove to be useful in defining the scope of controllability:

- (1) If a manager can control the quantity and price paid for a service then the manager is responsible for all the expenditure incurred for the service.
- (2) If the manager can control the quantity of the service but not the price paid for the service then only that amount of difference between actual and budgeted expenditure that is due to usage should be identified with the manager.
- (3) If the manager cannot control either the quantity or the price paid for the service then the expenditure is uncontrollable and should not be identified with the manager.

Merchant (1987) gave a practical analysis in the components of uncontrollables based on a case study of three firms. Three categories of uncontrollables were identified in his empirical study.

- (1) Uncontrollable but relevant cost and revenue factors -

They are those items which affect the corporation's performance and that can be traced (although perhaps with some difficulties) to operating entities. Examples are taxes, interest expenses, exchange gains and losses, the costs of centralised administrative

functions, and the effects of entity-relevant decisions for which the entity manager does not have complete autonomy. Most of these are corporate and common costs allocated to the divisions.

(2) Economic and competitive conditions -

They include such concerns as business cycles and price and product competition. These concerns are largely uncontrollable items that most firms want managers to respond to.

(3) Acts of nature -

They are usually large, one-time events with adverse effects on performance that are beyond the ability of managers to anticipate. Examples are disasters such as fires, earthquakes, and accidents.

The above are examples of the elements of controllability. Basically they can be divided into two different groups. The first group is internally generated from a firm. They comprise problems of role conflict, task ambiguity and managers' influence over reward. They arise from unclear specification of organisational functions, authority and reward systems because it is sometimes difficult to place responsibility across time and divisions. In order to alleviate these defects indirect costs or common revenues have to be assigned to individual responsibility centres to reflect a fair share of their consumption of resources or contribution. The second group is externally generated from the environment. The various forms of environmental uncertainty belong to this group. Most of them can either be labelled as economic and competitive conditions or acts of nature. Unlike the definitions of the scope of controllability by other writers, which are mostly theoretically based, Merchant's (1987) definition is made in the real-life context and thus can reflect a more realistic representation of the concept of controllability. In addition, Merchant's description of the scope of controllability is more comprehensive because it does not only include the frequently discussed allocation of recorded common costs which are mostly caused by internal organisational factors, but also the possible changes in income, opportunity cost and revenue (e.g. lost sales and future cost commitment) due to environmental factors.

Another feature of the above definitions and scope of controllability is that they are financially biased. They mainly address the controllability issue in terms of cost and revenue. Non-financial performance measures are largely ignored. This is surprising in the wake of the commonly-discussed balanced scoreboard concept nowadays. The importance of the non-financial measures have been stressed by many writers in management accounting (e.g. Kaplan 1983; Lothian 1987; Siegel and Ramanauskas-Marconi 1989; Emmanuel et al. 1990; Fitzeral et al. 1991; Tricker and Dockery 1995). They note that financial measures fail to capture some important aspects of performance, most of which can only be measured qualitatively and over the longer term. However, up until now non-financial measures and qualitative factors have been rated very low during the process of reward-linked performance measurement. Large and diversified companies are still short-term focused and numbers-dominated. Most common measures are still return on investment and budget accomplishment. (Lynn 1989; Liu 1990; Liu et al. 1993; Anthony and Govindarajan 1998). The non-quantifiable and long-term nature of the non-financial measures fails to present as objective and practicable performance yardsticks. Most management possibly believes that a profitability measure already includes the elements of quality and a separate non-financial measure would bring unnecessary complications of performance measurement and reward. Due to the above arguments, the concept of performance evaluation adopted throughout this study chiefly implies a financial focus, albeit the notion of non-financial measures is not completely ignored.

1.2 Violation of the Controllability Principle in Practice

Although the literature of management accounting generally upholds the controllability principle, there is research evidence showing that holding managers accountable for uncontrollables would lead to dysfunctional behaviour and hence poor performance. Dysfunctional behaviours appear mainly in the form of the manipulation of financial data as described by Merchant (1990), Jaworski and Young (1992) and Schilit (1993). Typical manipulation consists of smoothing, filtering and falsification. The most common form of smoothing results from transferring revenues and expenses from one period to another. Filtering of information occurs when only the more desirable elements of an information set are reported, usually those that reflect favourably on the evaluatee. Falsification of information involves any fraudulent act where existing information is

intentionally altered or fed into an information system. Liu and Zhang (1996) found that financial data are mainly manipulated for the purposes of internal managerial performance evaluation; other purposes, such as external evaluation of the aggregate company performance and tax avoidance/evasion are less important. It was also discovered that manipulation is more common in areas where managerial decision making depends heavily on financial data.

The inclusion of uncontrollable items in performance reports produces unfavourable ratings for those reports whilst favourable ratings occur when reports clearly establish an individual's responsibility (Cook 1968). Hopwood (1976) also shows that using a budget-constrained style to evaluate performance of division managers when the divisions are interdependent would result in poor performance. Similar adverse effects were discussed in many works, including Magee (1986), Merchant (1985) and Maciariello and Kirby (1994).

Violation of the controllability principle is often found in practice. The early work of Simon et al. (1954) records that managers are held accountable for their uncontrollable outcomes and are frequently requested by their supervisors to give explanations for the variances. More recently, there are many examples in which managers were held accountable for areas over which they had little, or even, no control (e.g., Vancil 1979 and Geneen 1984). Surveys in the USA (Fremgen and Liao 1981), UK (Ramadan 1989; Drury et al. 1994), New Zealand and Australia (Skinner 1990; Dean et al. 1991) report that a significant number of the firms studied did not distinguish between controllable and uncontrollable items for responsibility accounting performance reporting and many of the divisionalised companies evaluated the performance of division managers on the basis of profitability measures that include a share of corporate headquarters' costs.

Merchant (1989) reports a case where domestic profit centre managers are held accountable for the world-wide performance of their products because they are expected to think internationally and to develop informal forms of influence. He also found that managers in some corporations do not make adjustments for uncontrollables for reward purposes either because they feel they are unable to separate the uncontrollable effects accurately or because they want the profit centre managers to bear the full business

risks. Examples of uncontrollables not adjusted include changing economic conditions and price, unexpected cost increases, foreign currency fluctuations, and uncontrollable loss of supply. In addition, none of the firms surveyed by him follows the controllability principle for purposes of assigning explicit long-term bonus awards because it is assumed that over a several-year period the favourable and unfavourable uncontrollable influences tend to even out.

1.3 Reasons for the Accountability of Uncontrollables

Merchant (1987) states that deductive works offer three explanations for holding people accountable for uncontrollables.

The first is the desirability of having the subordinates to share risks with their superiors as a justification for evaluation on random outcomes (Demski 1976). Demski develops a model to explore the risk-sharing aspects of the controllability concept in a setting where uncertainty is explicitly recognised. His argument shows that holding subordinates accountable for the effects of random and uncontrollable phenomena (e.g. changes in product demand) and the effects of actions of other managers (i.e. those effects caused by organisational interdependency) will cause subordinates' decisions to reflect a proper degree of risk aversion, and the combined risk-bearing abilities of the superior and subordinates will exceed that of either alone. He concludes that the controllability concept would lead to an inferior performance measure if it ignores risk sharing. This implies that requiring managers to answer for uncontrollables may discourage them to take risky actions and may reduce the risks and uncertainty borne by their superiors alone.

The second explanation is to inform the subordinates how their decisions affect areas outside their control. For instance, Baiman and Noel (1985) use the theoretical model of a division manager who has profit responsibility for his division being evaluated and compensated on the basis of his division's uncontrollable capacity costs, to illustrate that the charging of capacity costs may convey information about the future expected productivity of the manager's action choice. The charge allows his superior to motivate him more efficiently to make the desired long-run/short-run tradeoff in his action choice. In other words, the charge may encourage subordinate managers to make

better planning of their production capacity and the allocation of fixed uncontrollables helps to ensure that long-run decisions take into account fixed costs. It also reminds him that his actions may affect other activities and decisions within the company. Baiman and Noel (1985) conclude that their model is consistent with the observed phenomenon of allocating fixed costs to individuals for the construction of an accounting performance measure which is then used for compensation purposes.

Horgnren et al. (1997, p.193) illustrates this second explanation by giving the following two examples:

(1) Getting explanations for the uncontrollables

The manager of a responsibility centre may be the best informed person to explain for an item of uncontrollable. For instance, purchasing managers may be held accountable for total purchase costs, not because of their ability to affect market prices, but because of their ability to predict uncontrollable prices and explain uncontrollable price changes. Similarly, unit managers may be held responsible for operating income of the unit, even though they do not fully control sales and costs, because unit managers are in the best position to explain differences between their actual operating income and their budgeted operating income.

(2) Changing managers' behaviour

Performance reports for responsibility centres may also include uncontrollable items because such inclusion could change behaviour in the direction top management desires. For example, some companies have changed the accountability of a cost centre to a profit centre, because the manager will probably behave differently. A cost-centre manager may emphasise production efficiency and de-emphasise the pleas of sales personnel for faster service and rush orders. In a profit centre, the manager is responsible for both costs and revenues. Thus, even though the manager still has no control over sales personnel, the manager will now more likely weigh the impact of his or her decisions on costs and revenues, rather than solely on costs.

Merchant's (1987) third explanation for holding managers accountable for

uncontrollables is to provide information about the subordinates' unobservable actions. His argument draws on the prior studies of Zimmerman (1979), Baiman and Demski (1980) and Holmstrom (1982). These studies illustrate that cost allocations reveal information to the evaluator in central management about the performance of the responsibility centres when it is difficult to measure divisional performance. They argue that cost allocations appear to proxy for certain hard-to-observe costs that arise in a decentralised firm. They also argue that subordinates should be evaluated relatively on their accomplishments as they compare with their counterparts who face similar environment – even though the accomplishments are clearly outside their control. It was pointed out that relative performance evaluation can be helpful in reducing moral hazard costs, because it provides for better risk sharing.

Antle and Smith (1986) investigate empirically whether the compensation of top corporate executives behaves as if they are evaluated and compensated relative to their peers in other corporations. A positive association is documented between executive compensation and a traditional financial accounting profitability measure. Evidence is provided that executive compensation behaves as if accounting profits are evaluated relative to current average profitability of firms in the same industry. Maher (1987) illustrates this relative performance evaluation by predicting that division managers of diverse, decentralised firms are most likely to be evaluated relative to industry peers because of an information asymmetry between top managers and division managers. Relative performance evaluation in these conditions may be 'informative' because the peer group faces common uncertainties and so the output performance of the group may provide information about the performance of the manager being evaluated. Later research by Banker and Datar (1989) and Ugras (1994) shows similar rationale of this observability concept. Banker and Datar's analysis demonstrates that it is optimal to include uncontrollable corporate overhead expenses in the construction of the optimal divisional performance evaluation measure if corporate overheads are correlated with controllable divisional profits. A survey administered to corporate controllers by Ugras also presented a similar result in relation to the difficulty of observing actions of the performance of the responsibility centres.

As pointed out by Merchant (1987), most of the above-mentioned works, with certain exceptions, are deductive in nature; their arguments are, however, mostly based

on some simplifying assumptions which are largely untested. For instance, in Demski's (1976) model, simplifications include excluding the cost of evaluation and the existence of alternative risk-sharing possibilities. Demski also assumes that principal (top management) and agent (lower managers) were co-operative; i.e., preference and belief information were assumed to be freely and completely passed among the individuals.

Inductive works which test the aforementioned theories of the controllability principle are very few (e.g. Hofstede 1967, Vancil 1979, Antle and Smith 1986, Maher 1987). In most cases the controllability principle is not the mainstream issue under investigation. The only works which can be described as a direct address to the controllability issues are the two field studies carried out by Merchant (1987; 1989) and the survey by Ugras (1994).

1.4 Reasons for the Different Treatment of Uncontrollables

Merchant's 1987 study was conducted in three corporations chosen from different industries. It examines the treatment of three types of uncontrollables, namely, allocation of common costs, economic conditions and acts of nature for the purposes of performance evaluation and compensation (see their definitions in 1.1). The results exhibit considerable diversity in the extent to which the firms implemented the controllability principle; i.e. an uncontrollable item may be taken into full account in the evaluation and rewarding process in one firm but it may be given much less weight in another firm. Merchant (1987) admits that he could not explain these differences with certainty, perhaps due to the small sample of firms investigated. But he suggests the following tentative reasons for his observations:

(1) The differences may be ascribed to the risk attitude of both the superior and the subordinate. A risk-loving attitude of the subordinate may make him more ready to accept his evaluation results based on more uncontrollable factors. By analogy, a similar attitude of the superior may make him choose to include uncontrollables into his subordinate's evaluation. This argument further explains Demski's (1976) risk-sharing notion that superiors prefer their subordinates to account for uncontrollables (see 1.3).

(2) A more stable environment would involve fewer uncontrollable shocks; and their

effects, if any, are easier to calculate and separate from the sphere of controllable performance. Accordingly, it seems reasonable to evaluate managers strictly on both controllables and uncontrollables. This viewpoint is supported by Anthony and Govindarajan (1998) who argue that when uncertainty is great superiors should not regard subordinates' targets as firm commitments and they should be reserved in considering unfavourable target variances as clear indicators of poor performance. This implies that the greater the environmental uncertainty the more difficult it is to use financial targets as a basis for performance appraisal (Govindarajan 1984), and managers tend to pardon people even when they miss their targets. Otley (1978) also calls for a more flexible style of evaluation in less predictable environments, indicating a more lenient evaluation attitude towards the accountability of uncontrollables.

(3) Vacillation in evaluation policy has proved to be the result of changes in desire and style of senior management. If this happens, the extent of holding subordinates accountable for uncontrollables is a function of management subjectivity. However, a closely related concept are expressed by Maciariello and Kirby (1994). They contend that management style could influence the design of management systems for developing performance reviews which determine just how tightly the 'screws' are on managers. Various dimensions of management style, as suggested by Anthony and Govindarajan (1998), could also influence the operation of the control systems. For instance, some managers rely heavily on reports and certain formal documents; others prefer conversations and informal contacts. Some are analytical; others use heuristics. Some are risk-takers; others are risk-averse. Some are process-oriented; others are results-oriented. Some are people-oriented; others are task-oriented. Some are friendly; others are aloof. Some are long-term-oriented; others are short-term-oriented. Some dominate decision making; others encourage participation. Some place great emphasis on monetary rewards; others place emphasis on a broader set of rewards. Since the controllability principle is one of the important elements of performance review and control systems, their argument can thus be interpreted as an implicit support for this specific aspect of Merchant's findings.

(4) Costs involved in separating uncontrollable items from those that are controllable may be considerable. While it is normally the primary purpose of an information system to facilitate senior management strategic decision-making, to require it to provide

concurrently good information about the controllable performance of the managers would demand a very complex and costly design. Those firms which do not think it is worthwhile to do so do not separate controllables from uncontrollables for performance evaluation, and senior management's attitude of holding managers accountable for uncontrollables will thus be affected. This point is unique for Merchant's study because the literature is thin on this argument. However, whether the accountability for uncontrollables will be stricter or looser depends on the cause of the high cost situation. It will be looser if environmental uncertainty is the cause and it will be stricter if it is caused by organisational factors such as divisional interdependency, because environmental uncertainty is usually considered as being more difficult to control than internal organisational factors (Anthony and Govindarajan 1998).

Merchant's 1989 study investigated twelve corporations, again in different industries. Two approaches were adopted in treating the uncontrollables. The first is to identify those items on the financial statements which are used to measure the performance of division managers for reward purposes before the measurement period; the other is to identify the methods of adjustment for the unpredicted uncontrollables after the measurement period. The explanations found for the diversity in practice can be summarised into the following two factors:

(1) One is the division managers' degree of influence, which may be affected by organisational interdependency. It was discovered that sometimes holding managers accountable for uncontrollables would promote a feeling of increased autonomy and in other cases encourage them to think more for the good of the company or the group as a whole. This point is similar to the arguments of Baiman and Noel (1985) and Horngren et al. (1997) mentioned in 1.3 above. That is, the inclusion of uncontrollables in managerial evaluation may change managers' behaviour in the direction desired by top management and it may also bring to the managers' attention the fact that their actions may affect other activities in the organisation concerned.

(2) To a large extent, the variations in the firms' treatment of uncontrollables is directly related to their desire for allowing subjectivity in the administration of the motivating contracts. The limitations of the explicit contract elements are particularly salient in uncertain situations where good performance is difficult to quantify. Subjective

judgements are used to provide evaluation flexibility so as to make the contracts more nearly perfect. In many situations, reward contracts are implicit, this is made to fill the gaps left either intentionally or unintentionally in the written contract. For example, the bases on which the rewards are assigned may be left vague because the evaluations are done subjectively. Or managers may be told that the company will try to protect them against the harmful effects of certain economic factors that they cannot control if it turns out to be a 'bad' year. The argument indicates that it is necessary to use subjective judgements to evaluate subordinates' performance in uncertain situations, hence different rewards may result if circumstances change. This point seems to be a further explanation of the aforementioned factor of vacillation of management style in Merchant's 1987 study (see above in this section).

In a recent study, Ugras (1994) also tried to examine empirically the reasons of why firms allocate uncontrollable and common costs to their responsibility centres. He found that the extent of allocation of such costs varies with the cost and difficulty of directly observing the responsibility centres, the levels of hierarchy in an organisation, the firm size, the diversity of the divisions, and the need for co-ordination among the divisions. With the exception of the first factor, which is similar to the observability concept described by Merchant (1987), Zimmerman (1979), Baiman and Demski (1980), Holmstrom (1982), Banker and Datar (1989), etc. (see 1.3), the other four are new explanatory factors for the variation of the controllability principle.

The observability concept argues that cost allocations reveal information to the evaluator in central management about the performance of the responsibility centres when it is difficult to measure divisional performance. Cost allocations appear to proxy for certain hard-to-observe costs that arise in a decentralised firm. To alleviate this difficulty subordinates should be evaluated relatively on their accomplishments as they compare with their counterparts who face similar environment – even though the accomplishments are clearly outside their control. This argument supports the concept of relative performance evaluation as explained by Antle and Smith (1986) and Maher (1987) (see 1.3).

The factor of the organisational hierarchical levels is illustrated by two phenomena. The first is based on Zimmerman's (1979) argument that indirect cost

allocations make the subordinate act as a monitor of his superior should be observed frequently in firms with large vertical hierarchy. By allocating the superior's expenditures to the subordinate, incentives are created for the subordinate to monitor these expenditures, since his welfare is now affected by his superior's overconsumption of perquisites. The subordinate is indirectly the agent of his superior's principal, and, through the allocation process, bears some of the costs (in terms of his welfare) of the superior's expenditures. As the superior's decisions start to impinge on the subordinates' welfare, the subordinates would either try to convince their superior to eliminate the wealth-reducing expenditures or they would go directly to their superior's principal. This argument thus implies that if indirect cost allocations are to be used for such a purpose a firm must have a large hierarchical structure.

The second is found in a sequential environment, where allocation of prior departments' costs to the subsequent departments is proposed as a monitoring device when central management cannot observe the divisions' performance (Suh 1987, 1988; Demski and Sappington 1989). Suh (1987) illustrates that in a multiperson firm there exists the possibility of collusion among managers and it might be in the best interest of the senior management to treat those costs, which should have been treated as uncontrollable without collusion, as if they were controllable by the manager concerned.

The example taken in the model is a situation in which a final division manager has an incentive to collude with an intermediate division manager to get a higher quality of the intermediate products than the company desires. The cost of the intermediate products in the model is treated as an uncontrollable cost to the final product division by assuming that the senior management determines the amount of the intermediate products to be used by the final product division; the final product division manager has no discretion over costs incurred in the intermediate product division. The only variable he can control is his own action choice, which does not affect the intermediate product costs. In view of the possible collusion, it could be optimal for the senior management to hold the final division manager responsible for those uncontrollable intermediate costs by allocating those costs to the final division. Apart from collusion, Suh (1988) also indicates that because of uncertainty in the production process and communication problems between interdependent divisions, it could be appropriate to take into account costs in the intermediate divisions in the evaluation of the final division manager's performance.

Ugras (1994) labels the first phenomenon ‘vertical hierarchy’ and the second ‘sequential hierarchy’.

Firm size constitutes another reason for cost allocations. Zimmerman (1979) and Demski (1981) note that as organisations become larger, the responsibility centre’s effort and performance are more difficult and complex to observe. Cost allocations are therefore imposed on the divisions as a monitoring device. This was confirmed empirically by Sannella (1986). It was shown that companies that allocate costs to their reportable business segments tend to be large in size. Examples indicating firm size given by Zimmerman (1979) include the extent of decentralisation and geographical dispersion.

The above argument can be extended to diverse, multidivisional organisations. When a firm is structured around highly diversified divisions and when central management does not have the private information the divisions have, cost allocations can be used as a control mechanism (Baiman and Demski 1980; Holmstrom 1982). Ugras (1994) explains that with numerous and diverse divisions, central management may not have the capability to monitor each division’s activities. Hence, uncontrollable costs are included in the performance evaluation to remind the divisions that such costs are to be considered in their decisions. In such diverse, multidivisional environments, allocations can also serve central management as a self-policing tool.

Another argument for allocation of uncontrollable costs for performance evaluation use is the need for communication/interaction between responsibility centres. Several authors (Atkinson 1987; Ayres 1985; Horngren et al. 1997; Demski 1981; Zimmerman 1979; Cohen and Loeb 1988; Suh 1987; Suh 1988; Rajan 1992) demonstrate that cost allocations serve as a motivational tool which induces the divisions to coordinate their actions and behave in the manner desired by the central management.

Atkinson (1987: p.4) claims that cost allocations may serve different goals, such as motivation, coordination, equity, and evaluation.

Ayres (1985) points out that differences in cost allocation methods among firms

would be a function of the degree of communication, which may vary with the geographical dispersion of a company and its organisational structure.

Horngren et al. (1997) note that cost allocations can function as a mechanism for motivating and controlling managers. They (Horngren et al. 1997: p.508) argue,

Whether to include uncontrollable or indirect costs is a difficult question which must ultimately be resolved in terms of how the given alternative influences management behaviour in a particular organisation. In one organisation, the allocation may be desirable because it induces the desired behaviour. In another organisation the same allocation procedure may cause an opposite behavioural effect.

Zimmerman (1979: p.519) states,

...when the rights to make certain decisions are assigned among the firm's managers, control and coordination problems arise. Cost allocations, when coupled with incentive schemes that induce the managers to pay attention to reported costs, help mitigate some of these control and coordination problems...

Demski (1981) considers a setting with an owner and several managers and evaluates the usefulness of cost allocations in different scenarios. He evaluates three reasons for cost allocations:

- (1) decomposition of an overall problem into a series of smaller, easier to analyse choice problems;
- (2) design of a compensation mechanism that will best allocate productive risk as well as motivate the agent;
- (3) coordination by motivating various responsibility centres to act in the firm's best interest.

Cohen and Loeb (1988) extend this coordination motive to a firm that centrally produces or acquires a product that is transferred to other divisions. The division either sells the product or transforms it into another product prior to the sale. In this model, cost allocations signal the scarcity of the centrally provided input to the subunit managers. The authors found that the use of a cost allocation mechanism will lead to a strict improvement in the welfare of both the top management and the division

managers. They highlight that if cost allocations are to have a role in coordinating a decentralised firm, then clearly such allocations should dominate no-cost allocation.

The coordination use of allocations was further examined by Suh (1987; 1988) in the case of sequential production as described above. For firms with substantial coordination requirements, it was proved that rewards based on overall corporate performance are more effective than rewards based on divisional performance. He (Suh 1988, pp.163-164) concludes,

...in a sequential department setting, communication is valuable because it allows the principal to improve his ability to coordinate multiple agents by providing better incentives for their action choices...[cost allocations] can serve as an alternative device to costly information...

Rajan (1992) expands on the issue of coordination need. He examines firms with multiple divisions among which common costs are to be allocated. He also considers the role of cost allocations in coordinating multiple workers actions in order to achieve a desired return on investment. The proposed allocation scheme of the common costs serves as a motivational tool which induces the divisions to coordinate their actions and behave in the manner desired by the central management. He (Rajan 1992, pp.540-541) comments,

...the introduction of accounting reports and control systems [which include indirect cost allocations] may be useful in eliminating coordination problems in certain sequential organisations.

The above evidence indicates that one of the reasons for cost allocations is to improve the coordination of activities within a firm.

1.5 Comments and Summary

In the literature there is consensus on the importance of the controllability principle: that is most people agree that uncontrollable items should be excluded from managerial performance evaluation. Apart from this simple principle, very little is mentioned on the scope of controllability, its components, and the separation of uncontrollables from controllables.

The limited studies on controllability are mainly normative in nature without the support of empirical evidence. The elements of controllability identified can be divided into two groups. One is internally generated from the firm. The components comprise role conflict, task ambiguity, managers' influence over reward. These elements creates difficulties of locating responsibility across time and divisions. Allocation of indirect and common costs is used to alleviate the demotivational effects by assigning responsibility to the appropriate units as fair as possible. This category of uncontrollables is mostly recorded in the company accounts. The other group is generated outside the firm. The elements consist of the various appearance of environmental uncertainty, which can be classified in practice, according to the degree of controllability, as economic and competitive forces and acts of nature. This latter category of uncontrollables not only cause changes in allocation of recorded costs but also unexpected changes in income, opportunity cost and revenue of the responsibility centres concerned.

Although the simple principle of controllability is upheld by many writers, it was found that practitioners do not often stick to it. Some managers are still assigned and evaluated with uncontrollable items of performance. There are different treatment of the controllability principle given the same situation. Various reasons are found for this diversity of treatment in the literature. Some writers suspect that the diversity may be attributed to risk attitude, management style and environmental uncertainty. Others think that observability of subordinates' performance, managerial influenceability and the cost of information may count. Still others consider that firm size, the levels of organisational hierarchy, divisional diversity and coordination need are important factors. However, since most of these tentative reasons, with few exceptions, are developed through models and theoretical reasoning, there is a need to prove their validity by more empirical data. This is exactly the reason why this research is carried out.

Moreover, since most of the systematic analysis of controllability is found in the western countries but the focus of this study is on China, it seems necessary to start a search for similar discussions related to China. The next two chapters will cover this area.

CHAPTER 2

LITERATURE REVIEW ON THE PRACTICES OF PERFORMANCE EVALUATION IN CHINA

As shown in the previous chapter, only limited empirical analysis on the controllability principle of performance evaluation has been found in western countries, and very little efforts have been exerted to extend its validity to other areas. In the management literature, Seddon (1987) argues that the assumptions behind performance appraisal are western and this makes it difficult to implement in non-western countries. Consequently, a study on such principles in China could test whether those western assumptions are equally valid if applied in less advanced areas. Unfortunately, there are very little research findings directly addressing these issues. The only systematic documentation relevant to this topic is available mostly in the form of case studies and books, which describe the practices and the related social context of performance evaluation in some Chinese business enterprises. The following sections describe the major observations relating to the practices of performance evaluation and the application of the controllability principle in Chinese state-owned business enterprises.

2.1 The Basic Controllability Principle is Supported in the Chinese Literature

From the scarce information provided by the accounting and management literature which discusses performance evaluation in China, it can be found that the controllability principle, similar to the western concept described in Chapter 1, is basically adhered to. As evidenced by the following statements extracted from some Chinese literature, managers are not expected to be responsible for uncontrollables.

Every responsibility centre must be accountable for those controllable production and business activities but not for those uncontrollable activities.
(Lin 1994, p.20)

A cost centre should be made responsible only for controllable costs, which should in general satisfy three conditions, namely,
(1) the cost behaviour is well understood by the centre concerned,
(2) the costs can be quantified, and
(3) the costs can be influenced and adjusted by the centre concerned.
(Lin 1994, p.29)

The profits gained by a profit centre should be adjusted for uncontrollable factors.

(Lin 1994, p.39)

A responsibility centre should not be held accountable for those items which cannot be quantified, or of which it is not aware, or on which it has no influence.

(Cai 1992, p.45)

The controllability principle is one of the most important principles in responsibility accounting. A responsibility centre should only be held responsible for the economic activities under its control, and hence it is only appropriate to evaluate its controllable costs.

(Tan 1995, p.171)

Tan (1995) reports a case in which the production workshops of a factory were not held responsible for a temporary work stoppage which was caused by delay in the supply of raw materials. The supplying department was finally to be responsible for the delay but not the production units. Similar views of the controllability principle are held by other Chinese writers, e.g. Li (1994) and He (1989).

2.2 A Wider Definition for the Uncontrollables

In the same case study in Tan (1995), the following items were classified as uncontrollables when measuring a firm's cost of quality:

- Losses incurred outside the factory

e.g. compensation to customers;
 discounts given because of poor quality of products;
 losses due to returns from customers;
 warranty repairs

- Corporate costs

e.g. salaries of corporate management staff;
 staff welfare and fringe benefits;
 expenses for business trips;
 subscriptions to trade union;

- depreciation of fixed assets;
- repairs to machinery;
- product inspection expenses;
- insurance expenses;
- interest expenses;
- tax expenses.

Tan (1995) and Lin (1994) point out that the separation of uncontrollables from controllables is not that clear-cut as the statements in 2.1 suggest. It is situation specific, being dependent upon the sphere of management authority, the organisation structure, and the environment. For examples, those divisions which do not have the authority to appoint managers, allocate resources and approve expenses for business trips, classify the items – asset depreciation, overhaul expenses, property insurance, managers' compensation and managerial expenses for business trips, as uncontrollable costs. The product inspection division, because of insufficient facilities and manpower, may not be held accountable for the warranty expenses. The costs in the above examples are regarded as not controllable at the lower divisional level, but they are considered to be controllable at the higher level of hierarchy. Performance of the sales division may be affected by the quantity and quality of the products supplied to it, the economic conditions, the spending pattern of the customers, and the existence of similar new products sold by competitors.

Although there is a clear classification of the uncontrollables based on the criterion of the sphere of influence, it seems that cost items easily fall into the definition of uncontrollables as can be seen in the inclusion of 'the losses incurred outside the factory' in the category of uncontrollables. The above case implies that controllability refers to the accountability of the various divisional heads to the factory director. Managers are intended to be held accountable for the cost of quality. Since there are insufficient support and resources to carry out product inspection, all 'the losses incurred outside the factory' are treated as uncontrollables to those managers who are responsible for controlling the cost of quality. This contrasts with the western concept, which, as evidenced by Merchant's (1987;1989) examples in 1.1, only treats corporate costs, economic factors and acts of nature as uncontrollables; all other costs and factors are, in most cases, included as controllables.

A wider definition of uncontrollables in China is understandable because managers do not yet enjoy much autonomy in important areas of decision making, such as sourcing, pricing, and production activities. Lin (1994) maintains that it is thus inappropriate to hold them accountable for all their responsibilities.

2.3 Responsibility Centres Holding Little Responsibilities

Tang (1990) notes that the large number of and the resulting small responsibility centres in a typical Chinese state-owned enterprise increase the difficulty of holding managers accountable for their performance. The allocation of indirect costs to numerous responsibility centres is difficult to be designed on a fair basis. This may be the result of the Internal Economic Responsibility System (see 2.7, 3.4.4 and 3.5) which disaggregates the targets set for the whole enterprise into smaller targets for the divisions and individuals. At the lowest level, a person may find that he will take on little responsibility if indirect costs are considered as uncontrollable and thus not taken into account in his/her performance evaluation.

The Internal Economic Responsibility System may be one of the reasons that causes the existence of the small responsibility centre, because its main objective is to disaggregate the overall targets of the firm down to the lowest level of the hierarchy, i.e., the individual worker level with the intention of holding every employee accountable for his performance. This point is widely mentioned in the Chinese literature (e.g., the Research Office of the State Council 1988; Xu and Liu 1989). However, since many indirect and common costs are not easily traceable to this low level, a forced allocation exercise is bound to be on very arbitrary bases and will most likely give rise to unfair feeling among the employees. Those firms, which realise this defect, will tend to avoid such allocation as far as possible and this results in the little responsibility borne by the individual workers. A trend thus develops in which responsibility centres tend to avoid bearing indirect and common costs completely. This point is not particularly highlighted in the western literature; it is therefore assumed to be a specific feature in China.

2.4 The Uncertain Environment in China

Unlike the western countries, in China there has been little discussion on the organisational factors which affect performance evaluation and the treatment of uncontrollables. Instead, there is evidence which shows how environmental uncertainty affect managerial decision making and firm performance. In fact, Liu and Liu (1994) found that most management problems are not strictly derived from the internal organisation of the firm, they really originate from the environment, which the firm has little control. From 1979 onwards, China has always been in the process of economic reorganisation and restructuring. It has become the testing ground for the implementation of various new economic policies. What follows are rapid changes in different facets of the society, including people's values and behaviours. All these increase the level of uncertainties in organisational operations, particularly in long-term planning and the setting of targets. More uncertainties hinder target achievement regardless the form the performance measures take. The following examples illustrate how uncontrollables are created by the uncertain environment in China.

2.4.1 Fluctuating government policies

Wang et al. (1990) indicate that state-owned enterprises in China, which have gained some autonomy, are constantly under the risk of being forced back to the government-directed status, depending upon prevailing market conditions. For example, the government regulations over control of the market can quickly overturn an enterprise's operating position, as happened in October 1988 when the economy was believed to be 'overheated' and state-owned enterprises were ordered to turn in all inventory when demand was rising, but have been left alone where excessive supply occurred.

2.4.2 Unclear legislation affecting financial planning

Business enterprises are still unclear about where to pay their income tax. Recent tax laws specify that enterprises' income tax should be paid to the tax authorities. However, some state-owned enterprises were recently notified by the finance bureaux to pay their income tax to them. For example, in an administrative document, The Notification of Obtaining Forms of Financial Reports, issued by the Finance Bureau of Guangdong Province (27 June 1996) to the provincial state-owned business enterprises, states,

Those state-owned enterprises which have not registered with or paid their income tax to the Finance Bureau should do so immediately. Those which have already paid their income tax to the tax authority should file a photocopy of the tax receipt with the Bureau...and notify the relevant tax authority... to transfer the amount concerned to the account of the Bureau.

From this document, it seems that present tax laws and regulations are unclear about the government department to which state-owned enterprises should pay their income tax. Those enterprises which were promised exemptions from and have had tax disputes with the tax authority may find that their financial planning seriously affected. Firms or subunits within a firm which are held responsible for their financial performance may use this incident as a cause for not achieving their targets. The evaluators of performance would find it difficult to refuse to accept that such an event is beyond the control of the evaluatees.

It is common experience in China that government policies contradict with each other. This probably is the result of poor coordination among the various government agencies. Several departments, would sometimes have the same jurisdiction over a certain issue. The tax issue here is a case in point. Enterprises in China are occasionally uncertain on the validity of an agreement reached with a government department, because other government departments probably have the power to make it void in the future. This affects adversely financial planning and budgeting and also makes responsibility accounting difficult to function properly.

2.4.3 Increase in bad debts makes prediction difficult

The prediction of bad debts, hence that of firm profits, is made extremely difficult by the widely-reported rapid increase of 'triangle debts' in recent years. 'Triangle debts' occur when one enterprise is unable to pay its creditors, who in turn cannot settle their own debts (Liang et al. 1995; Luan and Li 1993). According to the State Statistical Bureau's press release on 25 January 1995, the total outstanding accounts receivable of all state-owned enterprises exceeded RMB600 billion at the end of November 1994. This was an increase of 74% compared with that of November 1993. About 60% of these accounts receivables could be considered to be doubtful debts. A survey of 10,000 state-owned enterprises was done by the Bureau in the same month and 55% of the respondents

indicated that ‘triangle debts’ would be the most critical problem in 1995 (Wen Wei Po Daily, 26 January 1995). When a firm is unable to attain its profit targets because of a great increase of bad and doubtful debts, the evaluatee may be pardoned for such uncontrollable and his reward may not be adversely affected.

2.4.4 Inflation hinders cost control and evaluation

As recorded by Liu and Liu (1994), most enterprises have experienced a tremendous rise in price of production materials in recent years, thus pushing up the costs of production. On the other hand, market demand has also undergone an important structural change. Through various channels, the government has encouraged and given guidance to state enterprises to invest and produce according to market demand and consumption. The result is a scramble for the production of those products which could command an immediate high rate of return, and which are mostly products of the processing industries and consumables. Excessive production creates a difficult competitive environment for the state-owned enterprises, most of which were unable to pass on the high costs of production to the consumers. Many firms do not expect the high inflation. This phenomenon thus poses one of the uncontrollable economic and competitive factors in the performance evaluation process mentioned by Merchant (1987) in Chapter 1 (see 1.1).

Inflation also affects the setting of fair transfer prices. This, in turn, hinders a fair evaluation of performance. Transfer pricing is a mechanism which facilitates evaluation of the performance of interdependent units within a firm. Successful implementation of which depends on, among other things, whether an objective market price is available for the products or services transferred among units. Byrd (1992) points out that although transfer pricing was used in some enterprises, it was not effective, mainly because it was not adjusted frequently enough to keep pace with inflation. Consequently, responsibility centres in a firm may claim that their poor performance is only a result of the unfair evaluation.

2.4.5 Heavy welfare burden for old enterprises

Most state-owned enterprises have the responsibility to provide comprehensive social

and welfare services to their employees, which include food service, education, housing, medical care, storage, transport and so forth. In some cases they even have to provide employment for the children of their employees. The numerous family ties among workers, generated by the enterprise's employment obligations are perceived as obstacles to efficient management. This burden is felt to be the heaviest particularly for the old enterprises because of the large number of old and retired workers (Byrd 1992; Liu and Liu 1994; Luan and Li 1993).

2.4.6 Limited autonomy affects firm performance

Although seasoned with the market element, China is still running a planned economy and therefore enterprises are not free from government interference. According to a government survey in 1987 in four provinces in China, business enterprises were given 50% to 60% of their autonomy they thought they should enjoy. Insufficient autonomy was mostly found in the areas of sourcing, pricing, recruitment, employee compensation, finance, and organisation structure (Xu and Liu 1989).

In most cases, managers are not able to control the sales revenues and future expansion of the enterprises and responsibility centres, as different from most western organisations, are often confined to cost centres rather than profit centres. Administrative control often hinders or prevents enterprises from developing new products and activities, and some firms are forced to stay in certain lines of business or to continue to produce certain goods, more or less involuntarily. Byrd (1992) reports that mandatory government planning severely affects the performance of the large state-owned enterprises (i.e. Anshan Iron and Steel Company) through the short-term production target and the lack of freedom of choice with supply imposed on it by its superior government agency, the Ministry of Metallurgy. The high share of mandatory planning and the detailed control over product mix are also a great hindrance to the exercise of independent, profit-oriented decision-making by Anshan's senior management.

Another issue that derives from government interference is the vague and unstable concept of property rights. A great deal of uncertainties for enterprises result. Assets that enterprises consider their own could be taken away by government agencies.

Adjustments in favour of the enterprise concerned are made in profit remittance targets when such transfers occur, but these are probably not sufficient to compensate firms for their loss of control over physical commodities. The weakness of property rights exacerbates problems because enterprise choices and bureaucratic decisions are always subject to revision or cancellation. Byrd (1992) uses Anshan Company as an example to illustrate the adverse effects of this phenomenon. Anshan was unwilling to invest in expansion of certain facilities for fear that they might be taken away. This example illustrates the point that certain results are often more strongly influenced by government actions rather than by managerial actions. Hence the uncontrollables have a higher ratio to controllables in Chinese organisations.

2.4.7 Multi-headed leadership leads to conflicts of interest

This phenomenon can be illustrated by two case studies: the Anshan Iron and Steel Company (Byrd 1992) and the Nanning Silk and Ramie Textile Mill (Woo 1992).

(1) Anshan Iron and Steel Company.

Anshan Company is a large state-owned enterprise in the city of Anshan in Liaoning Province. Byrd (1992) describes that it was once torn by contradictory imperatives (e.g. production targets versus profit targets) from different superiors. For instance, the planning, allocation and procurement activities were monitored by the Ministry of Metallurgy and by central government planning authorities and, finances and taxation by Liaoning Province. Most of Anshan's products went to the central government, whereas its profit remittances and tax payments went to Liaoning Province. Central authorities not only desired that Anshan should produce more steel, pig iron, and steel products; they wanted particular varieties that suited users' needs, as did users themselves. These varieties frequently were low-profit items or even lossmaking items that Anshan was not willing to produce. Liaoning Province, for its part, relied heavily on the enterprise for fiscal revenue. Hence the province preferred that Anshan should shift product mix toward high-profit items and should reduce or eliminate production of low-profit items.

On the other hand, the allocation of material inputs to Anshan was complicated. Raw materials, coal, heavy oil, and major equipment were handled by the Ministry of

Metallurgy. Electricity and natural gas supplies were handled by Liaoning Province. Building materials, such as cement, timber, and steel for construction, were allocated by Anshan Municipality. This system led to numerous conflicts.

Another problem related to Anshan's status as a centrally run enterprise in a local economic environment was chronic difficulties in obtaining approvals or help from municipal authorities for mundane matters such as hooking up utilities, obtaining food supplies for workers, obtaining local construction materials, and so forth. There were also conflicts with local authorities over a range of other matters. Most of these conflicts stemmed from Anshan's social responsibilities toward its employees and their dependents, as a result of which the enterprise became involved in a host of administrative matters that took up a great deal of the time of senior managers and led to friction with local authorities.

Another sphere in which the effect of the multiheaded leadership system is evident is investment planning and decision making. Numerous central and provincial agencies were involved in these activities, but no one wanted to take responsibility for funding or for the returns earned by investments.

Anshan was forced to operate in a complicated administrative environment characterised by chronic instability and by changing bureaucratic compromises among various agencies. For example, Anshan faced difficulties with its modernisation programme, including uncertainty, conflicts, delays, frequent reversals of decisions, and waste. Although Anshan's modernisation programme was approved by the central government, much of it had to be financed by bank loans, which were determined primarily at provincial and local levels. As a result, modernisation loans chronically fell short of plan stipulations.

Closely related to administrative complexity in this regard is instability. Tugs and conflicts between different levels of government and various supervisory organisations resulted in considerable uncertainty and mutability in Anshan's administrative environment. This situation was most evident in the chronic instability of the administrative boundaries within which Anshan operated, that is, which activities the enterprise was allowed to undertake and which it was not. Another manifestation of

instability was in the distribution of profits.

The diverse, often conflicting goals of different supervisory agencies diverted the enterprise's attention from improving economic efficiency and, more generally, sapped its ability to accomplish any particular goal. Anshan's best interest tended to become submerged in this environment, and there was confusion about what its goals and priorities should be.

(2) The Nanning Silk and Ramie Textile Mill.

The Nanning Mill was a large textile enterprise in Nanning City, the capital of Guangxi Autonomous Region. Its operations were directed by the Nanning Textile Bureau, its superior government agency. Woo (1992) reports that in the 1980s there was confusion at first as to which government department was in charge of which of the mill's targets. Gradually the mill came to receive all of its production targets from the Nanning Textile Bureau and its profit target from the Nanning Finance Bureau. Its profit retention rate was set jointly by the Nanning Economic Commission, the Finance Bureau, and the Textile Bureau. Supply of raw materials and other inputs continued to be controlled by the Supply and Marketing Corporation under the Guangxi Textile Bureau at the provincial level. Distribution of the mill's output was in principle the responsibility of the commercial departments of the municipality.

Municipal agencies were likely to defend the interests of the enterprise at the expense of the interests of the regional or central government; profit targets would be adhered to more loosely, tax exemptions would be given more indiscriminately, and delays in loan repayments would be pardoned more easily. 'Good' performance of the enterprise is therefore subject to different interpretation, depending on which government agency is doing the evaluation.

2.5 Reward is not Performance Linked

In nominal terms, bonus is intentionally distributed to workers as incentive to reward above-standard performance. However, this is not the norm in actual practice. As Woo (1992) records,

Most state enterprises in China had come to treat bonuses as part of the regular income of their workers and to pay bonuses as long as minimum performance standards (such as attendance) were met...Most local government departments were sympathetic to firms and their workers; they considered bonuses to be essential because wage levels were so low.

The concept, 'more effort, more reward', though highly publicised, is not well implemented. This notion is also supported by Chow (1994), who found that Chinese employees do not like to be individually evaluated, particularly on performance-related factors. Besides, they also prefer group-oriented appraisal systems in order to maintain harmonious relationships. It is therefore more difficult to hold them accountable for their performance.

2.6 Missed Targets are Easily Pardoned

This attitude can be illustrated by the experience of the case of Nanning Mill as reported by Woo (1992). The two superior government agencies, the Nanning Textile Bureau and the Guangxi Textile Bureau, had never seriously evaluated the mill's performance since the mill's market deteriorated. In any case, the profit target set by the Finance Bureau was the only target that really mattered. As the market situation worsened, other plan targets lost all importance. Supervisory agencies did not even bother to revise targets to reflect the changes in the market situation, but all concerned understood that the mill was not expected to meet those targets and would not be penalised for failing to do so.

In another incident, when the mill's profits plummeted, workers still received bonuses, although the amount of the bonuses was slightly less than it had been in the previous year, and collective welfare expenditures more than doubled. Such behaviour was defended on the ground that poor performance was the result of market changes and price reductions – circumstances beyond the control of the mill – and hence employees should not be penalised. This behaviour shows that the mill was not truly an independent economic entity and did not have to abide by a tight budget. Similar situations were reported by Wu et al. (1994).

The above examples show that company staff are sometimes not made

accountable for their performance even though targets are not achieved and therefore there is little point in separating controllable and uncontrollable items in the evaluation process.

2.7 Attitude towards Evaluation is not Serious

As reported by Woo (1992) the budget of the Nanning mill had several components that were negotiable, including the amount of profits it should remit to the Finance Bureau, the amount of taxes it should pay to the Tax Bureau, and the amount of loan repayments it should make to banks. Negotiations occurred not only at the beginning of each year, at which targets were handed down by supervisory agencies, but also during and even at the end of the year. Targets agreed on at the beginning of the year could be drastically changed later.

The management of the mill's loan repayments illustrates how the soft budget constraint worked in practice. Negotiations with the People's Bank of China and the Nanning Finance Bureau resulted in extending the repayment period of a project loan for three years, without any penalty. This delay was arranged because there was a conflict of interest between the Finance Bureau and the People's Bank since the mill's loan repayments came in part from the profits and taxes generated by the project financed by the loan. Any loan repayment the mill made would reduce the amount of revenues collected by the Finance and Tax Bureaux. Thus it was in the interest of the Finance Bureau to defer the mill's loan repayment.

Furthermore, because the project concerned was considered a 'ministry approved' project, the local branch of the Construction Bank of China did not conduct a detailed appraisal. The terms of the agreement were drawn up very loosely; repayment was to be made within five years after signing, but it could be extended another two years if the enterprise had difficulty generating sufficient taxes from the project to cover loan repayments.

The terms of the loan agreements were largely immaterial in any case. Government agencies did not expect the terms to be fully observed, and the Nanning mill did not anticipate any problems if it failed to honour its obligations. The banks did

not operate as independent commercial banks that took full responsibility for loan appraisal and recovery. The local government, represented in a fragmented manner by the Finance Bureau, by the Textile Bureau, or by the Economic Commission, acted as intermediary and final arbitrator between Nanning and the lending institutions. As long as an investment project was endorsed by the local government, the mill did not have to worry about the ability to repay the loan.

Finally, the attitude of not respecting contract fulfilment is widespread and can be summarised by Byrd's (1992) view,

The contractual approach to internal organisation [implying mainly the Contract Responsibility System and the Internal Economic Responsibility System as described in 2.3, 3.4.4 and 3.5] carries with it tradeoffs and difficulties, although it may generate strong incentives for improved financial performance in the short run...the situation is one of bilateral-monopoly bargaining, with asymmetric information and with incentives for either side to break contracts to its own advantages. Hence the internal contracting method that is becoming increasingly popular in Chinese state industry will likely prove unstable and will be a source of continuing conflicts.

2.8 Comments and Summary

As stated in the Introduction, one of the purposes of this research is to understand the practices of performance evaluation and the related controllability principle in China. It is therefore useful to see how far the literature covers this area. The above analysis has fulfilled this objective. It provides evidence to show that the concept of the controllability principle of performance evaluation in China is basically similar to that of the western countries. That is, subordinates should not be held accountable for the uncontrollable items of performance. The complex issue of identifying uncontrollable items is recognised and described as situation specific, being dependent upon the sphere of management authority, the organisation structure, and the environment.

However, it is pointed out that more performance items are regarded as uncontrollable in China. It is highlighted that the small size of a responsibility centre in Chinese organisations makes indirect costs and responsibilities difficult to be traceable. The uncertain environment also creates problems for the separation of controllables and uncontrollables. The uncertain environment is caused by many factors, which include

fluctuating government policies, unclear legislation, triangle debts, inflation, heavy social burden of the old enterprises, limited organisation autonomy, and multi-headed leadership. Institutional and cultural factors heavily influence rewards which are usually not performance linked. The combined effects of all these factors produce an apathetic attitude towards performance evaluation and a habit of pardoning missed targets gradually develops.

The above evidence of the practices of performance evaluation is mostly drawn from past case reports and books. It is therefore difficult to judge whether they represent the general situation in China. However, anecdotal evidence is abundant in the Chinese accounting and management literature, which consistently presents similar results as those found in the case studies, albeit the methods of analysis adopted are less systematic. Nevertheless, more updated information is needed to provide a more thorough understanding of performance evaluation in China.

CHAPTER 3

THE PERFORMANCE EVALUATION OF CHINA'S BUSINESS ENTERPRISES

The previous chapter indicates that although the basic concept of performance evaluation in China is similar to that of the west, there are differences in defining and treating uncontrollable items of performance. Being a socialist country, China's firm management has its own unique features, which might contribute to such differences. Without an account of the background that has led to the development of the current practices of performance evaluation, it is difficult to understand the rationale behind the scene. This chapter describes and discusses the way in which the Chinese government measures and evaluates the performance of business enterprises and how an enterprise measures and evaluates the performance of its divisions. Since it is expected that the unique features of Chinese management can best be displayed in state-owned and collectively-owned enterprises and the Chinese government is still the major owner of firms in China¹, only the practices of state-owned and collectively-owned firms will be examined.

3.1 The Rising Importance of Performance Evaluation

During the era when the economy was strictly regulated by state planning, enterprise management in China was highly centralised in the hands of the government. Important decisions at enterprise level were mostly made by government officials. Enterprise managers were left with little autonomy and discretion in handling their strategic issues and operational problems. It was therefore both unsuitable and unnecessary to hold managers accountable for their performance. However, since the start of the economic reform in 1979, the Chinese government realised that increasing the autonomy of enterprises is essential in improving their efficiency. In order to evaluate the effectiveness of this policy of power decentralisation, the government has become keen to measure the performance of the state-owned enterprises.

3.2 Two Levels of Performance Measurement

In the west, most of the firms are either privately or publicly owned, the senior management of a firm (apart from some 'external' parties such as shareholders, creditors, and the government) is the only party who will evaluate in detail the performance of its divisions, subsidiaries or branches. Governments seldom own profit-making organisations and they would not normally interfere into the business of a firm or its different segments.

On the contrary, in China, the government is equivalent to the owner in many firms and this form of hierarchy generates two levels of performance measurement. One level is that the government's evaluation of the aggregate performance of a firm, and the second level is that of the senior management of a firm evaluating the performance of its segments. In other words, the Chinese government assumes the roles of both shareholder and board of directors of a business enterprise and it therefore would involve in the day-to-day operations of a firm.

3.3 Government's Evaluation of Firm Performance

Government's attitudes and methods of evaluating firm performance varies with the extent of government control on the state-owned and collectively-owned enterprises. From 1979, that is, the start of the economic reform, the Chinese government has obviously been adopting a policy of gradual relaxation of control on the enterprises. Before the reform, there was basically no autonomy in a firm in respect of many economic activities. The state specified detailed directives for all the state-owned and collectively-owned enterprises to follow and, the exercise of performance evaluation was nearly non-existing or, at best, extremely unimportant. Since the reform, enterprises have increasingly been given more decision-making power concerning production, supply, marketing, financing, pricing, personnel, wages and bonuses. Such change was reported to be triggered by the eager demand of the enterprise managers for increased autonomy. Similarly, the government was also convinced that more delegation of power to the enterprise level would increase operational efficiency (Liu 1993).

The government understands that more delegation of power would mean some loss of control and this tradeoff was believed to be worthwhile. In order to minimise this loss of control and to monitor the effectiveness of the decentralisation policy, a

performance measurement system of the enterprises was designed. The Contract Responsibility System (also known as the Business Contract System) was introduced with the aim of achieving this objective.

3.4 The Contract Responsibility System

3.4.1 Its development

The Contract Responsibility System in China is a mechanism which aims at separating the ownership and the management of state-owned assets. Through clarifying the duties and rights of state-owned business enterprises it is hoped that they would finally become self-sustaining autonomous units whose assets are still owned by the state.

According to Tang (1990), the contract system originated from the rural areas in 1978. Land was given to the farmers who submitted periodically to the government a fixed amount of farm products and cash; any surplus production could be retained by them. Because of its widespread success in the rural areas, this system was extended to the cities in 1981 when the famous giant enterprise, the Capital Steel Corporation in Beijing, adopted such a system. Until 1987, this system had developed into various forms and was then widely used all over the country by approximately 80% of the medium to large business firms (Xu and Liu 1989). In 1988, the State Council confirmed its importance by issuing the Temporary Regulations of the Contract Responsibility System for the State-owned Industrial Enterprises. Later in the same year, the implementation of the system was formalised by the passing of the Law of the People's Republic of China State-owned Industrial Enterprises. In the early 1990s, this contracting activity applied not only to state-owned enterprises, but it was also extended to enterprises of other ownership types such as collectively-owned¹ firms and proprietors (Zhang 1995).

3.4.2 Its features and functions

The main objective of the contract system is to encourage entrepreneurship and stimulate people's incentive to work by specifying certain targets to be achieved and linking the achievements to a reward system. Basically, the idea is similar to the budgetary control

system of a 'modern' firm in an advanced country. Under the system, the government contracts the enterprise business out to a contractor, who may be an individual, a group of individuals or an entire enterprise, usually represented by the factory director (the chief executive officer) (Tang et al. 1996). The contractor commits himself to fulfilling various targets or production indexes, of which a profit target is normally the major one. Other targets may include production volume, product quality, repayment of loans, treatment of debts and receivables, etc. The contractor may also be rewarded or penalised in respect of pecuniary remuneration. When the contract targets are missed, the contractors, who may be the staff members of a firm in some cases, are probably subject to various penalties such as reduction of salaries and bonus, fringe benefits, degradation, transfer, and even dismissal. As will be explained in 3.4.6, their contract deposit may be confiscated, the enterprise fund may be drawn on to make good the target shortfall, and merger with other enterprises may also occur. Targets and remuneration are negotiated between the government and the contractor for each enterprise, so that the terms in one contract can be quite different from another contract (Li et al. 1993). Since the terms are written down formally into a legally enforceable document, both the contractors and the government are basically expected to commit themselves to fulfil what they promised. The most common period of a contract is three to five years.

According to the Auditing Cadre College of Hubei Province and the Auditing Association of the Huang Shi City of Hubei Province (1993), the contract system aims to achieve the following functions:

(1) It assures a stable growth in government's income.

Under the system, a base income is normally fixed as the amount to be submitted to the government every year. If actual profits exceed that amount, then the exceeded portion can be retained by the enterprise concerned. This arrangement not only encourages an enterprise to fully exploit its own potential, but also enables them to enhance technological improvement and further development. On the one hand, the government receives a stable amount of income every year, and on the other, the self-sustaining enterprises can reduce the government's burden of injecting further funds into them.

(2) Government control of enterprises changes from direct to indirect.

Through the mechanism of the contract system, the government changes its form of control on enterprises from the previously direct administrative interference to an indirect monitoring of performance.

(3) It creates an environment for the emergence of entrepreneurs.

The operation of the contract system demands high management competence of the contractors. It also provides the training ground and opportunities for the potential entrepreneurs.

3.4.3 Its content

A typical contract usually specifies two main types of targets and a reward method. The first type of target is the submitted profit amount. The second type of target is a promise of a certain degree of technological improvement or a promise of growth in asset value. The reward is an increase in total payroll of the firm.

Usually no attempts are made by the contracting parties to classify specific targets into controllable and uncontrollables. However, sometimes a general term may exist in the contract stating that amendments or even termination of the contract can be evoked by either parties in case there are uncontrollable factors like changes in government policies and regulations (see Appendix 1 and Appendix 3).

Forms of the profit target vary, and they can be grouped into the following categories (Xie and Lin 1992):

(1) An increased profit target.

The contracted amount of profits to be submitted to the government within the contract period consists of a series of annual profits with a fixed growth rate. This type of target is suitable for those enterprises with a stable market, whose sales are good, the environment is not competitive and their need to enhance technological level is great.

(2) A fixed profit target with a surplus-sharing scheme.

On top of the fixed amount of submitted annual profits, the government and the enterprise concerned share the surplus based on a predetermined scheme. The aim is to alleviate the adverse effects of inaccurate target setting. This type of target is suitable for those enterprises with mediocre profits but great production potential, which produce necessities of low technical requirements. Most of them need help, because they face uncertainties.

(3) A fixed profit target.

An enterprise can retain all the profits after a fixed amount has been submitted to the government annually. This type of target is to take care of those low-growth enterprises which produce necessities. These enterprises usually possess growth potential, but they are temporarily affected by rise in price of raw materials. With assistance, they are able to overcome the short-term difficulties. Since the implementation of this type of target could reduce government's income, its sphere of application has to be limited.

(4) A loss target.

An enterprise which is suffering non-operating losses can contract with the government for a fixed annual loss target or a gradually reducing loss target. In certain cases, a fixed amount of subsidy would even be paid by the government to the enterprise. Examples of non-operating losses include losses due to plant relocation, foreign exchange losses and losses due to rise in price of raw materials.

(5) A profit/loss target for a particular industry.

Sometimes, a profit/loss target of the aforementioned forms would be negotiated with a particular industry as a whole or a group of companies. In this case, the performance of the group or industry will be measured and there exists the possibility of good and poor performance of firms setting off each other, thus hiding the true performance of individual firms.

To set an appropriate target is not easy. Normally it is set with reference to the following bases:

- The profit history of an enterprise.
- The average profit of the industry.
- The production potential of an enterprise.
- The extent of technological improvements required from the enterprise.

Although absolute profit is the major type of target of a contract, other types of target are common. The following are also typical examples of contract targets:

(1) Targets of economic efficiency.

- Profits before tax and growth rate.
- Profits submitted to government and growth rate.
- The ratio of profits before tax or profits after tax over total assets.
- The ratio of profits before tax or profits after tax over sales.

(2) Targets of technological improvements and growth of fixed assets.

- Investment in technological improvement and its growth rate.
- Number of projects concerning technological improvement and the success rate.
- Growth of state assets.
- Amount provided for depreciation and overhaul.
- The ratio of total assets over profits after tax.

(3) Targets of quality management.

- Product quality, production safety and the national upgrading of the enterprise in an industry.
- Assets turnover rate.
- Production value per worker.

- Resources consumption rate.

The Administrative Bureau of State-owned Assets (ABSA), the Finance Bureau and the superior government agency² of the enterprise concerned may participate in setting the targets. Performance is checked annually and at the end of the contract period. Before the signing of a contract, the value of state assets has to be examined by the ABSA for the purpose of setting the base amount of the targets (see 3.4.5 for details).

3.4.4 The choice of contractors

On the part of the state, the duty of taking out the contract may also rest with the ABSA, the Finance Bureau and the relevant superior government agency of the enterprise. On the other hand, representation of the contractor can be in the following ways (Xie and Lin 1992):

- (1) The factory director can be the sole contractor.
- (2) The contractor consists of a group of companies represented by the factory director of one of the member companies.
- (3) All staff members of an enterprise can be responsible for the contract, but the duty of the management of the contract is delegated to the factory director.
- (4) One enterprise can contract for the operations of another enterprise.

Arrangements (1) and (2), that is, contracting by the factory director, are the most common ways of contracting. Arrangement (3), that is, contracting by the whole staff force, is expected to have strong motivational effects on staff performance. Arrangement (4), that is, enterprise contracting, is expected to make full use of the contracting enterprise's capital, technology and management skills in order to enhance the product and organisation structure of the enterprise being operated.

These processes of choosing a contractor have the effect of introducing an

element of competition into the management of the enterprise. One way of recruiting a contractor is through open tendering of the job. The state believes that by this method the best contractor can be chosen. However, contractors may also be appointed by the government or, elected by the staff members of an enterprise. Whichever ways are chosen for the recruitment of the contractor, his competence and political attitude have to be examined.

The contracting process also allows participation of the staff force. Staff representatives are members of the contract bidding committee. The contracting plan has to be approved by the staff representatives' meeting. Apart from the targets to be achieved by the enterprise as a whole, detailed targets are set within the enterprise at different levels. This exercise, called the Internal Economic Responsibility System (see 2.3, 2.7 and 3.5), tries to ensure that every staff member is fully committed to the accomplishment of the contract.

3.4.5 Setting the base amount of the profit target

Before setting the various profit or growth targets, a base amount of profits is to be ascertained. It is a reference point for determining the actual profit targets within the contract period. The base profits are determined mainly by referring to the past performance of a firm and its industry. The yearly profit targets are reached by adjusting the base profits in expectation of future changes. Due to the importance of such an amount, many factors have to be considered for its determination. These include the production policy of the state, the profitability of the industry concerned, the previous contracting results, the results of technological improvements and the expectation of the enterprise's efficiency and environmental factors. Variations of the methods of determination of the pre-adjusted (before adjustment of other factors) base amount are as follows (Xie and Lin 1992):

- (1) Average of the submitted profits in the previous contract period as the base amount.
- (2) Submitted profits in the last year of the previous contract period as the base amount.
- (3) The average ratio, profits/total assets, in the previous contract period, multiplied by

present total assets, as the base amount.

- (4) The difference between the target ratio (e.g. profits/total assets) of the enterprise and the industrial average ratio in the previous contract period, as the base percentage. For example, if the target ratio is 20% and the industrial ratio is 18% in the previous contract period, the base percentage of difference is 2%. If the actual industrial average ratio is 19% in the current contract period, then the enterprise has to achieve a ratio of 21% but not 20%. The required performance varies with changes in the industrial environment.
- (5) After reviewing the profitability of the enterprise and that of the industry in the previous 3 years, 3 sets of targets (high, medium and low) together with the respective reward/penalty systems are designed. High target is accompanied with higher proportion of retained profits and low target is accompanied with smaller proportion of retained profits. The enterprise is free to choose a suitable class of target to be applied in each individual year within the contract period. This method has the advantages of preventing the lengthy bargaining and negotiation procedure in fixing the base amount of profit and avoiding the situation of 'whipping the fast ox'³. By choosing this method, the enterprise is also able to adjust its own position to the risks it is willing to take.

3.4.6 The ability to bear losses

If an enterprise misses the targets or suffers a loss, it will not only obtain no reward based on the terms of the contract, but it is also subject to a penalty. In the case where the contractors are the factory directors or the staff members, they may not have enough personal funds to meet the shortfall. Because of this deficiency, there is a danger that an enterprise can only contract for profits but not for losses. Risky decisions might thus be taken by many contractors. The following actions may be taken to reduce this risk (Xie and Lin 1992):

- (1) The contract risk deposit.

The factory directors and the staff members, if they are the contractors, have to deposit

with the enterprise a fixed amount of their own personal funds which may be used to guard against the risk of missing the contract targets. Sometimes, they would also be required to purchase a certain amount of debentures of the enterprise concerned. The money thus received would be banked as a special fund which cannot be used for other purposes but only for making good the missed targets.

(2) Separating assets into the state fund and the enterprise fund.

Assets of the contracting enterprise are separated into the state fund and the enterprise fund. Assets existing before the contract date belong to the state fund. Retained earnings formed during the contract period and the assets purchased by using these retained earnings are classified as the enterprise fund. Only the enterprise fund can be used to make good the portion of the submitted profits which fall short of the target. In addition, it can also be used as working capital.

(3) Merger.

If there is a profit shortfall after payment from the risk deposit and the enterprise fund, then it is possible that the enterprise would be taken over by another enterprise. The controlling enterprise would promise to pay for the profit shortfall. This kind of merger is not normally done under state administrative guidance but on a voluntary basis. If the contracting enterprise goes into liquidation, it is likely that the government has to suffer the losses. Consequently, the government is keen to encourage this kind of merger.

A typical contract may be a combination of the following three formats (Xie and Lin 1992):

(1) Contracting for the production value, the amount of tax and the profits after tax.

This format is suitable for the production functions of the medium/large enterprises. Production value means the average selling price of the production volume for the last three years. If targets are achieved, staff's salary and bonus can be improved.

(2) Contracting for the indirect costs.

This format is suitable for contracting the expenses of the supporting/servicing functions. If targets are achieved, staff's bonus can be improved. In case the division concerned has some income, the target will be tightened by reducing a certain percentage of the expenses. The procedure of setting cost targets resembles that of setting profit targets, that is, both past cost trends and expected future changes are taken into account.

(3) Contracting for the profits after tax.

This format is suitable for small enterprises which would be able to retain all the profits over the targeted amount.

Generally speaking, enterprises which have potential of making profits are more willing to take out a contract and the government is also more willing to accept these enterprises as contractors.

Although the majority of the business enterprises in China are being operated under the contract system, there are some operating without it. China has gone into the habit of setting a trial-run period whenever a new policy is implemented. Certain enterprises are selected at the beginning to experiment the effectiveness of the policy, which would be applied to more enterprises if it is later proved successful. This explains why not all the enterprises practice the contract system. However, in many instances, the government is still evaluating those enterprises which do not adopt the contract system by setting targets and measuring the variances from the targets, and linking a reward/penalty system to the evaluation. Reward and penalty may take the form of increase or decrease in wages and salaries, fringe benefits, promotion or degradation on the part of the factory director, and the amount allowed to be retained by the enterprise for its own development. The situation has now evolved into a stage where there is a blurred distinction between a contract system and the state directives, because state control on the enterprises has loosened over the past years. At present, the obvious features of a contract system are that the agreed terms of evaluation are recorded in a formal document and the contractor in most instances has the discretion to appropriate profits once he has achieved the targets set for him.

3.5 Divisional Performance Measurement

From the interviews⁴ with some organisational managers in China, the following view on the practices of divisional performance measurement can be drawn. Basically, the logic of measuring the performance of a division within an enterprise resembles that of a western firm, except that in most cases the targets set for a division would have to be made compatible with those targets set by the government for the whole enterprise regardless whether it is under the contract system or not.

Certain enterprises, as mentioned in 3.4.4, practise the Internal Economic Responsibility System. They break down the aggregate contract targets for the enterprise into sub-targets and allocate them to the divisions and sometimes even to the individual employees (Wu et al. 1994). Formal contracts, like those for the entire enterprise, are signed between the enterprise and the respective divisions and/or, signed between the divisions and the individuals; in which rewards and penalties are also specified. However, unlike those contracts signed with the enterprise as a whole, most of these written contracts cannot be legally enforced (Woo 1992; Zhang 1995). They can be likened to a form of the 'management-by-objectives' technique.

Typical performance measures or targets for a division of an enterprise include the following key criteria:

- production volume
- production quality
- standard costs
- liquid funds employed
- notional profits

Non-financial and qualitative criteria like safety, environmental, and other regulatory standards are also required to supplement the above for achieving long-term efficiency (Cai 1992).

Weightings are assigned to each of these criteria to show their respective

importance. Scores are given based on actual performance for each criterion and the results are compared with the targets. Bonuses, incentives, and prizes will be granted to above-standard performance; penalties will be imposed on below-standard performance⁵.

To facilitate the handling of liquid funds in the responsibility centres, a mechanism called Internal Banking is adopted by some large enterprises. Its basic functions include (Shi and Zhang 1994):

- Settlement of accounts for the responsibility centres.
- Allotment of pre-determined liquid funds to each responsibility centre.
- Handling of fund borrowing and lending among responsibility centres.
- Handling and controlling the issue of 'internal currencies' and 'internal cheques' and the charging of 'internal interest' as means of account settlement.
- Monitoring the use of liquid funds by the responsibility centres with particular concern on the surplus and shortage positions.
- Setting transfer prices for goods and services transferred and setting standard costs for goods and services used so as to establish the notional profits of the responsibility centres.

The Internal Bank can be set up as a section within the accounting function of an enterprise, or it can be a separate function.

The above features indicate that the Internal Bank takes up part of the accounting and treasury functions of a 'modern' firm, and it aims at strengthening the sense of responsibility of the divisions. Although divisional profits can be computed by the establishment of the transfer prices and standard costs, divisional autonomy is still very limited as reflected by the centralised handling of the liquid funds.

3.6 The Contract System and Agency Theory

The Contract Responsibility System in China mainly deals with the problems of evaluating the performance of business enterprises by the government. It therefore

addresses similar issues frequently discussed in the agency theory. Jensen and Meckling (1976) defines an agency relationship as a contract under which one or more individuals (the principal) engage another individual (the agent) to perform some services on their behalf which involves delegating some decision-making authority to the agent. Problems may arise under circumstances in which there is a conflict of interest between the agent and the principal (Pratt and Zeckhauser 1985). Jensen and Meckling (1976) also note that the relationship between stockholders and managers of a corporation fits the definition of a pure agency relationship.

Motivation of the agent is another central point of the agency theory. It focuses on the utilisation of compensation rules with which the principal seeks to motivate the agent to direct business activities in ways that are desired by the principal (MacDonald 1984; Starks 1987). Levinthal (1988) points out that in the process of contract design several factors must be taken into account.

- (1) the relationship between output and the incentive scheme offered to the agent,
- (2) the allocation of risk associated with different compensation schemes, and
- (3) the preferences of the principal and agent with respect to income and nonpecuniary outcomes.

However, he warns that compensation schemes only reward executives on the basis of some agreed upon indicators of managerial performance, but not necessarily effectiveness or efficiency *per se*.

Two important theoretical elements are present during the contracting process. One is the problem of moral hazard. Since the agent has been selected for his specialised knowledge, therefore the principal can never hope completely to check his performance. Moral hazard thus arises due to the asymmetry of information between the principal and agent that results because the agent's actions cannot be observed (Arrow 1963; Holmstrom 1979). However, one thing is certain is that managers are not held responsible for observable events outside their control and their incentives are predicated on the performance that should be achievable given particular circumstances. Agency theory writers have recognised that there are controllable and uncontrollable environmental contingencies which influence performance outcomes and that systematic

risk can be allocated to specific parties (Jensen 1983; Bull and Ordover 1987; Sappington 1991).

The other important theoretical element is the enforceability of the contractual terms by law. Jensen and Meckling (1976) note that a complete analysis of the control issue will require a careful specification of the contractual rights involved on both sides of a contract. A contract may be defined as an agreement between two or more people stipulating, first, specific actions by each to be carried out at some time in the future (Heckathorn and Maser 1987) and, second, a set of promises the breach of which the law in some way recognises a failure to fulfil the duty (Goldberg 1976).

According to the above arguments of the agency theory, issues like conflicts, risk-sharing and the enforceability of the contract terms between the government (the principal) and the factory director of a business enterprise (the agent) in China, and issues like moral hazard and motivation of the agent, may arise during the course of the contract and performance evaluation. In fact, some of these were discussed in the problems of the short-term managerial behaviour raised in Liu and Liu (1994) when the practices of performance evaluation in China were reviewed.

As explained by Li (1994), one of the main objectives of the agency theory in the business context is to make the business operator (the agent) to act in the way that maximises organisation benefits according to the long-term interest of the business owner (the principal). Li points out that risk-sharing to avoid uncertainty is the most relevant aspect of the theory applicable to China because the high uncertainty factor increases the monitoring cost of the agent's behaviour (Yang 1996). Scapens (1991) also notes that there may be uncertainty about the relationship between the accounting measure and the agent's effort. In the case of the contract system, the Chinese government tries to minimise the uncertainty of business operation by requiring factory directors (the representatives of the enterprises concerned) to commit to the achievement of certain targets, albeit some of the terms are not easily enforceable. Uncertainty, which adversely affects fair evaluation of enterprises' performance, was reported to create more uncontrollable factors (see 2.4 and 2.8).

Two more points of the agency problems were also raised by Yang (1996) to be

of importance in China. The first is that since the managerial labour market is not yet well developed its inefficiency therefore cannot reduce the agent's 'shirking' behaviour. The second is that because the government is still the major owner and shareholder of most listed and unlisted business enterprises, its frequent intervention into firm's daily operations may increase the monitoring cost of the agent's behaviour.

3.7 Comments and Summary

This chapter describes how the practices of performance evaluation develops in China chiefly in the form of the Contract Responsibility System. The Chinese government has realised that controlling business enterprises by giving mandatory directives could not increase their economic efficiency. Instead, requiring business enterprises to achieve certain targets and giving them appropriate rewards have been found to be the better monitoring device. The contract system is the instrument that lays down specific terms with each individual enterprise as it was originally intended to cater to specific circumstances. Thus targets and rewards/penalties differ widely from one enterprise to another, giving rise to the accusation of unfair competition and hence many grievances.

Theoretically a contract specifies explicitly the reward and penalty terms for the respective levels of performance achieved. In practice only the reward terms could be effectively enforced. In case of unsatisfactory performance, it was difficult to penalise the contractors, the overwhelming majority of whom possessed very small amount of personal wealth. As a result, contractors are likely to take risky actions because their opportunity loss is small.

Basically the practices of divisional performance measurement in an enterprise are similar to those of the west, and standard cost and transfer pricing techniques are also being adopted by a few enterprises; but divisional performance measures have to be made compatible with the targets of the whole enterprise regardless whether they are under the Contract Responsibility System or not.

Issues of performance evaluation arisen from the Contract Responsibility System are similar in nature to those addressed by the 'western' agency theory. The problem of uncertainty, in particular, is the most relevant part of the theory applicable to China.

Endnotes:

1. Of China's 1998 total gross industrial output value (RMB6,384.88billion), state-owned enterprises accounted for approximately 42% (RMB2,663.75billion), collectively-owned enterprises accounted for approximately 25% (RMB1,624.55billion), joint stock companies accounted for approximately 7% (RMB453.41billion), foreign investment companies accounted for approximately 22% (RMB1,384.98 billion), and other ownership accounted for approximately 4% (RMB258.19billion) (China Statistical Information and Consultancy Center 1999, p.4). A collectively-owned enterprise is theoretically owned by a group of individuals. But in the majority of cases the local government concerned practically control its entire operations; and as time passes, it becomes difficult to identify the true owners (Liu and Zhang 1996).
2. The Commerce Bureau, for example, is the supervisory government agency of a department store.
3. Setting an over-demanding target for a profitable enterprise may discourage it to make reasonable progress.
4. The detailed results of the case interviews are reported in Chapter 4.
5. More examples of rewards and penalties will be given in the cases described in Chapter 4.

CHAPTER 4

CASES ON PERFORMANCE EVALUATION AND CONTROLLABILITY IN CHINA

The previous two chapters described the ways in which aggregate firm performance under the Contract Responsibility System and divisional performance were evaluated in China. They also reviewed case study research that has focused on the concepts of controllability in responsibility accounting and performance evaluation. However, the majority of the prior studies mainly described the conditions existing in the late 1980s. Rapid changes in China have occurred since the economic reform in 1979 (Liu and Liu 1994). It is useful to collect updated evidence to examine whether the conditions in the 1980s extend into the 1990s. This new evidence also helps to strengthen the foundation for the development of hypotheses for the determinants of the controllability principle in Chapter 5. This chapter therefore continues to explore the issues of performance evaluation and controllability by documenting the results of a series of interviews in 1995 of some state-owned and collectively-owned enterprises. Ten of these firms were selected for illustration because they highlight the important problems of performance evaluation in China, which include the evaluation of aggregate firm performance, divisional performance measurement, reward system and the attitude towards controllability. Access to these firms was obtained through the assistance from the academic accounting departments of four universities in four large cities in China⁶. Two to three senior executives of each firm were present in each of the interviews which lasted from two to three hours.

4.1 Reasons for the Case Studies

The purpose of using cases to explore accounting issues is to provide a deeper and richer understanding of the social context in which business problems work. Cases are also useful to complement literature review in strengthening the theoretical propositions. The information collected from the cases can be used in parallel with an ongoing review of relevant literature, so that the final research design is informed both by prevailing theories and by a fresh set of empirical observations. The dual sources of information help to ensure that the study to be done reflects significant theoretical or policy issues as

well as questions relevant to contemporary events (Yin 1994). This small sample of cases is not intended to represent the general situation of the issues under study; rather, the specific situations of the cases can be used to facilitate theory generalisations in similar social contexts (Yin 1994; Spicer 1992; Scapens 1990; George and Mckeown 1985) and the information gathered from the cases can also help formulate hypotheses for testing the concepts of controllability (see Chapter 5).

The first four cases describe the evaluation of aggregate firm performance. The fifth, sixth and seventh cases concentrate on the evaluation of divisional performance. The last three cases are a combination of both. Major issues are finally analysed and discussed. Pseudonyms instead of the real names of the firms are used to hide their identities.

4.2 The CQ Case

(1) Background information.

This enterprise was established 40 years ago in Chongqing, which is a large city in central China with a population of around 15.2 million (Ministry of public Security, PRC 1996). It manufactures more than 30 types of gear machines and some related automobile components. Of its products, 80% are sold in China and 20% exported to Japan, USA, Canada and some third-world countries. Although its products are not of top quality when compared with those of western countries, its products occupy 60% of the market share in China. There are 5,500 employees, 20 production workshops, and its fixed assets are well over RMB100 million.

(2) Performance evaluation and rewards.

The factory director is responsible for maintaining and improving the economic efficiency of the enterprise. The government monitors this function mainly through three indicators, namely, the growth rate of profits, taxes (sales taxes and profits taxes) submitted to the government; and production value (average price in industry x sales volume) per employee. Since the amount of profits is considered to be mainly affected by wages, the control of the latter's overpayment is considered very important. The

maximum wages paid in a particular year is restricted by the following formula:

allowable additional wages paid in the current year +
actual wages paid in the previous year

allowable additional wages paid =
the average cumulative growth rate of the three indicators for the past years
starting from the base year of 1990 x 0.85 x actual wages paid in the previous
year

The intention of this formula is to ensure that wages would commensurate with performance. If the enterprise chooses not to pay the maximum amount of the allowable wages in a particular year, the amount unused can be transferred to a special adjustment fund which can be used for paying wages in later years, thus assuming effectively a smoothing role.

Basically, the government is only interested in controlling the total amount of the wages paid by the enterprise. It no longer dictates the amount of wages for individual employees. However, ranges of wages are specified for different types of posts by labour bureaux which takes account of the required levels of education, skills and physical efforts. They are guidelines to be followed but not regulations requiring strict compliance.

The enterprise entered into a 4-year business contract with the local government in 1990. It has committed itself to achieve specified levels of the following types of targets:

The principal targets -

1. profits before tax
2. taxes submitted to government

The subsidiary targets -

3. safety
4. quality

- 5. usage of fixed assets
- 6. development of new products
- 7. increase in value of fixed assets
- 8. foreign currencies earned from exports

Since all the targets can be quantified, scores are easily calculated for the performance. Bonus will be paid only if the principal targets are achieved or exceeded. Scores, hence bonus, will be deducted if the subsidiary targets are not fulfilled. The latter, therefore, assumes the functions of hygiene factors, whose achievements will not lead to any reward.

(3) Controllability of performance.

In the organisation structure of the enterprise, apart from the divisions which a western firm would usually have, there are also a couple of divisions which are a special feature of the Chinese enterprises. One is the education division, which is responsible for running a primary school, a secondary school, a vocational school and some programmes of the television university. They are mainly run for the benefits of the staff force. The other is the logistics division, which, among other things, operates a guest house, a hospital, a nursery and a labour service company. The latter's main duty is to provide services and training for those redundant and idle employees within and outside the enterprises. Although layoff is theoretically not prohibited by the government, many state-owned enterprises are unwilling to practise it widely, mainly because the workers and the society at large cannot adapt to the new environment so quickly. The concept of 'iron rice bowl' still remains strong influence in the mind of most people. The enterprise would normally prefer to transfer those inefficient employees from the production divisions to the non-production divisions than lay them off directly. It may even help some of them run small shops within the enterprise.

A breakdown of total expenses reveals the following cost components:

materials	30%
wages	30%
management expenses	40%

The large proportion of management expenses illustrates the serious problem of running the logistics activities and staff welfare, the expenses of which are included in the aggregate performance of the enterprise.

4.3 The PC Case

This is a large state-owned enterprise engaging in the petrochemical business and was funded by the central government. It is situated in the city of Guangzhou, which has an urban population of about 6.5 million (Ministry of Public Security, PRC 1996) on the coastal area of South China. Its economic efficiency in terms of return on investment was described as poor. Two reasons for such results were given by the interviewees.

One is that the company is subject to strict mandatory planning scheme of the central government, which restricts sixty percent of the company's capacity output to stipulated markets. Although the supply of crude oil is guaranteed at a relatively low price, the amount of output over sixty percent of the company's capacity is not entitled to such concessions. For this amount, however, the company has the freedom of choosing other sources of crude oil, sellers other than the stipulated ones, and the pricing of this amount of 'extra' output. Given this freedom, the company is still unable to improve its efficiency because the plant and equipment are unsuitable to process types of crude oil other than those supplied by the central government.

The other reason for the company's inefficiency is that the factory director is incapable of controlling effectively their subordinates, most of them are local people. It is difficult for those executives sent from the central government to manage effectively the company unless they could obtain real co-operation from their local subordinates. Due to the two above-mentioned difficulties, the interviewees thought that it is useless to hold the factory director to account for the company's performance, which is largely out of his control. In fact, the same factory director has remained with the firm for the past two years.

4.4 The LO Case

This is a law firm with the Justice Bureau of the Guangdong Province as its superior government agency. It established its office in the city of Guangzhou and has seven lawyer-partners, ninety part-time lawyers, and ten staff members.

Two taxation problems arose which may have a significant adverse impact on the firm's profitability. It agreed with the provincial Tax Bureau that for the last two years the firm's income tax could be exempted because of a reorganisation of its structural relationship with the provincial government. But recently, the provincial Finance Bureau notified it that it should submit its financial reports and pay income tax to them. The firm is therefore uncertain whether the previous agreement with the Tax Bureau is valid and lawful and whether it should budget for income tax payment in the future. In another incident, the firm was also notified by the provincial Tax Bureau that it has to pay a series of new local taxes to them, which are not specified in legitimate tax laws and regulations.

4.5 The KX Case

This is a medium-size food processing firm in the city of Guangzhou. The factory director describes the recruitment situation of this state-owned enterprise in the past few years as typical of the other firms in the surrounding areas. He thought that the recruitment policy of factory employees has become less influenced by the state. Previously, recruitment of workers must go through the labour bureau, while that of managers and professionals must go through the personnel bureau. Employees are assigned to state-owned enterprises by their superior government agencies. However, recent changes have resulted in state-owned enterprises being allowed to recruit their own employees provided they file a manpower plan to the labour bureau and the personnel bureau before the recruitment. Normally the plan would be approved. The labour market in China has thus become much more efficient than before. However, this improved efficiency of the labour market creates recruitment problems for the less profitable state-owned enterprises, which find it much more difficult to recruit good employees. The reform in the labour market exacerbates the difficult situation of these enterprises. For this reason, it would be quite controversial to hold a factory director responsible for his poor performance if his factory is seriously affected by the above-mentioned situation.

Parallel with the change in recruitment policy, the nature of employment contract also changes. Contracts are usually signed with new employees for a period of several years. In practice, it is widely expected that renewal of contracts would be virtually automatic and dismissal is seldom enforced unless for gross mistakes or commitment of criminal offences. State-owned enterprises are advised by the government not to dismiss employees because social insurance schemes are not well prepared to take care of a large amount of dismissed employees. This again poses a further uncontrollable for managers during performance evaluation.

4.6 The CE Case

(1) Background information.

CE, a factory in Chongqing, produces low-priced cement for sale mainly in the Szechuen Province where the City of Chongqing is located. At the end of 1993, total assets amounted to RMB140 million, fixed assets RMB100 million, annual production RMB140 million, and after-tax profits RMB15 million. There are 3,400 employees with 1,500 being retired workers. Wages and fringe benefits for these retired workers comprise one-third of total costs. Because of the unpleasant nature of cement production, the average annual wages per worker have to be raised to about RMB4,200, which are slightly higher than those in other industries. In fact, they are even higher than that of the managerial staff in the factory.

(2) Divisional performance measurement and rewards.

The factory director directly assumes the following functions: liaison, the job of a party secretary (involving communicating ideologies and guidelines of the Communist Party to the employees), security, and auditing (preventing any illegal behaviour on the part of the executives). He has four deputies; each of them is responsible for the following activities:

Areas of Responsibilities

Production Manager	technology, safety, energy, laboratory, transport, and resources allocation in the production area
Construction Manager	building and construction
Marketing Manager	supplies, marketing & sales, finance and accounting (cost & profit analysis)
Personnel Manager	personnel, labour relation, payroll, clinics, canteens, schools, nurseries, other services

The personnel department is responsible for evaluating the performance of the three departments: production, construction, and marketing. There are four aspects of evaluation, namely morality, capability, efforts, and results, with the last element given the heaviest weighting. But the issue of bonuses depends on the degree of targets achieved, which include production volume, quality, and energy and resources consumed. These aspects are given weightings of 50%, 30% and 20% respectively. Setting of production targets are usually based on two reference points. One is 90% of maximum production capacity and the other is the historical records of production. Detailed targets and product prices are set by a committee consisting of the factory director, related executives, and heads of departments.

Apart from the routine rewards, there are specific awards for outstanding performance. A head of department may be awarded RMB50 in a certain month for product innovation. Another may be awarded RMB40 for avoiding machine breakdowns which could not be prevented by normal maintenance procedures. A RMB40 award may also be granted to a head and his deputies for achieving historic high production volume.

(3) Controllability of performance.

Although costs are relatively stable, sales are subject to fluctuations, because of keen

competition and the business cycles which exist in the building and construction industry.

The factory director gave two examples in which staff performance was affected by uncontrollables. The factory once experienced a transport hold-up of some raw materials; normal production was thus affected. In this case, production targets were adjusted downwards. In another case, production was slowed down because of the excessive accumulation of finished goods stock due to poor sales. Production targets were again adjusted downwards. Uncontrollables which would cause over-performance of targets are rare. As a result, upward adjustments of targets are seldom seen.

The effects of uncontrollables on performance are generally recognised particularly when granting rewards. In order to avoid the feeling of unfairness and some chance factors, outstanding performers may be rewarded with less than proportional bonuses. For instance, an executive who exceeded his targets by 24% may not be rewarded with 24% more bonuses if most of the other executives considerably underperformed their targets. The bonuses would be reduced to narrow the gap between the outperformers and the underperformers.

4.7 The AU Case

(1) Background information.

Established in 1930, AU has a staff force of around 2,900, including 500 engineers and technicians. At the end of 1993, total assets were RMB110 million, fixed assets RMB60 million, and profits before tax RMB8.16 million. It occupies a plant area of 155,000 square metres. It ranks 21st among the largest automobile component enterprises in the city of Chongqing. Being specialised in manufacturing steering linkages and arms, hydraulic and pneumatic brake components, the factory has special skill and accumulated rich experience. Its products are for sale to the whole country; a small portion is for export.

The factory is directly under the Heavy Truck Enterprise Group. There are 55 enterprise groups in the country. Each group is actually an important industry pinpointed

by the government for separate economic planning purposes. Enterprise groups have fewer constraints and they enjoy more autonomy than the other industries.

(2) Divisional performance measurement and rewards.

The job of appraising managerial performance is undertaken by an evaluation committee, which measures both the economic and non-economic activities of a manager. The purpose of such evaluation is for decisions on job retention and promotion. A score points of less than 70% may result in warnings, and a poorer results may lead to degradation. The following six aspects of performance are measured:

	Weightings (%)
Operating results	25
Competence	25
Ideology	15
Morality	15
Co-ordination	10
Personal relation	10

	100

Operating results are mainly quantitatively based, whilst the other aspects of performance are totally subjectively judged by the senior management.

The members of the evaluation committee consist of one representative from the personnel department, the party secretary, one representative from the labour liaison department, four full-time executive members of the labour union, and three to five workers' representatives. The workers' representatives are selected from the 'workers assembly', which is held each year and is supposed to represent the interests of the workers. Participants in the workers assembly range from 200 to 300.

Lower-grade staff are evaluated according to the Internal Economic Responsibility System. Targets are set on the economic activities of all the 20 departments and 13 workshops. Most of them are quantified. Examples are production targets and product prices. The evaluation job is taken up by the finance and accounting department. Targets are revised monthly and they are used as reference points for paying wages and bonuses.

The income of an employee consists of a fixed portion of basic wages and allowances and a portion of performance-linked bonuses. The proportion of the fixed part to the non-fixed part is in the ratio of three to one for the workers. For the managerial staff, the ratio is six to one. However, interviewees of the factory are of the opinion that the ratios should be four to six for the former and six to four for the latter before they could have any motivational effects.

(3) Controllability of performance.

The interview reveals the following where performance was affected by uncontrollables:

1. The head of the special projects management office was unable to achieve the target of product innovation in 1993, which required an investment amount of RMB12 million for improving production techniques and facilities. Because of the shortage of liquid funds only half of the targeted amount was spent. The head did not have his bonuses reduced.

The problem of 'triangle debts' is very serious in China. It is created by the chronic and widespread deferment of debt repayment. It is common for an enterprise to have a large amount of overdue receivables and also a large amount of overdue payables.

Consequently, many enterprises have insufficient liquid funds once getting involved in this vicious circle.

2. Several years ago due to a car crash and the resulting explosion of an oil pipeline, rail transport was disrupted. Losses were incurred because of the late delivery of raw materials. The manager in charge of the delivery was not deprived of his bonuses.

3. In the past the factory once stockpiled a large number of moulds for work processing because of their low market price. However, the excessive stock had to be financed from bank loans, and extra interest was paid. The benefits and costs were both taken into consideration by the management when managerial performance was evaluated.

4. Not all uncontrollables are easy to adjust. For example, unfavourable competition from the collective and private enterprises constitutes a real threat to the factory.

Operation of these types of business was described as more flexible and subject to less constraints than the state-owned enterprises. In marketing their products, the collective and private firms usually allow discounts on the selling prices, whilst similar actions on the part of the state-owned enterprises would be discouraged by the government for its irregular and immoral nature. Businesses lost due to such competition may be difficult to quantify and identify in performance evaluation.

The interviewees suggested that uncontrollables were taken into account and performance was usually adjusted in favour of the managers.

4.8 The ZJ Case

(1) Background information.

The ZJ factory is situated in the city of Zhengjiang (with a population of about 2.6 m.), which is 300 km. north-west of Shanghai (Ministry of Public Security, PRC 1996). It is a large state enterprise manufacturing aluminium sheet mainly for sales in China. Only a minor portion of its products is exported. For the year 1992, the factory's total production value amounted to RMB180 million; at the end of 1992, its net assets were RMB8.9 million and profits before tax RMB13 million.

(2) Performance evaluation, rewards and controllability.

The factory, represented by the factory director, also committed to achieve certain targets set by the city government of Zhenjiang under the Contract Responsibility System. Three main targets have to be achieved in five years. Using 1991 figures as the base year: there is an average yearly increase of 15.8% for production value, 11.4% for

sales volume and 30.3% for profits before tax. The factory is exempted from paying any profits tax for the first three years of the five-year contract period. For each of the remaining two years it has to pay RMB1.1m. as profits tax, regardless of the prevailing tax rate. In return for this exemption, the factory promises to pay interest to the government for assets and resources supplied by them and also to repay a government loan of RMB70m.

Bonuses are paid if targets are reached or exceeded. A lump sum is granted to the factory director and another lump sum is designated to the other staff members with the factory director determining the way of distribution. Each staff member is usually given equal shares. Because funds are needed for future development, the amount of bonus is usually small. Theoretically, the distribution of cash bonus is at the discretion of the factory director. But if there is none, staff morale would be low. There are 2,400 workers and 400 marketing personnel in the factory. On average, their basic monthly pay is around RMB200. Government subsidies on high cost of living, particularly on food and utilities, are around RMB50 per month. Cash bonus for each worker is around RMB500 per annum. Altogether, the total income per worker is less than RMB300 per month. Depending on the efficiency of the enterprise, cash bonus can be converted permanently into basic wages, but government approval must be obtained before this can be done. The chief accountant contends that large state enterprises are subject to more restrictions than those enterprises in small towns and villages. One example is the discretion of bonus distribution. Some factory directors in the small towns and villages are suspected to be profiteering their enterprises at the expense of all other members.

The city's Metallurgy Bureau (the factory's superior government agency) evaluates the performance of the enterprise based on six indicators:

1. sales volume/production volume
(weighting: 15 points)

It measures the extent to which the enterprise is over or under stock. The ideal ratio is 100%.

2. profits before tax/total assets
(weighting: 30 points)

Total assets comprise the average net book value of fixed assets and the average value of current assets (excluding debtors) during the period under review.

Debtors are excluded because they are largely regarded as uncontrollable by enterprises.

3. net industrial production value/total assets
(weighting: 10 points)

Net industrial production value is profit before profits tax, sales tax, wages, transfer to employee welfare fund, interest and other non-operational expenses. Total assets are the same as in (2).

4. profits before tax/total costs
(weighting: 15 points)

Total costs are specified by the accounting standards. They exclude the wages and salaries of marketing personnel and advertisement expenses. This ratio measures the efficiency of the production force.

5. net industrial production value/average number of employees
(weighting: 10 points)

Net industrial production value is as in (3).

6. sales/controllable current assets
(weighting: 10 points)

This represents the turnover rate. Since debtors are excluded, the main items of current assets left are finished goods, work-in-progress and raw materials.

Figures for 1991 are used as the base for calculating any increase or decrease. For every increase of 1 percentage point for each ratio, a score of 1.5 points is given to that ratio. A real achievement is made only if the aggregated points for 1992 exceed 100 (The aggregate score points of the six ratios for the base year 1991 add up to 90 points only). However, enterprises will not be given any pecuniary rewards by the city's Metallurgy Bureau even if they supersede the 100 score points. Instead, the achievements will be publicised in newspapers, and the enterprises will be granted a certificate of honour and highly praised on important occasions or at meetings organised

by the provincial government. Most enterprises still regard these spiritual rewards as useful and important because these rewards raise the enterprises' public image and reputation. Convenience would thus be gained when doing business with customers and suppliers and when dealing with other government officials. Furthermore, the local government is likely to be much more willing to help solve problems and difficulties of the enterprises concerned.

(3) Divisional performance measurement.

The enterprise has 14 branch factories; each is responsible for the production of one separate product. Basically, they have more autonomy than before. They can decide on their own production and sales levels, employment of personnel and purchase of materials and resources. However, financial power is still retained by the main factory. Each branch cannot possess a separate bank account and all receipts and payments must go through the main factory for approval. The factory director co-ordinates all the activities of the factories.

Performance is evaluated monthly by comparing absolute figures with targets. Evaluation of financial data are made more infrequent and irregular because of the unavailability of certain monthly figures.

Important decisions are made in meetings consisting of the following three parties: the factory managers, the staff representatives and the party secretary (responsible for conveying political guidance of the state to the staff of the enterprise).

4.9 The MY Case

(1) Background information.

The company's former entity, the Heshan Textile Main Factory, was established in 1979. It is situated in the city of Heshan, which is about 50 km. South-west of Guangzhou. It has a population of around 345,000 (Ministry of Public Security, PRC 1996). The scope of its operations developed from the single line of textile production to the diversified businesses of property development, import and export trade, and securities investments.

However, its main line of business is still in the manufacturing of blankets, mattress, pillows, and other bedclothes. Over the past 15 years, the company has adopted several production lines of advanced technology from Japan and Hong Kong. This raises considerably the quality of its products to the international standard, which has gained many awards in China and overseas. The markets of its products include China, Hong Kong, Taiwan, Japan, the Middle East, and Russia.

Sales increased tremendously from RMB0.33 million in 1980 to RMB1,130 million in 1993. In 1993, profits before tax was RMB177 million, among which foreign currencies gained was US\$20m., representing an increase of 177% and 63% respectively over the previous year. Fixed assets and projects under construction amount to RMB443 million and current assets are RMB504 million. The number of employees are around 5,800. It was classified as one of the 500 largest enterprises and one of the 10 largest textile enterprises in China. In September 1992 its status was changed to a joint stock company, and in November 1993 its shares were listed on the Shenzhen Securities Exchange.

(2) Divisional performance measurement and rewards.

The main factory of MY monitors the performance of its ten branch factories mainly through entering into responsibility contracts with each of them. The branch factories are required to attain targets set on production volume, product quality, and production costs. Fulfilment of them leads to payment of a predetermined total wage bill. Over-fulfilment results in more payment, and under-fulfilment results in less payment. The decision on income distribution among employees is left with the individual branch factory managers.

Cost control is operationalised as follows. Since all of the branch factories are cost centres, the most important groups of targets are standard costs. The quality of finished goods is categorised into 1st class, 2nd class, 3rd class, and low class. For one 1st class unit produced, the main factory is committed to pay 100% of the standard costs to the branch factory concerned. For the other classes, the respective figures are 95% for the 2nd class, 90% for the 3rd class, and 85% for the low class. However, the main factory is only responsible for half of the amount overspent. For example, if the

standard costs of a 1st class finished unit is RMB100, and a particular unit is finished as 2nd class and the actual costs spent are RMB103, then only $\text{RMB}[95 + (103 - 95)/2]$, that is RMB99 would be recognised, and the difference of $\text{RMB}(103 - 99)$, that is RMB4 would have to be borne by the branch factory concerned. Standards costs consist mainly of raw materials, and repairs and maintenance of machines. Depreciation of machines is regarded as uncontrollable by the branch factory and is thus excluded.

Wages are paid according to the quality and quantity of finished goods. For example, standard wages are set for finished units of various classes. RMB10, say, would be allowed for a 1st class unit, RMB9.5 for a 2nd class, RMB9 for a 3rd class, and RMB8.5 for a low class. The total wage bill allowed is the result of the number of finished units multiplied by the wages allowed per unit. Target quantity is set for each type of product. A bonus of RMB3 is paid for each first class unit superseding the target quantity; this amount would be reduced accordingly if lower quality is achieved. Although the factory managers could decide the way of distribution of income among the their employees, there is a restriction on that paid to managerial and supervisory staff. They are not allowed to receive more than 1.5 times of the average income per employee, the most recent figure of which is RMB8,000 per annum.

(3) Controllability of performance.

Since most of the production lines are highly interdependent, delays in one line may affect others. However, all the branch factories are described as modern and efficient. Production facilities are new, the quality of product is high, and sales are excellent. Disruptions in production seldom occur. As these favourable conditions have been maintained for the recent years, targets and standards set are largely appropriate and accurate. The main factory is responsible for the supply of raw materials, the maintenance of machines in the branch factories, and marketing and sales of the products. Under these circumstances, the branch factories are pure cost centres and their uncontrollables are regarded as few.

Nevertheless, the company experienced some uncontrollable situations in the past. The senior management's attitude is that adjustment of targets would be made if uncontrollables dragged on for a long while and their effects are material. For example,

it is unlikely that the effects of traffic jams would be taken into consideration even if they affect production.

The company is highly automated, and thus labour is not the main production factor. On top of this, 60% of the workers are temporary, others are chiefly contracted staff. Inefficient workers can be easily penalised and even dismissed. This is a clear advantage over other old state-owned enterprises where most of the workers are either permanent or retired, and require a huge amount of welfare expenses from the enterprises.

One concern expressed is the small income differential between the workers and the managerial staff. The 1.5 times income constraint may produce some adverse effects on managerial incentive. A scheme is being considered by the Company to increase the autonomy of the branch factories by granting them status of separate legal entities.

4.10 The SS Case

(1) Background information.

SS Electric Appliances Co., Ltd., is one of the leading companies in its field in China. In December 1993, the company was reorganised into a joint stock company. In 1993, it ranked 217th out of the 500 largest companies in China and 25th among the 50 largest industrial enterprises in Shanghai, which has a population of around 13.0 million (Ministry of Public Security, PRC 1996). SS has about 2,700 employees. In 1993, the company manufactured, among other products, 480,000 refrigerators, 40,000 air conditioners and 36,000 microwave ovens. SS has a well-established network of marketing and after sales offices. In addition, the company has 300 service counters in outlets throughout the country. All outlets feature the company's slogan, 'To Buy SS is to Buy Confidence'.

(2) The Contract Responsibility System.

The Contract Responsibility System started operation in the company from 1988. It was originally intended to run for five years. When the contract was due to expire in 1992, it

was extended for almost one year. In October 1993, SS changed to the share capital system and was subsequently listed on the Shanghai Securities Exchange.

The base profits in the contract agreement were agreed at RMB1.4 million when the contract started (see the translated Agreement in Appendix 1). In principle, every year within the contract period the first RMB1.4 million after-tax profits are to be submitted to the superior government agency, that is, the Second Light Industry Bureau of the City of Shanghai. If there are surplus profits, bank loans have to be repaid⁷. Any further surplus is agreed to be shared between the company and the Bureau on a 80%-20% basis.

The base profits are not rigid figures, but one used as a starting point for ascertaining the target profit to be submitted to the government. Every year a new target profit may be negotiated if there are considerable changes in the environment. In principle, the spirit of the Contract Responsibility System is to cater for the unique circumstances of each individual enterprise, so that the base profit is tailored to the needs of each specific case. However, it is normally difficult to foretell accurately the future performance and development of an enterprise due to the rapidly changing government policies and economic conditions. The base profits, as a rule, are set as the average for the five years prior to the start of the contract. By this method, those enterprises which have a record of poor performance but have future potential, will be able to retain more profits, because the target profits were fixed at a low level. On the contrary, those ‘matured’ enterprises have a record of good performance but have limited development potential, will share less profits as performance tops out or declines, because target profits were fixed at a high level. Since SS's profits prior to the contract period were low, it was able to negotiate a low target profit figure. The improved performance within the contract period enables SS to retain a large amount of profits. The after-tax profits for 1987 through 1993 are tabulated as follows:

Year	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
After-tax profits (RMBmillion)	6	27	30	51	62	80	120

As can be seen from the Agreement in Appendix 1, apart from the base profits, SS has to achieve other targets as well. These include technological improvements, export value, product quality, product innovation, management standards and production safety. In order to fulfil part of these commitments, SS promised to set aside a certain amount every year as investments in the Replacement and Renovation Fund.

The interviewees commented that the Contract Responsibility System emerged at a time when there was virtually no system of performance evaluation for the state-owned enterprises. Although many defects and shortcomings (e.g. short-termed management behaviours) arose subsequently, the system had already played its role of introducing the concept of performance evaluation during the course of economic development in China. However, the system normally works in profitable enterprises. For those enterprises which are suffering losses, they are incapable of taking out a contract with the government, because it is difficult for them to guarantee future profits. It was estimated that about one-third of the state-owned enterprises are in deficit, one-third are in potential losses, and only one-third are making profits. In view of this, using the contract system as a means to improve the efficiency of enterprises does not seem to be very effective.

As China's taxation system improved, the government began to reduce its dependence on the Contract Responsibility System to regulate the collection of revenues from the enterprises. Because of these, the main function of the Contract Responsibility System, namely stimulating the working incentive and enhancing the economic efficiency of the enterprises, eventually subsided. Thus, some enterprises no longer use the system and others are considering abandoning it in the near future. For those enterprises which have abandoned or those which have never practised the Contract Responsibility System, looser systems of evaluation are adopted. Basically, a similar set of targets are initiated by the management of an enterprise and they are passed onto the superior government agency for approval. Failure to achieve these targets will not result directly in the losing of bonus or the reduction of salaries. However, continuous missing of the targets may cause transfer or even dismissal of the factory director. The government believes that linking payroll to the economic efficiency of an enterprise will bring about

the desired motivation similar to that which would be expected from the Contract Responsibility System.

(3) The share capital system.

SS abandoned the Contract Responsibility System in late 1993, immediately became a joint-stock company and floated its shares on the Shanghai Securities Exchange. Two reasons were given for this change.

1. To facilitate the raising of capital.

Banks have always been the main source of funds for all state-owned enterprises. Since the overwhelming majority of banks are also state-owned, whenever the government decided to implement a tight money policy, it would instruct the banks to contract credit and cut their lending. The government would also impose quota and ceilings on lending to different industries and for different purposes. If an enterprise can raise capital in the stock market, it could avoid the adverse effects of a credit contraction.

2. To reduce government intervention in the enterprise.

Government's⁸ direct intervention in the daily operation of state-owned enterprises has been regarded as one of the major hindrances to their economic efficiency. The change to the share capital system made this kind of intervention indirect. Important decisions are made at shareholders' meetings and they do not require government's approval. Generally speaking, old cities, like Shanghai, would be subject to more intervention than new cities, like Shenzhen. Nevertheless, since the government's main purpose is to improve the performance of state-owned enterprises, it is generally expected that it will reduce its intervention across the board. An example of the reduction of intervention is the 'market liberalisation' starting from 1989. There is normally no control on the pricing of new products. For old products, adjustment of selling prices must be approved by the relevant government authorities. Contract staff⁹ are allowed in the recruitment of employees. Although the contract system was abandoned, payroll is still linked to profitability. Total income of the employees increases or decreases with the ups and downs of the company's profits. However, the management can control the total

income of individual employees. For the average employee of SS, the basic salary is only RMB200 per month, other variable incomes (including bonus) and subsidies amount to RMB800. SS's policy is to relocate inefficient employees to another post, pay them the basic salary and possibly provide them with more training and education. Since an efficient employee can earn up to RMB1,000, there are wide variations in income among employees as management believes this will result in higher motivation.

(4) Divisional performance measurement.

The criteria for evaluating the performance of divisions (production and support) are set by the finance section. There are three types of measures for the production divisions. The first and the most important one is cost, which mainly comprises of raw materials and consumables. About 90% of the shop floor costs are variable. A transfer pricing system is used to govern goods moving from one process to another. Standard costs and transfer prices are set by the management and are adjusted when necessary. Profits are also calculated for those production units which have transfer-out income. The second performance measure is production volume. The third measure is work-in-progress working capital, that is, the total funds used for the work-in-progress. A slogan is used to reflect the principle of performance evaluation, that is, 'The Two Increases and the Two Decreases', which represents increases in revenues and decreases in expenses, and increases in production and decreases in consumption. Actuals falling within 3-5% of the standards or targets are treated as normal. A bonus will be awarded for performance above this level to a division as a whole. Division heads have the discretion to decide the amount of bonus allocated to individual employees. However, different grades of staff have different bonus coefficients, which are also fixed by the management. For instance, a higher-grade staff may get a higher bonus for the same level of performance.

(5) Controllability of performance.

It is claimed that there are few uncontrollable elements for the company. In the production units, raw materials constitute 93% of the total costs, wages make up 3-5%. Central administrative costs are not allocated to the shop floor. In case of the occurrence of uncontrollables, it is easy to separate their effects. In a case where hot weather caused the machines to run out of order, the management was willing to adjust

the targets downward. On another occasion where some raw materials was delayed by a typhoon, the management allowed all the workers to take a day off, but had them work an extra day when the goods finally arrived. Furthermore, sales targets were not adjusted in recent years because of the favourable market conditions for the products.

4.11 The XH Case

(1) Background information.

XH is situated in the city of Xinhui which is approximately 100 km. south of Guangzhou; it has a population of about 847,000 (Ministry of Public Security, PRC 1996). Established and started production in 1983, the company was originally a small township enterprise depending on compensation trade. The central government has no investments in the company; it is therefore described as an 'off-the-budget' (not within the central economic planning system) local state-owned enterprise whose property rights belong to the local government. Throughout the 1980s and the early 1990s, it had grown rapidly. In September 1992, after a reorganisation, it became a joint stock company, and in October 1993 floated its shares on the stock exchange where investors were limited to enterprises. At the end of 1993, total assets amounted to RMB1,200 million, including a fixed asset value of RMB1,000 million and a current asset value of RMB200 million; net assets totalled RMB700 million and bank loans RMB350 million.

(2) Performance evaluation and rewards.

The aggregate performance of the company is evaluated by its superior government agency, the Xinhui Textile Industrial Main Company through the Contract Responsibility System. For instance, in recent years, two contracts were entered into. The first one covers a three-year period: from 1991 to 1993. It links the main targets of sales and loan repayment to the staff's variable remuneration and benefits (see Appendix 2). The second covers only 1994, that is the year after the company's listing. Since by that time bank borrowing had been considerably reduced, the main target was changed to the sole profit figures (see Appendix 3).

Before the reorganisation, in the absence of government investments, the

company's main sources of funds came from three areas. The first and the most important is bank borrowing; the second is the amount exempted from the Industrial and Commercial Tax (equivalent to the current Value Added Tax); and the third is the amount of accelerated depreciation of fixed assets¹⁰.

In the first contract mentioned above, because of the large amount of accumulated bank borrowing, its repayment constitutes the main target. Achievement of this target entitles the Company to expense to a maximum of 3.8% of the annual sales value as costs for paying employees' remuneration and benefits, which include the basic wages and salaries, bonuses, medical expenses, food subsidies, and housing expenses¹¹. If only a percentage of the target is achieved, the maximum amount of the 3.8% of sales would be reduced proportionately. For example, if only 80% of the target is achieved, only 3.04% ($0.8 \times 3.8\%$) of the sales value is allowed to be expensed as employees' remuneration and benefits.

Apart from the target of repaying bank borrowing, every year the company is required to sign another agreement with the local government for achieving an annual profit figure. The 1992 target was RMB11 million and the 1993 target was RMB11.77 million. Past experience shows that the local government has been taking care of the company in that if the total amount of dividends and taxes payable exceed the profit target then only the local government takes the contracted amount.

(3) Divisional performance measurement and rewards.

Under the headquarters of the company, there are six branch factories and one research centre. Except for one factory, the operations of all the other units are interdependent. For instance, the output of a particular production process in a particular factory may be the input of another production process in another factory. There are also frequent exchange of employees among all the units. Furthermore, no separate meters are installed for consumption of water, electricity and gas. Consequently, the units are not evaluated as independent cost centres. Nevertheless, coordination and cooperation among the units has been satisfactory for many years. Although every unit sets its own production standards, they are only considered as loose guidelines rather than as targets for evaluation and reward.

Good production efficiency has made the company successful. This success can be ascribed to three groups of employees in each factory. The first group are the senior management, who consists of one factory director, two deputy factory directors, and one party secretary. All of them are elected by the workers. The factory director monitors the overall operations of the factory. One deputy monitors the production facilities whilst the other is responsible for technologies. The party secretary takes care of personnel matters and political ideologies. The second group are the technicians, who are responsible for quality control, development of new products and technologies. The third group are the experienced skilled workers, who ensure normal production runs and the proper functioning of the production facilities.

Each of the factories has the following levels of autonomy:

1. Within the prescribed production plan, each factory can make decisions on the purchasing of raw materials, the deployment of production facilities, and repairs and maintenance.
2. Within the prescribed establishment, each factory can freely deploy its employees, appoint supervisors and foremen. However, decisions on recruitment, dismissal, number of employees, and grades are rested with the headquarters.
3. Each factory can make decisions on the way the total remuneration is distributed. Since the basic wages and salaries are fixed, only the part of the variable remuneration and bonuses could be manipulated. The average total income of an employee is around RMB800 per month, in which RMB200 is the fixed basic portion, RMB600 is variable, of which three quarters is performance-linked.

In principle, evaluation of managerial performance is based and rewards granted on the following aspects:

- | | |
|----------------------|--------------------------------|
| 1. production volume | 4. subordinates' assertiveness |
| 2. quality | 5. safety conditions |
| 3. accidents | 6. consumption of resources |

There are no fixed performance indicators. It differs from factory to factory, and manager to manager. Incentives are granted in the form of one-off special awards. The amount varies from RMB3,000 to RMB5,000 per person. Bonus differences are not large among individual managers. Total income for a manager could not be higher than two times of that of an average worker.

Because of the rising prices of raw materials and energy, no standard costing system is adopted by the company. It is estimated that raw materials occupy 60% of total costs (including indirect costs of depreciation and management expenses).

The interviewees do not consider that many small quantitative targets could improve performance. According to their experience, an over-emphasis on setting performance indicators produces the following effects. Managers and supervisors spent a lot of their productive time in meetings to design and to revise 'appropriate' measures of performance. Numerous calculations then follow to compare the actual results with standards. This exercise would easily give rise to many manipulations, misrepresentations, and falsifications of data by the subordinates at the expense of quality and innovation, which are considered to be more important than quantity in a highly competitive environment. In view of all these, the company adopts a policy that emphasises cooperation, flexibility, and group evaluation. It tries to avoid setting many quantitative targets for every small unit.

(4) Controllability of performance.

Due to the specific nature and historical developments, each unit faces different situations of uncontrollables during performance evaluation. On the whole, uncontrollable factors are relatively few with respect to the evaluation of the units' performance. Consequently, adjustments to the required standards and targets could be easily made. However, the company as a whole is considered to be exposed to the influence of more uncontrollables (e.g. the rising prices of raw materials and the keen competition within the industry). Evaluation of its aggregate performance by the superior government agency therefore becomes more subjective. The normal practice is that no adjustments would be made to those uncontrollables affecting the company as a

whole. Under these circumstances, if profits or costs were to be contracted for, not many people would be willing to commit themselves because of the high risks involved. The only thing that could attract contractors is that the contract targets are set low (e.g. a small profit to be submitted to the Government) so as to create a wider margin of safety for absorbing the expected risks.

4.12 Issues of Performance Evaluation and Controllability

From the above cases common features of performance evaluation practices and controllability issues can be categorised into two groups: one refers to the evaluation of aggregate firm performance within which most of the issues are uncertainty oriented; the other refers to the evaluation of divisional performance which is featured by the presence of few uncontrollables.

4.12.1 Evaluation of aggregate firm performance is uncertainty oriented

(1) Fluctuating government policies.

Fluctuating government policies as mentioned in the SS case may affect the performance of enterprises. Although the general trend for the government is to reduce intervention into the daily operation of the enterprises, adverse economic conditions sometimes cause the government to re-impose controls which were previously suspended. Contract targets may not be fulfilled because the existing environment differs considerably from that at the time of target-setting.

(2) Poor coordination among government departments.

The two examples of the LO case illustrates how chaotic coordination among government departments in administering the payment of firms' income tax and how weak the enforcement of the tax laws and regulations in China could affect a firm in formulating its budget and hence its performance.

(3) Unclear terms in the business contract.

As demonstrated in the SS case, if an enterprise is under the Contract Responsibility System, it will encounter the following uncertainties with respect to the terms of the contract:

a. Some contract terms are changeable

(i) As stated in the contract, the targets of submitted profits and taxes are for reference only; and as revealed by the interviewees, the base profits may be re-negotiated due to changed environment, and the figures in the contract are therefore not necessarily final.

(ii) It is also possible for the export target to change, because it is subject to the formal agreement made later between the company and the trade authorities.

(iii) Part V of the contract states that due to important changes in government policies and other uncontrollable factors, both parties can make amendments. However, no explanations are given as to what constitutes important changes and uncontrollables.

b. Some contract terms are not definite

(i) When the base amount is superseded, it is stated in the contract that the company can retain a portion of the profits. However, the sharing ratio is not spelled out in the contract.

(ii) Much discretion is left with the authorities in granting rewards and imposing penalties. For example, if the targets are achieved, the contractor can obtain income higher than that of an average worker by one to three times; but if the targets are not achieved, his basic wages and bonus will be reduced by 5% to 10%. No definite relationships between achievements and rewards are specified. It is not clear how much should have been achieved before a certain percentage of reward is granted.

(iii) Although government's responsibilities are stated in the contract, they are, nevertheless, described in very general terms. For example, Part IV.2.(1) of the contract shown in Appendix 1 states: 'To protect the contracting managers' legal interests and to help them in co-ordinating activities and in solving problems'; (2): 'To guarantee the

realisation of the contractor's rights and interests'; (3): 'To review and investigate the contracted management activities'. Under these general promises, it is very difficult to judge whether government has fulfilled its responsibilities or not.

(4) Inconsistent targets.

In the ZJ and XH cases, it can be seen that special arrangements, other than the normal profit targets could be negotiated with the government in the contract. Items may include sales, tax payment, tax exemption, interest payment, depreciation and loan repayment. They are considered as an integral part of a package deal during the contract negotiation process. Evaluation based on financial data and ratios alone, therefore, cannot effectively reflect the performance of an enterprise unless the effects of such special arrangements are adjusted before comparisons are made with other enterprises.

(5) Inconsistent rewards.

In most of the cases rewards are pecuniary in nature. For example, bonuses are granted when targets of production, sales, profits, technological improvements, and safety standards, etc., are achieved or superseded. But in the ZJ case, the evaluation-based financial ratios are used only for granting spiritual reward which is in the form of a highly publicised praise. This contrasts with the DS case in Taylor and Liu (1992) where targeted ratios are used as the basis for pecuniary rewards.

(6) Government subsidies and intervention.

Heavy intervention into a firm's operations by the government makes the results of performance uncontrollable by the firm itself. Intervention may be in the form of subsidies to the employees for the high cost of living, restrictions on the total amount of wages and bonus, discouragement of laying off workers, and the imposing of state-planned production output targets. Their presence makes a 'fair' evaluation of 'true' managerial performance difficult. Examples in the case studies (the PC and the KX cases) show that government intervention adversely affect firm performance. In the PC case, 60% of the petrochemical company's output is reserved for the markets stipulated by the government and the plant and equipment which are only suitable for processing

government crude oil are also to be supplied by the government. In the KX case, the abrupt change to a freer recruitment policy by the government creates difficulty for the firm to recruit efficient workers. In the SS case, the company is restricted in pricing old products, in changing its payroll, and in recruiting and dismissing workers. The effect of performance distortion depends on the degree of intervention. In the CQ case, the payroll constitutes a large portion of the total expenses, any changes in subsidies and the restrictions in the payment of wages and bonus will have a significant impact on the company profit.

(7) Linking payroll to enterprise/divisional performance.

As pointed out in the SS case, even when an enterprise operates under the share capital system, it is still subject to some government control. An important example is the linking of the payroll to the enterprise profits. This restriction deprives the enterprise of the freedom to adjust employee's remuneration. In the XH case, employees' remuneration and benefits are linked to sales. In the MY case, a division's total wage bill is also linked to its achievement of targets of cost and quality.

(8) Non-commercial objectives.

In all Chinese enterprises it is common to have party secretaries assigned to different levels of hierarchy. Their main duty is to convey government's or, more precisely, the Communist Party's ideology guidelines to all staff. In practice, they usually have a significant influence on firm policies and operations. It is no exception in the ZJ case where the chief party secretary is expected to affect the commercial decisions of the enterprise through implementing political objectives of the state. Examples include guided product prices, production volume, supplies and markets. If the effects of these policies can be ascertained, the evaluation system will be less distorted.

(9) Heavy burden of social facilities.

The CQ case illustrates the heavy burden of social facilities that an old state-owned enterprise has to bear. In this enterprise, wages and fringe benefits of staff occupy a large portion of its total expenses. This explains why controlling the total wage bill

becomes the major concern of the local government during the performance evaluation of this enterprise. The opposite is true in the MY case, where the branch factories are all highly automated and most of the workers are contracted staff and easily penalised and dismissed. The absence of the social burden of old staff in MY makes it an efficient enterprise.

4.12.2 Few uncontrollables in divisional performance evaluation

(1) Non-economic factors as divisional performance measures.

In the CE and the AU cases, rewards like increased wages, bonus and fringe benefits may be granted for achieving production and financial targets. When job retention and promotion are considered, other factors like managerial competence, political ideology, morality, coordination ability, and personal relation may also be taken into account. This highlights the priority of political objectives over economic objectives in socialist China.

(2) Group evaluation to meet interdependence of cost centres.

In the XH case, although both economic and non-economic measures are used for divisional performance measurement, they are not the sole standards for staff compensation. The company does not believe in the effectiveness of imposing multiple quantitative targets on the divisions because they are highly interdependent. It adopts a policy that emphasises cooperation, flexibility and group evaluation could promote quality and innovation. Members of senior management are elected by the general staff and more autonomy is given to responsibility centres. All these contribute to create a 'harmonious' atmosphere at the divisional level.

(3) The effects of uncontrollables are recognised.

The effects of uncontrollables on performance are normally recognised when divisional performance is measured. For instance, in the CE and SS cases, targets may be adjusted downward when performance is adversely affected and the expected bonus would not be reduced. Although upward adjustments of targets are seldom made, outstanding performers sometimes may be granted rewards less than the proportional increase of

their achievements. This is to take account of the chance factor and the adverse feeling of the under-performers.

(4) Less uncontrollables for divisional performance.

The XH case illustrates that uncertain environment influences firm performance considerably. Performance evaluation thus becomes more subjective and the effects of uncontrollables will not normally be adjusted. On the contrary, it seems that uncontrollables do not affect divisional performance to the same extent as to firm performance. In the SS and MY cases, since only cost-related measures are employed for divisional evaluation and most of the costs are variable, performance should be largely within the control of division heads. In the rare case when uncontrollables occur, as demonstrated by both the SS, MY and XH cases, their effects on performance can normally be adjusted easily and handled satisfactorily. On the whole, there are few problems of unfairness. One point worthy of note is that standard costs and transfer prices are set by the SS management, there is thus no autonomy for the divisions in so far as the standards are not within their control. Dissatisfaction, however, may result if these measures are inappropriately set.

4.13 Analysis and Discussions

From the case studies, it can be seen that performance evaluation in China is mainly operationalised through the mechanism of the Contract Responsibility System, an assessment of its distinct function is made below.

The terms of the 'contract' used in the Contract Responsibility System are very loose, and the contract therefore looks more like a statement of intent than an agreement. However, according to the Temporary Regulations of the Contract Responsibility System for the State-owned Industrial Enterprises (State Council, 27 Feb. 1988), the terms in the contract are legally binding, and each party in the contract cannot change or be released from them without further agreement. If there is any argument between the local government concerned and the contracted enterprise, they should start to solve the problems by negotiation; if the negotiation fails, the case can be brought to the Industrial and Commercial Administration Bureau for arbitration¹², or it can be

brought to the People's Court. In practice, there are few related litigation. One example quoted in the interview concerns an enterprise which did sue the government for non-performance; but being the superior authority the government simply replaced the enterprise's management and the People's Court just disregarded the case. Thus, the Contract Responsibility System can be interpreted as part of the policy of gradualism towards freeing firms. Its implementation is formalised by means of a legally binding contract. In the meantime, the loose terms in the contract also gives the government the option to be as tight or interventionist as it sees fit.

As far as the evaluation of firm performance is concerned, China has made great improvement since it started with very crude measures and progressed to those of the Contract Responsibility System. Since the pace of control relaxation has not been compatible with the rapid changes in the economy, state-owned enterprises have been facing many uncertainties. Coupled with the non-specific terms in the business contract, these uncertainties might cause a feeling of unfairness when the aggregated performance of a firm is evaluated¹³. However, there is evidence which shows that divisional performance is less affected by uncontrollables, because most of the divisions are in fact cost centres and they would not be held accountable for uncertainties which influence the whole enterprise. This echoes the view of Tang (1990a) that responsibility centres in China are usually small and take on little responsibility (see 2.3)

Although faced with many uncertainties, contractors of enterprises' operations would still be willing to commit themselves to the task, because the chance of the enterprise going bankrupt is remote and the government is not yet prepared to see a large number of unemployed. The downside risk for the contractors is therefore low. The 'harsh' punishment is only limited to a reduction in income. In fact, income differentials in China have been relatively small. The most important remuneration is staff dormitories, which are allocated to all married employees but not granted as a reward for good performance. As such, they are not performance-linked. In the absence of appropriate remuneration and penalties, the Contract Responsibility System might encourages risky actions by the contractors.

Apart from the assessment of the function of the contract system, an analysis of the evaluation factors described in the previous section helps to explain why managers in

China can be expected to have a low controllability of firm performance and why they would be less accountable for their performance. Figure 1 illustrates the relationships between these factors and the extent of managerial controllability and accountability.

From the description of the issues of performance evaluation in the previous section uncertainty is identified as the major determinant of managerial controllability in China. In fact, it was already pointed out that the problem of uncertainty is the most relevant part of the agency theory in China (Li 1994)(see 3.6) and it is very difficult to control (Anthony and Govindarajan 1998)(see 1.4). Similar examples of uncertainty are also described in 2.4 where evidence is drawn from the literature. Controllability is considerably weakened due to the fact that this factor is largely outside the control of firm managers. Having understood this phenomenon, the superior governing authority of a firm normally adopts a flexible attitude of evaluation: i.e., rewards will still be granted, or penalties will not be imposed for underperformed targets. In other words, managers are not strictly held accountable for their performance.

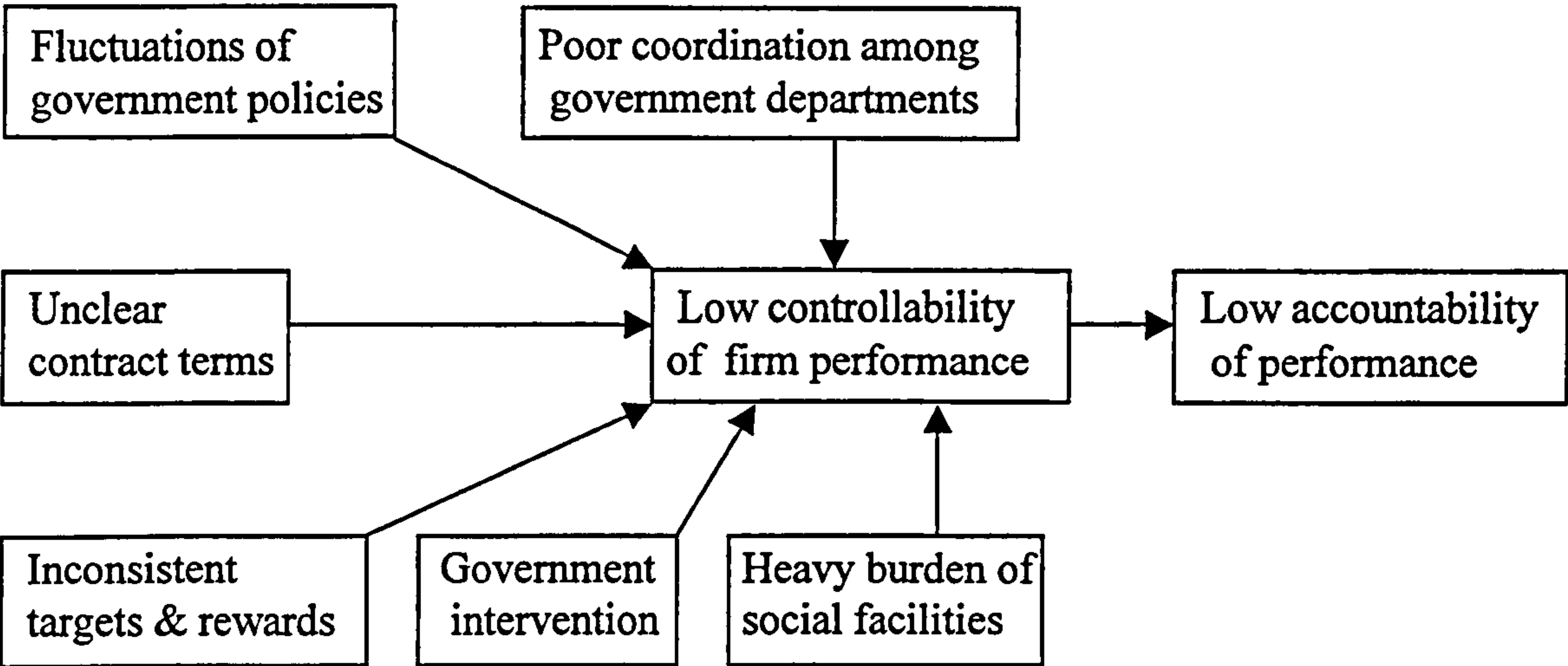
Overall, it is clear that the Chinese government has realised the benefits of decentralisation. Government leaders understand that more firm autonomy will increase the efficiency and effectiveness of business enterprises. Increased managerial controllability and accountability of firm performance are therefore expected. The contract system is an instrument for implementing this policy. However, since a gradual change is preferred at the beginning of the reform process, many environmental problems, such as uncertainties, government intervention and the burden of social facilities, which affect performance evaluation still remains, albeit with a less degree. Accordingly, problems of performance evaluation in China are closely connected with the pace of control relaxation, a quickening of which may strengthen the accountability of the enterprises.

4.14 Comments and Summary

The cases described in this chapter highlight some of the important issues of performance evaluation under the Contract Responsibility System in China in recent years. They also confirm that most of the phenomena existing in the 1980s, as discussed in the previous two chapters, still prevail in mid 1990s. For evaluating and rewarding

Figure 1

Uncertainty Factors Affecting Firm Controllability and Accountability in China



aggregate firm performance, one main theme can be deduced. That is, comparisons of performance are made difficult by factors such as inconsistent and unclear terms of the business contract, frequent government intervention, and changes in government policies. All these factors are largely uncertainty oriented. They create great difficulties for the enterprise managers to fulfil their targets and obtain their rewards specified in the business contract. Since controllability is low, enterprise managers are not usually held accountable for their performance. Nevertheless, the business contract only binds the aggregate firm performance. It does not directly affect divisional performance within a firm. Divisional managers do not face the same level of uncertainties and accountability as the general managers do.

Endnotes:

6. The four universities which offered assistance for the interviews are Jinan University in Guangzhou, Shanghai University of Finance and Economics in Shanghai, Chongqing University in Chongqing, and the Xi'an Jiaotong University in Xi'an. All professors approached in these four universities are of the same view that getting access to firms in China for research purposes is very difficult without the help of some personal connections, because an open attitude of information disclosure has not well developed yet in China.
7. SS had accrued a considerable amount of bank loans before the start of the contract.
8. Broad policies on the evaluation of firm performance are set by the central government and implemented through local authorities. In the case of SS, these policies are monitored by its superior, the Second Light Industry Bureau of the city of Shanghai.
9. In most of the state-owned enterprises, employment is almost permanent in nature, that is, it is extremely difficult to dismiss employees unless they have committed very serious mistakes. However, in recent years, employees under fixed-period contracts are allowed and dismissal is possible on the expiry of their contracts.
10. It is the policy of the local government to allow higher depreciation rates for the efficient enterprises. The allowed depreciation rates for ordinary enterprises range from 5% to 7%; but the Company is allowed one of 15%. However, 70% of the amount gained from the increased depreciation is designated to repay bank borrowing.
11. Building staff quarters is the largest item of housing expenses in most enterprises. It was estimated that the company needed to spend RMB11 million every year to build quarters. Funds for such purposes come from three sources. The amount of profits agreed by the local government as part of the employees' benefits is only one of the sources. The second is the annual balance of the Overhaul Fund, which is created by making a 5% annual provisions on fixed assets. Approval of the local government is

to be sought before it can be used for building quarters. The third is the General Reserve Fund which is created by setting aside 5% profits after tax.

12. The Industrial and Commercial Administration Bureau is a local government agency which handles the business registration of all the state-owned enterprises and monitors their scopes of operations. Processing of the arbitration of conflicts arising from the agreements signed under the Contract Responsibility System is also one of its duties.

13. On the other hand, one could argue that a very loose contract is suitable in an unpredictable environment.

CHAPTER 5

HYPOTHESES DEVELOPMENT OF THE CONTROLLABILITY PRINCIPLE

The western and the Chinese practices of performance evaluation and the related issues of the controllability principle were reviewed in the first three chapters. The case studies described in Chapter 4 confirm that most of the Chinese practices in the 1980s are still prevalent in the 1990s. Sufficient evidence is thus available to develop a conceptual framework of the controllability principle. In response to the second and third research questions stated in the Introduction, this chapter attempts to set up hypotheses to examine the factors that may influence the treatment of uncontrollable items of performance, and meantime, to compare those factors between China and Hong Kong.

5.1 Conceptual Framework of the Controllability Principle

Based on the information collected in the literature review and the case studies in the previous chapters, a conceptual framework of the controllability principle in performance evaluation can be developed. It was pointed out in Chapter 1 (Comments and Summary) that ten factors are offered by the research literature to explain the diversity of the controllability principle, that is, to explain why managers are sometimes held accountable for uncontrollable items of performance and sometimes not. These variables were identified or supported by those writers listed below:

- (1) risk attitude of senior management and division managers
(Demski 1976; Merchant 1987)
- (2) influenceability of division managers' decisions
(Baiman and Noel 1985; Merchant 1989; Horngren et al. 1997)
- (3) environmental uncertainty
(Otley 1978; Merchant 1984; Merchant 1987; Anthony and Govindarajan 1998)
- (4) subjectivity of senior management

(Merchant 1987; Merchant 1989; Maciariello and Kirby 1994; Anthony and Govindarajan 1998)

(5) information cost

(Merchant 1987; Anthony and Govindarajan 1998)

(6) observability of division managers' actions

(Merchant 1987; Zimmerman 1979; Baiman and Demski 1980; Holmstrom 1982; Antle and Smith 1986; Maher 1987; Banker and Datar 1989; Ugras 1994)

(7) levels of hierarchy

(Ugras 1994; Zimmerman 1979; Suh 1987; Suh 1988; Demski and Sappington 1989)

(8) firm size

(Ugras 1994; Zimmerman 1979; Demski 1981; Sannella 1986)

(9) divisional diversity

(Ugras 1994; Baiman and Demski 1980; Holmstrom 1982)

(10) divisional coordination

(Atkinson 1987; Ayres 1985; Horngren et al. 1997; Ugras 1994; Merchant 1989; Zimmerman 1979; Demski 1981; Cohen and Loeb 1988; Suh 1987; Suh 1988; Rajan 1992)

As mentioned in 1.1 many writers classify uncontrollables in the theoretical way without empirical support, but only Merchant (1987) classifies uncontrollables based on real-life context. His classification is thus more capable of reflecting the views of the practitioners. He classifies uncontrollables into the following three groups:

(1) uncontrollable corporate and common costs.

Examples are taxes, interest expenses, exchange gains and losses, the costs of centralised administrative functions, and the effects of entity-relevant decisions for which the entity manager does not have complete autonomy.

(2) economic and competitive factors.

They include such concerns as business cycles and price and product competition.

(3) acts of nature.

Examples are disasters such as fires, earthquakes, and accidents.

This description of uncontrollables is more comprehensive than that of other writers, because it includes elements such as recorded allocated costs caused by organisational factors as well as income, opportunity cost and revenue caused by changes in environmental factors. The managerial attitude of treating uncontrollables is therefore better measured by their attitude towards these three components.

Merchant (1987) also discovers that senior management's attitude of treating these uncontrollables varies considerably across firms. By linking the ten explanatory variables to the three groups of uncontrollable items (i.e. by assuming the ten factors can explain for the variations of the treatment of the three groups of uncontrollables), a conceptual model of the controllability principle can be depicted by Figure 2.

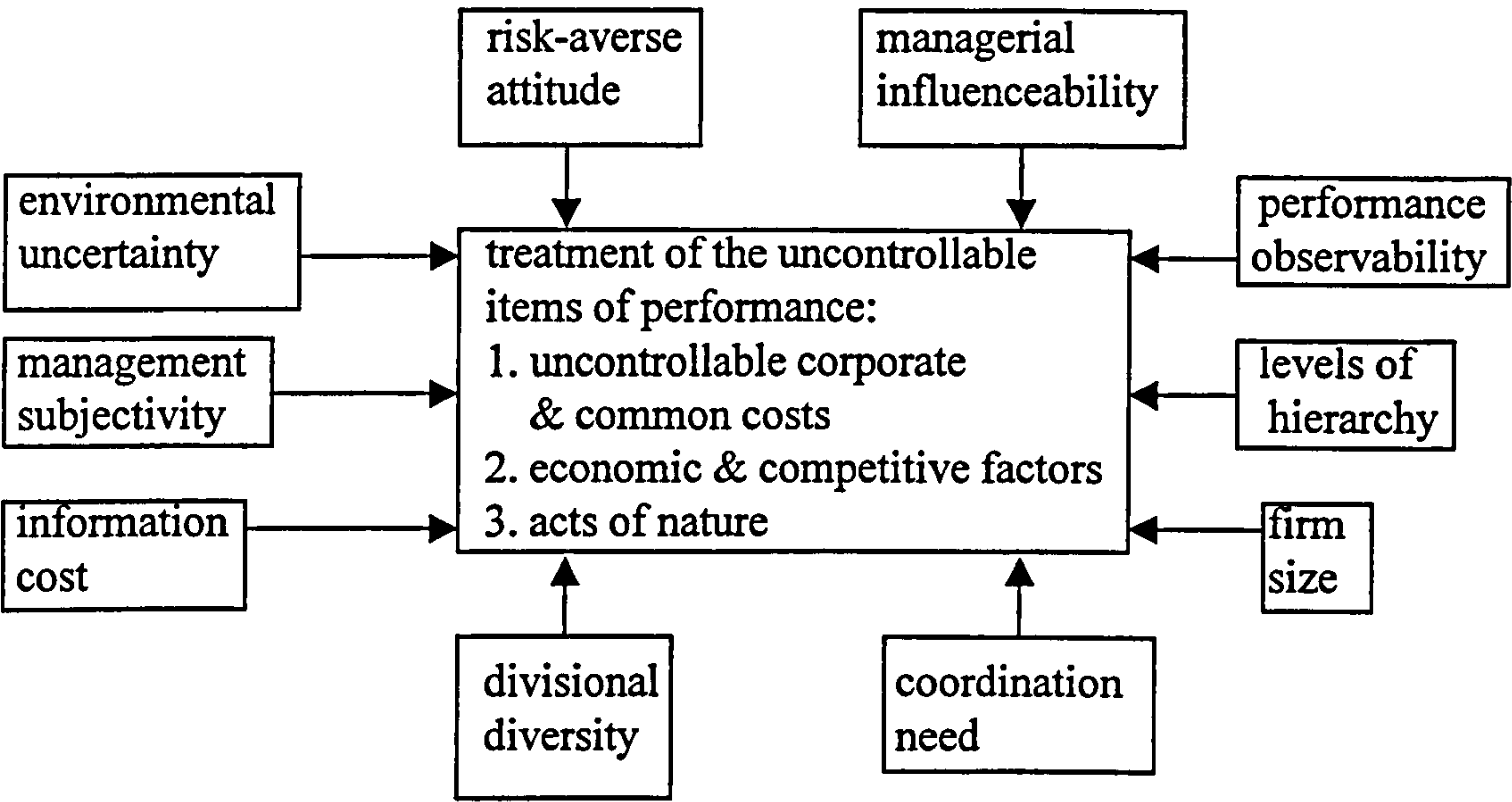
5.2 Hypotheses Development

In Chapter 1 (see 1.1 and 1.4), it was pointed out that, apart from studies by Merchant (1987 and 1989) and Ugras (1994) in the USA, no attempt has been made to test empirically the explanatory power of potential variables that may influence the accountability of uncontrollables. The present study attempts to examine whether the validity of the identified explanatory variables can be extended to different socio-economic settings. The chosen research sites are China and Hong Kong.

Although Hong Kong and China are both Chinese societies, their economies are subject to the influence of different ideologies. The former is a capitalist economy whilst the latter is a socialist economy. Furthermore, Hong Kong is an international financial centre; many of its management practices and accounting techniques are westernised. In fact, the management accounting function of large Hong Kong companies has reached a certain degree of sophistication (Barrow and Liu 1988), and practices of management

Figure 2

Factors Affecting the Treatment of Uncontrollables



accounting and performance evaluation are heavily influenced by western styles (Lynn 1989, Lynn 1990, Liu 1990, Liu and Ma 1991, Liu et al. 1993, Tricker and Dockery 1995). Management accounting in China is still in its early stage of development. The lack of decision making power by business managers within the command economy generates little demand for the implementation of management accounting techniques (Ge et al. 1997). Absorption of western management accounting techniques has been quite fast in the past decade, but it presents serious problems, most of which result either from the unsuitability of the western techniques for the Chinese environment, or the failure of the Chinese environment to meet the underlying assumptions necessary for these techniques to operate (Bromwich and Wang 1991). It is therefore reasonable to expect that perceptions and practices of the controllability principle are different between the two areas. For control purposes, it would be more useful and informative if senior management can be advised in which direction the differences lie. In other words, an understanding of a performance evaluation system would be facilitated if we know that managers in either Hong Kong or China are more likely to be held accountable for uncontrollables.

The extant literature does not provide much empirical evidence on the treatment of uncontrollables in China and Hong Kong. Nevertheless, a preliminary estimate of the management attitudes in both places can be made based on the literature review and the cases previously mentioned in Chapter 1 to 4.

(1) Risk attitude.

Merchant (1987) found that the extent of holding managers accountable for their performance may vary with the risk attitude of the evaluator as well as the evaluatee. An example is that divisional managers who have previously been evaluators and now become evaluatees may be more willing to accept risk, and they would be more willing to be held accountable for all their outcomes. On the part of the superior, a risk-averse attitude is more likely to cause items of uncontrollables to be excluded from the sphere of performance evaluation (see 1.4). In other words, accountability of uncontrollables will vary negatively with risk-averse attitude. This is a refinement of Demski's (1976) notion of risk sharing between the evaluator and the evaluatee. The latter's argument implies that making subordinates accountable for uncontrollables can reduce the risks

borne by the superiors alone (see 1.3). However, this will reverse the relationship between risk and accountability of uncontrollables suggested by Merchant. That is, accountability will vary positively with risk-averse attitude. Since Merchant's argument considers the risk attitudes of both the evaluator and the evaluatee, it seems to be more comprehensive. The risk hypothesis will thus be based on it.

As for the direction of the Chinese risk attitude, much can be drawn from the culture literature, among which the most widely quoted are the works of Hofstede (Brewer 1998). Hofstede (1980 and 1988) decomposes culture into the following five dimensions:

1. Power distance -- a measure of the degree to which cultures feel that inequality between people is normal and functional. Subordinates from high-power-distance cultures tend to be more obedient because they believe in the functionality of inequality.
2. Individualism -- a measure of the degree to which cultures prefer autonomy or group affiliation. Low-individualism (or collectivist) cultures prefer group affiliation.
3. Uncertainty-avoidance -- a measure of the degree to which cultures feel uncomfortable with uncertainty and ambiguity.
4. Masculinity -- a measure of the degree to which cultures stress achievement, heroism, assertiveness and material success; its opposite is femininity.
5. Confucian dynamism -- a measure of the degree to which cultures focus on long-term or short-term outcomes. Higher scores indicate a long-term orientation.

Among these five dimensions the last three appear to be connected with risk attitude. The Chinese tend to score high on the dimensions of uncertainty-avoidance and confucian dynamism but score low on the masculinity dimension. Consequently, they can be described as risk-averse because they tend to avoid uncertainty, they are not aggressive and they are long-term oriented.

Apart from Hofstede's studies, other writers have also confirmed the risk-averse characteristics of the Chinese. Chow (1994) points out that the cultural values of China and Hong Kong were investigated by Hofstede (1980), Birnbaum and Wong (1984), and Lai and Lam (1986). The characteristic of uncertainty avoidance was found to be extremely high for China and only low to medium for Hong Kong. The Chinese

superstitious way of worship, their heavy reliance on tradition (Kong 1989), and their pursuit of harmony and socially desirable behaviour (Lau 1992) all evidence a strong uncertainty avoidance societal value. Legge (1960) explains the Confucius' Doctrine of the Mean (without inclination to either side) as follows: The Chinese was taught not to let primitive passions and impulses be completely repressed or unrestrictedly satisfied. A concern for the Mean leads to a high degree of moral self-control or self-regulation, at least, publicly. Yang (1981) also found that the traditional Chinese were more cautious and more conforming when composing their responses. La Barre (1946) and Russell (1966) note that China has never been an aggressive country in world history, and traditionally the Chinese were depicted as a non-military and self-contented people. Besides, Lin (1988) also confirms the feminine character of the Chinese. All these suggest that the Chinese have a less aggressive and risk-averse attitude.

In 2.2 it was shown that because of a wider definition of uncontrollables (Tang 1995), managers in China are less likely to be held accountable for their responsibilities (Lin 1994). The preference of excluding uncontrollables from evaluation in China is also evidenced by the SS case (see 4.10) and the XH case (see 4.11) described in Chapter 4, where such preference is shown explicitly in the terms of the business contract signed between the government and the company concerned. In the business contract of the SS case, it was stated that,

...due to important changes in government policies and other uncontrollable factors, it may be necessary to amend the terms of this Agreement. Under these circumstances, both parties can make appropriate amendments and add supplementary items.
(Appendix 1, V)

In the business contract of the XH case, it was also stated that,

...In case there are important changes in government policies, financial structures, and tax regulations, both parties, after consultation with each other and obtaining approval from the City Government, may terminate the whole or part of the contract.
(Appendix 3, VII)

In the CE (see 4.6) and SS (see 4.10) cases, the effects of uncontrollables on performance are normally recognised when divisional performance is measured.

However, managerial performance in China is mainly influenced by the Contract Responsibility System which, as mentioned earlier, encourages risky behaviours, because missing performance targets do not entail serious punishment and poor performance is easily pardoned (see 2.6). Managers have little to lose since employment is secure and they have limited personal wealth. (see 3.6 and 4.13) This phenomenon seems to contradict the risk-averse Chinese cultural trait. It can be explained by the fact that the risky behaviour is a result of the institution created in recent years by the contract system which did not exist previously. Unfortunately, the deficiencies of the contract system produced widespread short-term and risky behaviours on the part of the evaluatees (Liu and Liu 1994). Nevertheless, one point worthy of note is that Communist political ideology has not established firmly in people's minds (Child 1994). One should treat Chinese political ideology as an aspect of the institutions of political economy rather than as an indigenous part of the culture. In other words, the institutions created by Communist China do not have a greater influence than the traditional values. If it is assumed that the cultural value of uncertainty avoidance outweighs the institutional factors then the following pair of hypotheses ensue.

H1a: The stronger the risk-averse managerial attitude, the smaller the likelihood of the managers being held accountable for uncontrollables.

H1b: The risk-averse managerial attitude in China is higher than that in Hong Kong.

(2) Managerial influenceability.

One of the purposes of holding managers accountable for some of the uncontrollables is to develop a feeling of increased autonomy and influenceability with a view of promoting the good of the company as a whole (e.g. Merchant 1989) (see 1.4). This statement implies that if managerial influenceability is not desired, the accountability of uncontrollables by managers would not be essential. Among the various economic modernisation programmes in China, it seems that more autonomy has been gradually granted from the government level to the enterprise level in the last decade or so; and a similar situation of decentralisation has occurred within enterprise (Taylor and Liu 1992; Liu et al. 1993a; Liu 1993) (see 3.3). However, Liu and Liu (1994), Liu et al. (1993a),

Luan et al. (1993), Byrd (1992) and Xu and Liu (1989) (see 2.4.6) also show that much of the important authority needed by the enterprises is still withheld by the government. Mandatory planning and government intervention are prevalent. The evidence suggests that the level of divisional autonomy existing in western organisations does not currently exist in most state-owned and collectively-owned enterprises in China. As far as the aspect of managerial autonomy is concerned, one could expect that,

H2a: The more influence that divisional managers have in decision-making, the greater the likelihood of the managers being held accountable for uncontrollables.

H2b: The influenceability of divisional managers' decisions in China is smaller than that in Hong Kong.

(3) Environmental uncertainty.

It was recognised in Chapter 1 that uncertain environments make the separation of controllables from uncontrollables difficult and the evaluatees of performance would be easily pardoned from their poor performance (Anthony and Govindarajan 1998 and Otley 1978) (see 1.4). On the contrary, managerial evaluation will be stricter under a stable environment because uncontrollables are easily identified (Merchant 1987). There is ample evidence showing that China has been subject to numerous environmental uncertainties since its economic reform in 1979. Multi-headed leadership (Byrd 1992 and Woo 1992), limited autonomy and government intervention (Xu and Liu 1989; Byrd 1992), inflation and economic uncertainties (Liu and Liu 1994), unclear legislations (Finance Bureau of Guangdong Province 1996), increase in 'triangle debts' (Liang et al. 1995), changing government policies (Wang et al. 1990), heavy social responsibilities for enterprises (Byrd 1992 and Liu and Liu 1994) are examples (see 2.4). Similarly, Alam (1997) demonstrates by a case study in the developing country of Bangladesh that government intervention into a state-owned firm's target setting process may lead to a loose form of accountability and evaluation.

On the contrary, in Hong Kong budget accuracy is generally regarded as high (Barrow and Liu 1988). This phenomenon is believed to be due to fewer uncontrollable

costs. Managers are normally held responsible for most of their decisions and reward systems are highly geared to actual achievement although uncontrollables are recognised to a certain degree during assessment (Liu 1990).

Against this background, it is expected that,

H3a: The greater the environmental uncertainty, the smaller the likelihood of the managers being held accountable for uncontrollables.

H3b: Environmental uncertainty in China is greater than that in Hong Kong.

(4) Management subjectivity.

Some writers (e.g. Maciariello and Kirby 1994; Anthony and Govindarajan 1998) suggest that management style of the evaluator may influence the way he/she evaluates the performance of his/her subordinates. Merchant in his 1987 study attributes the different treatment of uncontrollables partly to the change of evaluators. Again in his 1989 study, it was shown that a subjective style of evaluation may easily lead to a more lenient way of evaluation (see 1.4). A subjective evaluation style means that evaluation does not depend on objective performance measures such as quantitative and financial yardsticks. This style is usually used to protect managers against the harmful effects of certain economic factors that they cannot control if it turns out to be a 'bad' year. This style is made possible in situations where the basis on which rewards are assigned is vague and implicit. In China, it was shown that evaluation style, when compared with that in Hong Kong, tends to be more subjective, informal, qualitative, and non-specific (Liu 1996) and, as aforementioned (see 2.5, 2.6, 2.7), performance is usually evaluated and rewarded leniently. This probably results from the uncertain environment which provides few objective yardsticks for measuring performance. Along this line of reasoning, the following hypotheses can be stated.

H4a: The greater the management subjectivity, the smaller the likelihood of the managers being held accountable for uncontrollables.

H4b: Management subjectivity in China is greater than that in Hong Kong.

(5) Information cost.

As noted by Merchant (1987) the primary purpose of an information system is to help strategic decisions. To help evaluate managerial performance is only of secondary importance (see 1.4). Consequently the amount of cost in designing an information system that can serve both purposes would influence a company in making efforts to identify uncontrollables. If the cost is high a company will be discouraged to design a sophisticated information system which can clearly separate uncontrollables from controllables. Senior management's attitude of holding managers accountable for uncontrollables under this situation will thus be affected. However, whether this attitude will be stricter or looser depends somewhat on the cause of the high cost situation. It may be looser if environmental uncertainty is the cause and it may be stricter if it is caused by organisational factors such as divisional interdependency because environmental uncertainty is usually considered as being more difficult to control than internal organisational factors (Anthony and Govindarajan 1998).

The structure of a large number of small responsibility centres in Chinese state-owned enterprises hinders the design of a fair evaluation system (Tang 1990a). Since many indirect and common costs are not easily traceable to this low level, a forced allocation exercise is bound to be on very arbitrary bases and will most likely give rise to unfair feeling among the employees. Those firms, which realise this defect, will tend to avoid such allocation as far as possible and this results in the little responsibility borne by the individual workers. A trend thus develops in which responsibility centres try to avoid bearing indirect and common costs completely (see 2.3). Although Merchant (1987) found that cost of information did have a bearing on managerial accountability of uncontrollables, he neither shows a positive nor a negative relationship between them (see 1.4). Given also the limited evidence from the literature, no directional relationship could be set in the hypothesis at this stage.

In addition, since most of the state-owned enterprises suffer losses (Liu 1993; Li et al. 1993), it would not be worthwhile for them to design unnecessarily subtle evaluation systems to distinguish clearly between controllables and uncontrollables. As indicated above by Merchant (1987), cost is an important element to consider in

identifying uncontrollables, it is understandable that a loss-making firm would pay more attention to immediate problems involving with production, marketing and finance rather than with strengthening its evaluation system. In fact, evaluation in China was documented to be loose and not serious in Woo (1992) and Byrd (1992). (see 2.7) Thus, the following hypotheses can be deduced.

H5a: The amount of the cost of an information system will affect the likelihood of the managers being held accountable for uncontrollables.

H5b: The cost of information system in China is higher than that in Hong Kong.

(6) Observability of managers' actions.

Both Merchant (1987) and Ugras (1994) summarised the notion that one reason of holding subordinates accountable for uncontrollables is to capture those managerial actions not easily observed by senior management (Zimmerman 1979; Baiman and Demski 1980; Holmstrom 1982; Baiman and Noel 1985; Antle and Smith 1986, Maher 1987; Banker and Datar 1989) (see 1.3). Under the centralised firm structure and the frequent government intervention into business enterprises' decision-making process in China (see 2.4.6, 3.5, 4.12), managers hold relatively less responsibilities and thus it would not be difficult for senior management to monitor their performance, and consequently it can be expected that they are less likely to be held accountable for uncontrollables.

H6a: The higher the observability of divisional performance, the smaller the likelihood of the managers being held accountable for uncontrollables.

H6b: The observability of divisional performance in China is higher than that in Hong Kong.

(7) Levels of hierarchy.

Variables (7) to (10) are factors of organisational structure which do not normally vary with geographical area. No research evidence shows that significant differences exist

between China and Hong Kong. However, non-directional comparisons, can still be made between the two places in respect of these four aspects, namely, levels of hierarchy, firm size, divisional diversity and coordination need, so that some new findings may hopefully be found.

With similar reasoning from the observability variable, it is difficult to monitor the performance of divisions if the levels of hierarchy increase in a company. Ugras (1994) quoted Zimmerman's (1979) argument that the allocation of uncontrollable common costs to divisions is frequently seen in firms with large vertical hierarchy and the purpose is to make the subordinate act as a monitor of his supervisor. He also shows evidence from Suh (1987 and 1988) and from Demski and Sappington (1989) that allocation of prior departments' costs to subsequent departments is proposed as a monitoring device when central management cannot observe the divisions' performance (see 1.4) These arguments can thus be tested by the following hypothesis.

H7a: The larger the hierarchy in the organisation, the greater the likelihood of the managers being held accountable for uncontrollables.

H7b. The levels of hierarchy in a firm are different between China and Hong Kong.

(8) Firm size and (9) divisional diversity.

The difficult-to-observe principle, as Ugras (1994) argues, can also be extended to large (Zimmerman 1979 and Demski 1981) and diversified (Baiman and Demski 1980; Holmstrom 1982) firms. As organisations become larger, the responsibility centres' effort and performance are more difficult and complex to observe. Cost allocations are therefore imposed on the divisions as a monitoring device. On the other hand, when a firm is structured around highly diversified divisions and when central management does not have the private information the divisions have, cost allocations can be used as a control mechanism to remind the divisions that such costs are to be considered in their decisions (see 1.4).

Similar hypotheses can be set.

H8a: The greater the size of the organisation, the greater the likelihood of the managers being held accountable for uncontrollables.

H8b. Firm size is different between China and Hong Kong.

H9a: The greater the diversity of the divisions, the greater the likelihood of the managers being held accountable for uncontrollables.

H9b. Divisional diversity in a firm is different between China and Hong Kong.

(10) Coordination need.

Allocation of uncontrollable common costs to divisions are proved effective in promoting coordination and communication in a multi-agent and sequential setting. This argument is supported by many writers such as Zimmerman (1979), Cohen and Loeb (1988), Suh (1987), Suh (1988) and Rajan (1992), etc. They demonstrate that cost allocation serves as a motivational tool which induces the divisions to coordinate their actions and behave in the manner desired by the central management (see 1.4).

H10a: The greater the organisation's need for divisional co-ordination, the greater the likelihood of the managers being held accountable for uncontrollables.

H10b. Coordination need in a firm is different between China and Hong Kong.

5.3 Summary of the Hypotheses

By relating to the theories in the previous chapters, the above analysis examine two specific research problems (as previously stated in 3. of the Introduction) through two sets of hypotheses. The first set (i.e. H1a to H10a) is to investigate the relationships between the accountability of uncontrollable items of performance. (i.e. the dependent variable consisting of three components) and each of the ten organisational/ environmental factors (i.e. the independent variables). This set of hypotheses will be tested separately in China and Hong Kong. The second set (i.e. H1b to H10b) is to compare these organisational/environmental factors, which are regarded as important in

the context of performance evaluation, between China and Hong Kong. Summaries of these two sets of hypotheses and their predicted directions are shown in Table 1 and Table 2.

Table 1

Expected Correlation between the Accountability of Uncontrollables
and the Ten Organisational/Environmental Variables

<u>organisational/ environmental variables</u>		<u>predicted correlation with accountability of uncontrollables</u>
H1a.	risk-averse attitude	-
H2a.	managerial influenceability	+
H3a.	environmental uncertainty	-
H4a.	management subjectivity	-
H5a.	information cost	+/-
H6a.	performance observability	-
H7a.	levels of hierarchy	+
H8a.	firm size	+
H9a.	divisional diversity	+
H10a.	co-ordination need	+

Table 2

**Expected Differences of the Ten Organisational/Environmental Variables
between China and Hong Kong**

<u>organisational / environmental variables</u>	<u>predicted directions</u>
H1b. risk-averse attitude	China > Hong Kong
H2b. managerial influenceability	China < Hong Kong
H3b. environmental uncertainty	China > Hong Kong
H4b. management subjectivity	China > Hong Kong
H5b. information cost	China > Hong Kong
H6b. performance observability	China > Hong Kong
H7b. levels of hierarchy	China ≠ Hong Kong
H8b. firm size	China ≠ Hong Kong
H9b. divisional diversity	China ≠ Hong Kong
H10b. coordination need	China ≠ Hong Kong

CHAPTER 6

SURVEY METHODOLOGY

This chapter outlines the methods of testing the two sets of hypotheses described in Chapter 5. The first set of hypotheses is to examine the factors that influence the treatment of uncontrollables; and the second set is to compare these factors between China and Hong Kong. The process and rationale of designing the questionnaire will be explained with support from the literature. Methods of choosing the survey subjects will also be stated.

6.1 The Questionnaire

A questionnaire (see Appendix 4) was administered to collect the data for testing the hypotheses developed in Chapter 5. Ten variables are introduced to explain why managers are made accountable for uncontrollable items of performance. Table 3 relates these variables to the corresponding hypotheses (H1a to H10a) and to the relevant questions from the instrument.

6.1.1 The content

The survey was done both in China and Hong Kong. The dependent variable and all the ten independent variables were compared for the two places to test for Hypotheses 1b to 10b.

A questionnaire is an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest (Sekaran 1992). If questions are designed in the objective and close-end type, a larger sample can be reached economically and greater anonymity can be provided to the respondents. The first advantage increases the generalisability of the data and the second advantage can result in people being more willing to respond openly and honestly to the questions (Kerlinger 1986; Mason and Bramble 1989).

Demographic information of the respondents was collected in the questionnaire on their positions in the company (Question 28), gender (Question 29), age (Question 30) and education level (Question 31) to test possible bias from specific background. The type of

Table 3
Variables and their Corresponding Questions

<u>Variables</u>	<u>Hypotheses</u>	<u>Questions</u>
Dependent variable:		
Accountability of uncontrollables	1a - 10a	8, 9, 10
Independent variables:		
Risk attitude	1a	11, 12
Managerial influenceability	2a	13, 14
Environmental uncertainty	3a	15, 20
Management subjectivity	4a	21, 22
Information cost	5a	17, 18, 19
Performance observability	6a	16, 23
Levels of hierarchy	7a	4, 5
Firm size	8a	6, 7
Divisional diversity	9a	2, 3
Coordination need	10a	24 , 25, 26, 27

industry and the major lines of business in which a firm engages was also recorded in Question 1 for the same reason.

The design of the questionnaire is mainly based on the approach adopted by Ugras (1994) for testing the relationships between the allocation of uncontrollable costs and several organisational variables. A 7-point scale (the same as in Ugras' study) is used to measure those variables which seek to solicit opinions from the respondents. However, three of these questions (i.e. Questions 4, 5 and 8) are designed in the 5-point scale, because it is expected that the respondents will feel more comfortable in reading a 5-point scale when they are dealing with groups instead of points. The resulting scores from these questions will be converted to those of a 7-point scale by multiplying a factor of 7/5 before they are used for statistical computation to gain consistency with other questions.

Two to three questions are used to measure each variable (either dependent or independent variable) (see Table 3). The aim is to capture, as far as possible, the different characteristics of the individual concepts representing the variables concerned. The measurement may be from different angles or by different formats, but it is hoped that it will provide additional information on the variables. This method of measuring data for a construct is explained by Judd et al. (1991). They illustrate that when an individual indicates his or her own attitude or rates an object on some scales, a large element of intuitive judgement is involved, no matter how precise the rating instructions and no matter how well trained the rater. This subjective judgement in the use of rating scales makes the ratings vulnerable to bias. For these reasons, procedures have been devised that do not depend on single judgements or ratings of the construct of interest. Instead, individuals are thus arranged to respond to multiple statements relevant to the attitude under study, and scores assigned to the response of each statement are then combined to describe the construct. For example, in the present study, the three averaged scores for each of the questions – Question 17, 18 and 19, are combined and the total is then divided by three to measure the construct of Information Cost

This method of measuring a construct is also supported by Foster and Swenson (1997). They explain that a composite score has the advantage over an individual question when either (1) the concept being measured is multi-dimensional and when the questions in that composite capture those multi-dimensions, or (2) there is measurement error in an individual question that is diversified away in aggregating individual questions into a

composite.

Questions which measure the dependent variable and the independent variables of Performance Observability, Levels of Hierarchy, Divisional Diversity and Coordination Need were largely modified from Ugras (1994). The questions on Managerial Influenceability were adapted from Drury et al. (1994) for examining divisional autonomy. The others were self-designed.

The design of Question 1, which asks for the industry type of a business enterprise, takes into consideration the national industry classification method in China issued by the Industrial and Commerce Administration Bureau (Chen 1992). Some modifications (e.g. the combination of two or more industries) are made to match the names of industry types for both China and Hong Kong.

Question 31 on educational levels of the respondents is designed in such a way so as to match the educational systems and common classification method of educational levels and qualifications in both China and Hong Kong.

The dependent variable (i.e., Accountability of Uncontrollables) is measured through Questions 8, 9 and 10. While Question 8 examines the extent of uncontrollable costs allocated to responsibility centres, Questions 9 and 10 ask for the extent of the effects of economic factors and acts of nature respectively being excluded from performance evaluation. The design of these questions adopts Merchant's (1987) classification of uncontrollables which include cost allocation, economic factors and acts of nature, because it was shown that the scope is relatively more comprehensive than other writers' definitions and it takes into account organisational as well as environmental factors (see 1.1). All three questions aim to measure the styles of performance evaluation in the context of treating uncontrollables. However, it is possible that cost allocations are caused by factors other than styles of evaluation. The appropriateness of making Question 8 as one of the components of the dependent variable is thus questionable. Unfortunately, these other factors have not been identified in the literature. Based on this reasoning, the design of using Questions 8, 9 and 10 to represent the dependent variable still remain valid. Further test of the appropriateness of including Question 8 in measuring the dependent variable will be made in the analysis of results in Chapter 7.

The independent variable, Risk-averse Attitude, is measured in Questions 11 and 12. They test the risk attitude of the evaluator and evaluatee respectively because the risk attitude of both the evaluator and evaluatee would affect the treatment of uncontrollables (see 1.4). However, in designing the question (i.e., Question 12) for measuring the evaluatee's risk attitude, the condition that insecure employment and attractive compensation was added. This is to cater for the specific situation in China where employment is relatively stable (see 4.2 and 4.5) and managerial compensation is relatively low (see 3.7, 4.9 and 4.13) when compared with that in Hong Kong. These wordings are expected to attract responses to this question to establish a reasonable comparable basis between China and Hong Kong.

The variable, Managerial Influenceability, is measured in Questions 13 and 14. The first question examines the influenceability of managerial decisions by asking directly the extent of managerial influence. The second question examines the influenceability indirectly by asking the extent of autonomy enjoyed by responsibility centres, because divisional autonomy is considered by Merchant (1989) to be a major source of managerial influence (see 1.4).

The variable, Environmental Uncertainty, is measured in Questions 15 and 20. Otley (1978), Govindarajan (1984), Merchant (1987), Anthony and Govindarajan (1998), all argue that environmental uncertainty affects firm performance, but Merchant (1987) indicates that the effect would be influenced by the difficulty of identifying uncontrollables (see 1.4). The first question examines its direct effects on both aggregate firm performance and divisional performance. The second question examines its effects on the separation of controllables from uncontrollables. In order to ensure the respondents a consistent understanding of the concept of environmental uncertainty examples of which are given for each question.

The variable, Managerial Subjectivity, is measured in Questions 21 and 22. As Merchant (1987), Merchant (1989), Maciariello and Kirby (1994) and Anthony and Govindaragan (1998) point out that managerial subjectivity affects the treatment of uncontrollables mainly through management style (see 1.4), the questions therefore take both subjectivity and management styles into account. The first question asks for the extent of subjective evaluation, and the second asks for the importance of the evaluator's management style in affecting performance evaluation.

The variable, Information Cost, is measured in Questions 17, 18, 19. Both Merchant (1987) and Anthony and Govindarajan (1998) argue that high cost of the information system will make the separation of controllables from uncontrollables difficult (see 1.4). The three questions therefore use alternative wordings to examine the same notion. They test respectively the costliness of performance evaluation, the difficulty and the costliness of separating controllables from uncontrollables.

The variable, Performance Observability, is measured in Questions 16, and 23. Certain writers, e.g., Zimmerman (1979), Baiman and Demski (1980), Holmstrom (1982), Merchant (1987), Banker and Datar (1989) and Ugras (1994), maintain that many uncontrollables are not 'real' uncontrollables. The controllability is simply not observed by senior management. Holding managers accountable for most of the uncontrollables could avoid this negligence. This partially explains why central costs are allocated to divisional managers whilst most of these costs are apparently outside their control (see 1.3 and 1.4). Since these hard-to-observe costs arise mainly in decentralised firms (Zimmerman 1979, see 1.3) a measure of the extent of decentralisation also helps understand the extent of observability of divisional performance. In response to the above rationale, Question 16 is designed to examine directly the difficulty of observing divisional performance and Question 23 is designed to examine the extent of decentralisation. Also, to avoid the possibility that the term centralisation will be subject to different interpretation, a phrase was added at the end of Question 23 to explain its meaning.

The variable, Levels of Hierarchy, is measured in Questions 4 and 5. Ugras (1994) by drawing on previous research, e.g., Zimmerman (1979), Suh (1987 and 1988) and Demski and Sappington (1989), illustrates that the levels of hierarchy in a firm affect the extent of cost allocation. He divides hierarchy into vertical hierarchy and sequential hierarchy (see 1.4). The former means the hierarchical levels in the organisation and is measured by Question 4. The latter means the responsibility centres that the primary products of the firm have to go through sequentially and is measured by Question 5. There are difficulties in designing these questions. First, there might be a difference between the number of 'nominal' hierarchical levels and the 'real' hierarchical levels. Second, it is not always easy to pinpoint the number of responsibility centres in a firm as some responsibility centres do not correspond with the physical divisions. A perfect design is

therefore difficult to come by.

The variable, Firm Size, is measured in Questions 6 and 7. They measure the firm's sales and total assets. Zimmerman (1979), Demski (1981), Sannella (1986) and Ugras (1994) all argue that the extent of cost allocation varies with firm size (see 1.4). Figures of sales and total assets are relatively more stable across time than other measures of firm size such as profits and number of employees. Profits fluctuate widely with economic climate and number of employees varies widely with different industries. Absolute figures are adopted here because it is difficult to predict accurately the ranges of sales and total assets of the responding firms before the survey. A wide guess might result in actual figures clustering in one or two ranges.

The variable, Divisional Diversity, is measured in Questions 2 and 3. Since Baiman and Demski (1980), Holmstrom (1982) and Ugras (1994) maintain that cost allocation increases in highly diversified divisions (see 1.4), it is meaningful to measure the diversification of divisional activities in order to predict the extent of managerial accountability of uncontrollables. The first question measures the diversity of divisional activities. However, the activities measured are only restricted to production or frontline divisions, because supporting activities in divisions such as accounting, computing, and human resources management are expected to have small differential irrespective of the industries. The terms – production/frontline are used to match the manufacturing/service industries. The second question, which asks for the description of the products and services offered by the firm, does not mean to quantify divisional diversity and the answers obtained therefore cannot be used in subsequent quantitative analysis.. It acts only as a supplement to the first question to check its possibly subjective nature. Later observation does not detect any large discrepancy between Question 2 and Question 3 as the reported number of activities normally varies positively with the degree of diversity.

The variable, Coordination Need, is measured through Questions 24, 25, 26, 27. Various writers (Atkinson 1987; Ayres 1985; Horngren et al. 1997; Demski 1981; Zimmerman 1979; Cohen and Loeb 1988; Suh 1987; Suh 1988; Rajan 1992) advocate that more cost allocations can improve coordination among divisions of a firm (see 1.4). As summarised by Ugras (1994), divisional coordination manifests itself in the extent of employing organisational strategies, avoiding duplication and interference and, engaging in planning activities. To reflect these elements the first question is asked to determine the

extent of organisational strategy used for coordination among divisions. The second and third questions examine the extent of interference and duplication of work among divisions. The last question measures the degree of planning for divisions to work together.

6.1.2 The respondents

The questionnaire was administered to two groups of senior/middle-level company executives (including financial controllers), with one in Shanghai (71 in number) and the other in Hong Kong (57 in number) while they were attending a part-time MBA programme and a seminar in the two areas respectively late 1997 and early 1998. Full response rate was thus assured in this captive environment. Similar studies drawing subjects from the captive environment include Chow et al. (1994), Chow (1994) and Liu (1996). The subjects were managers either studying part-time MBA programmes or undergoing training courses. Personally administered questionnaires enable the researcher to collect the completed responses within a short period of time. Any doubt that the respondents might have regarding any question could be clarified on the spot. Since the executives came from different industries, their opinions are able to reflect the general management attitude in both places. Features of these samples will be analysed later in Chapter 7.

Since sample subjects were not extracted by random sampling, their representativeness is somewhat reduced. Difficulties were encountered in getting access to firms. The majority of the listed companies in both China and Hong Kong were originally approached, but only a few of them were willing to fill in the questionnaire. Because of this poor response, it was not possible to use the mailed questionnaire approach. Several respondents in Hong Kong in the present study ascribe the low response to questionnaire survey to the fact that managers of large companies are increasingly overwhelmed by a huge amount of research questionnaires from academic and commercial institutions. Their previous cooperative attitude has gradually been eroded. The non-response problem is particularly serious in China where the culture of responding to research surveys is not yet formed and statistics for research sample determination is not complete (Liu and Chui 1992). The culture of emphasising connections and networks in business and management in China (Campbell 1987; Luo and Min 1997) probably plays an important role in affecting managers' attitude towards

cooperating with unconnected persons. The recent questionnaire survey of management accounting practices in China by Lin and Wu (1998) was arranged through connected sources. This is an example of the case in point. In view of the above difficulties, convenient sampling in the form of the captive environment seems to be a compromise for collecting data of management accounting practices which mainly involve internal information.

Senior and middle-level managers are appropriate for collecting information and data because they are expected to assume the roles of evaluators of performance (senior managers), evaluatees of performance (middle-level managers and division heads) and designers of the performance evaluation system (controllers). Similar subjects have been used in many related studies of performance evaluation and control systems. For instance, both corporate and subunit managers were used in Merchant (1987), Merchant (1989), Chow (1994) and O'Connor (1995). Audit seniors and senior partners in accounting firms were used in Otley and Pierce (1995). Subunit managers only were used in Chong and Chong (1997), Gul and Chia (1994) and Lau et al. (1997). Controllers/budget officers only were used in Bailes and Assada (1991), Ueno and Wu (1993), Ugras (1994), Skinner (1990) and Anyane-Ntow (1991).

The questionnaire was first drafted in English and was translated to Chinese using the back translation method (Brislin 1970) with the help of two bilingual accounting professors in Guangzhou. That is, the questionnaire was translated from English to Chinese by one person and then translated from Chinese to English by another, and the resulting version was compared with the original. Due to the different cultural and educational background of those executives in China, a straight translation from English to Chinese is found inappropriate for some of the questions, thus further explanations were added and changes of wordings were made where necessary. The English version was distributed to the Hong Kong respondents whilst the Chinese version was distributed to those in Shanghai.

Seven respondents in China and seven respondents in Hong Kong were invited to an interview at a later time after they had completed their questionnaires. The interviews, being unstructured, were conducted towards the following three directions:

1. They try to pick up examples of treatment of uncontrollables, which may be few in

- number for certain firms and which may also be firm-specific.
2. They try to check whether the reasons that cause the different treatment of uncontrollables are only limited to those hypothesised. The interviews probably will unveil new factors.
 3. They may clarify doubtful and unclear items in the questionnaire.

Interviews are used to supplement questionnaire for data collection because the latter tends to be less flexible and adaptable (Mason and Bramble 1989). The quality of the data gathered through a questionnaire is more superficial than that which can be collected during an interview. The investigator may have no direct contact with the respondents who may interpret the questions differently from the researcher's intention (Sharp and Howard 1996). Interview is uniquely suited to exploration in depth. It follows up unexpected results in the questionnaire and goes deeper into the motivation of the respondents and their reasons for responding (Kerlinger 1986). Unstructured interview can identify critical factors in specific situation (Sekaran 1992).

6.2 Tests of Validity and Reliability

Validity of the questionnaire was tested by sending it to ten accounting academics and practitioners in both Guangzhou and Hong Kong for comments on the understandability and consistency of the wordings used. They consist of four lecturers, four accountants and two company executives. Feedback from them reveals that it takes about 20 minutes to complete the questionnaire.

As shown in 6.1.1 above, for some of the questions, multiple questions with different question forms were used to measure the same construct. When several questions were used to measure a construct, the response to the individual items were averaged to arrive at the score for the construct. The advantages are explained by Judd et al. (1991) and Foster and Swenson (1997). Cronbach (1951) also states that this procedure contributes to improve the measurement process.

Reliability of the results was checked by computing the cronbach alpha on each group of questions which examine a variable. This technique tests the consistency of each group of questions that can measure a particular construct. Correlation coefficients among variables were computed to ensure that the independent variables represent distinctive

constructs.

6.3 Summary

A survey methodology was designed in this chapter to test the two sets of hypotheses developed in Chapter 5 which are developed to investigate the factors influencing the controllability principle and to compare these factors between China and Hong Kong. A questionnaire was used to collect data from both places supplemented by interviews. The rationale of designing each question was explained by relating to the literature review in the previous chapters and by drawing on the research literature. Subjects of the survey include senior and middle-level managers as well as controllers to reflect their respective roles of evaluators, evaluatees and designers of performance evaluation. The questionnaire was administered in a captive environment to ensure full response rate. Its validity was evaluated by prior review from accounting academics and practitioners in both China and Hong Kong. Reliability of the results was checked by the cronbach alpha.

CHAPTER 7

ANALYSIS OF THE QUESTIONNAIRE SURVEY AND THE INTERVIEWS

This chapter reports and analyses the results of the questionnaire surveys in both China and Hong Kong. Statistical techniques are used to test the two sets of hypotheses made in Chapter 5. In addition, interviews with the respondents are also analysed.

7.1 Results of the Questionnaire Survey

The two sets of questionnaires designed in Chapter 6 was delivered to two groups of managers. The Chinese questionnaire was given to a class of MBA students at the Shanghai University of Finance and Economics in Shanghai, China, in December 1997 and 71 questionnaires were completed. The respondents studied part-time at the university but worked full-time at various state-owned and collectively-owned enterprises. The English questionnaire was given to a group of managers attending a seminar organised by the Institute of Company Secretaries in Hong Kong in January 1998 and 57 questionnaires were completed.

7.1.1 Demographic data of respondents

The demographic data of the respondents including their positions, gender, age, education levels, and the business types of their companies are collected in the questionnaire. Chi square test is performed on each of these items and it is found that there are significant differences for the items of age, education levels and business types between respondents in China and Hong Kong whilst no significant differences are found for the items of gender and position (see Table 7 to Table 11).

Respondents in China, with fewer academic degree holders (62% for China; 89% for Hong Kong), are younger than their Hong Kong counterparts (35% in their 30s and 24% in their 20s for China; 53% in their 30s and 4% in their 20s for Hong Kong). Since the proportion of senior management staff to middle level management staff is similar between the two places, it implies that managers in China may experience faster promotion than managers in Hong Kong. However, many of the

non-degree holders possess professional degrees, it is not quite correct to describe that those managers in China are less qualified than managers in Hong Kong. In addition, it is not surprising to see that the sample in China is younger than the sample in Hong Kong, because the sample in China is taken from a group of part-time MBA students whilst the sample in Hong Kong is a group of seminar participants. It is natural to expect the latter to be more mature. The significant differences in business types between the two places appropriately highlight some of the important components of the respective economic sectors. Particularly the samples show that there are more managers working in the manufacturing and commerce sectors in China whilst there are more managers working in the property and construction sector and in conglomerates in Hong Kong. Meantime, both samples cover a wide range of economic activities and they do not neglect any major industry type.

7.1.2 Test of the determinants of the controllability principle (H1a to H10a)

To test the first set of hypotheses developed in Chapter 5 the correlation coefficients (Pearson) between the dependent variable and each of the ten independent variables are computed. This technique was used by Ugras (1994) to test a similar relationship. The purpose of this statistic is to ascertain whether each of the hypothesised factors will affect managers' treatment of uncontrollables in the predicted direction. The non-parametric counterpart, the Spearman correlation coefficients, are also computed (see Table 14 and 15). No big differences are found between the two results calculated from these two techniques. The arguments for using the parametric and non-parametric statistics will be explained later in 7.1.3. The results of the Pearson correlations are tabulated in Table 4.

For both China and Hong Kong, the overall situation is that, with a few exceptions, each independent variable has a medium to fairly high correlation with the dependent variable individually and nearly all of them are significant at least at the 0.05 level. This indicates that most of the hypothesised organisational and environmental factors significantly affect the accountability of uncontrollables. For the China data, Management Subjectivity has the highest correlation (-0.6190) with the dependent variable whilst Firm Size has the lowest correlation (0.2328). For the Hong Kong data, Coordination Need has the highest correlation (-0.6764) with the

Table 4

Correlation (Pearson) between the Accountability of Uncontrollables
and the Ten Organisational/Environmental Variables

Organisational/ environmental variables		Correlation with accountability of uncontrollables		
		predicted direction	actual results	
			China	Hong Kong
H1a	risk-averse attitude	-	+0.6184***	+0.6242***
H2a	managerial influenceability	+	+0.5326***	+0.6464***
H3a	environmental uncertainty	-	- 0.4695***	- 0.4430***
H4a	management subjectivity	-	- 0.6190***	- 0.5629***
H5a	information cost	+/-	- 0.6115***	- 0.4990***
H6a	performance observability	-	- 0.6128***	- 0.5950***
H7a	levels of hierarchy	+	+0.3797**	+0.5073***
H8a	firm size	+	+0.2328*	+0.0293
H9a	divisional diversity	+	+0.2804**	+0.5714**
H10a	coordination need	+	- 0.6115***	- 0.6764***

- * significant at 0.05
- ** significant at 0.01
- *** significant at 0.001

N.B. The above correlation coefficients are extracted from the first column of Table 12 (China’s correlation matrix) and the first column of Table 13 (Hong Kong’s correlation matrix) respectively.

dependent variable whilst Firm Size has the lowest correlation (0.0293) which is not significant. From these statistics it can be said that Firm Size is the least important factor affecting Accountability of Uncontrollables. However, Coordination Need and Risk-averse Attitude have opposite direction of correlation as predicted in the hypotheses. The situation is the same for both China and Hong Kong. This means that managers are more likely held accountable for uncontrollables if they and their superiors are more risk-averse and there is a low coordination need.

The correlation coefficients indicate that Hypotheses H2a, H3a, H4a, H5a, H6a, H7a, H9a can be supported by the above figures whilst, Hypotheses H1a and H10a are rejected. The statements apply to both China and Hong Kong. H8a is supported in China only.

For the first rejected hypothesis, H1a,, reasonable explanations can be found in the hypotheses development in 5.2. The original prediction is that managers will be more held accountable for uncontrollables if they and/or their evaluators are less risk-averse. This argument is mainly based on Merchant's (1987) belief that the perceived reasonableness of the evaluation depends on the risk attitudes of both the superior and the subordinate. A risk-seeking superior may make him choose to include uncontrollables into his subordinate's evaluation. A similar attitude of the subordinate may make him more ready to accept his evaluation results based on more uncontrollable factors. Since Merchant's arguments consider the risk attitudes of both the evaluator and evaluatee, it was adopted as the basis of the hypothesis. However, since the statistical results show that accountability of uncontrollables varies positively with risk-averse attitude, it seems that Demski's (1976) argument is more valid in practice. Demski assumes that only the risk attitude of the superior is important in deciding the strictness of the evaluation; whilst the risk attitude of the subordinate has no influence. A risk-averse superior may try to transfer risks to his subordinate by making him accountable for more uncontrollables. A risk-seeking superior may adopt the opposite behaviour. Consequently, a positive relationship will be found between risk-averse attitude and accountability of uncontrollables.

The statistical results also match with the situations in practice in both China and Hong Kong. In China, it was shown that low risk-averse attitude coexists with flexible evaluation. This phenomenon is created by institutional factors such as the

Contract Responsibility System and the low level of managerial remuneration (see 5.2). In Hong Kong, in the absence of the above institutional factors, the environment is relatively stable. The effects of uncertainties, even if they exist, are easily identified and separated. Under these circumstances evaluation will be strictly evaluated.

For the second rejected hypothesis, the situation of the findings that Coordination Need is negatively correlated with Accountability of Uncontrollables can be explained by literature support. Although various proponents (Ugras 1994; Merchant 1989; Zimmerman 1979; Demski 1981; Cohen and Loeb 1988; Suh 1987; Suh 1988; Rajan 1992) (see 5.2) of the original prediction offered evidence to show that more indirect cost allocation will improve coordination, the counter argument seems to have its own rationale. Hopwood (1976) shows that evaluating managers in a budget-constrained style will lead to more dysfunctional behaviour if the divisions involved are highly interdependent. Anthony and Govindarajan (1998) contend that it is inappropriate to adopt a rigid style to evaluate divisional performance in a single-business firm (as opposed to a diversified firm) where interdependencies exist and divisional coordination is important to promote aggregate company performance. Magee (1986) and Horngren (1997) give examples to illustrate the difficulty of holding individual managers responsible for performance in a group decision situation or when responsibility is shared among divisions. This implies that the more the need for divisional activities to be coordinated, the more unsuitable it is to hold divisional managers accountable for more items of performance including, of course, uncontrollables. As far as this part is concerned, the empirical evidence is contradictory. The present findings hint that a more flexible evaluation style of uncontrollables is more appropriate when coordination need is high.

The stepwise approach of the multiple regression technique is used to examine the extent of influence of the individual independent variables on the dependent variable when they interact with each other, because such influence can be highlighted by this approach (Norusis 1992). The function of this technique differs from that of the correlation coefficient because the former shows the importance of influence of certain independent variables when they interact with each other in affecting the dependent variable whilst the latter shows only the importance of influence of the independent variables when they are assumed to affect the dependent variable individually. By this method, some independent variables when they are

grouped together are found to affect the dependent variable more significantly than others. For China, Coordination Need and Information Cost together are found to be the major determinants of the controllability attitude and they account for at least 52% (adjusted R Square) of the variations of the dependent variable (see Table 16). For Hong Kong, Coordination Need, Divisional Diversity together with Managerial Influenceability are found to be the major determinants of the controllability attitude and they account for at least 59% of the variations of the dependent variable (see Table 17). Besides these independent variables, others are found to be statistically unimportant in affecting the dependent variable.

As mentioned in 6.1.1, the appropriateness of including question 8 in the measurement of the dependent variable is somewhat doubtful, because factors other than styles of evaluation would affect cost allocation. The appropriateness of including question 8 in the measurement can be examined by the consistency of responses to question 8, 9 and 10. This is measured by the cronbach alpha coefficient of the three components of the dependent variable. The possibility of such inappropriateness can also be examined by running separate multiple regressions using different components of the dependent variable. One multiple regression can use question 8, 9 and 10 as the components of the dependent variable. A second regression can use question 8 as the only component. A third regression can use question 9 and 10 as the components. The adjusted R squares of the final equations of each regression can then be compared. The highest scores may suggest which combination of components of the dependent variable is the most appropriate for inclusion in the multiple regression.

Results of the analyses show that the cronbach alpha coefficient of the dependent variable represented by question 8, 9 and 10 is 0.6206 for China and 0.4624 for Hong Kong. Both coefficients are higher than those when only question 9 and 10 make up the components of the dependent variable (see Table 19). Similarly the R squares (0.52324 for China and 0.59358 for Hong Kong) of the final equations of the multiple regressions when question 8, 9 and 10 make up the components of the dependent variable are also the highest when compared with the other R squares of the final equations of the multiple regressions when question 8 and the combined results of question 9 and 10 make up the components of the dependent variable (see Table 16 and Table 17). These results suggest that question 8, 9 and 10 are the most

appropriate components of the dependent variable when compared with the other combinations. Leaving out question 8 makes the remaining components (here question 9 and question 10) poorer measures of the dependent variable and also results in reduced consistency.

At this juncture, the limitation of using multiple regression must be mentioned. With non-experimental social science data, the independent variables in a multiple regression are virtually always intercorrelated, that is collinear. Collinearity refers to the situation in which there is a high correlation between independent variables. When this condition becomes extreme, serious estimation problems often arise. The general difficulty is that parameter estimates become unreliable. There is no definitive answer to the question that just how high can acceptable correlations be between independent variables. A frequent practice is to examine the bivariate correlations among the independent variables, looking for coefficients of about 0.8 or larger (Lewis-Beck 1980 and Cooper and Emory 1995). Belsley et al. (1980) set a looser criterion. They point out that most of the experimental evidence shows that correlations of less than 0.9 are considered to indicate weak dependencies.

Another measure of collinearity is the variance inflation factor (VIF) and its counterpart, tolerance. High VIF and low tolerance may suggest collinearity (Norusis 1992). Although there is no consensus on the 'high' or 'low' of VIF and tolerance, values of VIFs greater than 10 is often taken as a signal that the data have collinearity problems (Chattenjee and Price 1991; Montgomery and Peck 1992)

Two other useful tools for examining the collinearity are the condition index and the eigenvalue. Large condition index and small eigenvalue are indicative of collinearity. Chattenjee and Price (1991) note that the harmful effects of collinearity become strong when the values of the condition number exceed 15. The cutoff value of 15 is not based on any theoretical considerations but arises from empirical observation. Corrective action should always be taken when the condition number exceeds 30. Weak dependencies of independent variables in a multiple regression are associated with condition indexes around 5 - 10, whereas moderate to strong relations are associated with condition indexes of 30 - 100. A condition index in the neighbourhood of 15 - 30 tends to result from an underlying near dependency among the independent variables (Belsley et al. 1980). It is usually considered to be the

borderline of 'tightness'. Condition indexes of 100 or more would probably cause substantial variance inflation and great potential harm to regression estimations.

The results of the statistics of this research show that all the correlation coefficients among the independent variables are below 0.9 and only two cases are more than 0.8 (see Tables 12, 13, 14, 15). In the correlation (Pearson) matrix of the Hong Kong data, the correlation coefficient between Information Cost and Performance Observability is 0.8202 and that between Management Subjectivity and Performance Observability is 0.8386 (see Table 13). The VIFs of both the Hong Kong data and the China data are well below 10 (see Table 16 and Table 17). In the collinearity diagnostics the highest value of the condition index for the China data is only 8.808 (see Table 16), but that for the Hong Kong data is 15.033 (see Table 17), just touching the borderline of 'tightness'. In view of the above evidence, the problem of collinearity cannot be regarded as serious.

7.1.3 Test of the differences of the controllability factors between China and Hong Kong (H1b to H10b)

In 5.2, it was hypothesised that the ten independent variables, which are expected to be able to explain the variations of treatment of uncontrollables, differ in degree between China and Hong Kong. It was expected that China would have higher scores than Hong Kong in terms of Risk-averse Attitude, Environmental Uncertainty, Management Subjectivity, Information Cost and Performance Observability, and that China would have a lower score than Hong Kong in terms of Managerial Influenceability. However, it was expected that there would be no clear directional differences for Levels of Hierarchy, Firm Size, Divisional Diversity and Coordination Need between the two places.

Using the t test technique, the ten independent variables are compared between China and Hong Kong and all of them are found to be significantly different with the predicted direction except for Risk-averse Attitude (see Table 5 below and also Table 18). The scores indicate that Hong Kong managers are more risk-averse than their counterparts in China. Risk-averse Attitude in China was originally predicted to be stronger than that in Hong Kong, because of a stronger risk-averse culture (Hofstede 1980; Birnbaum and Wong 1984; Lai and Lam 1986; Tang 1995) (see 5.2). However,

evidence in China (see 2.6, 3.6, 4.13, 5.2) also shows that the deficiency of the Contract Responsibility System recently produces widespread short-term and risky managerial behaviours. The present findings highlight the fact that the contract system probably has a greater influence on managerial behaviours in respect of the risk attitude than the Chinese cultural traits. The low reliability scores on the questions which tap the risk-averse attitude (shown in 7.1.4) provide additional hints that institutional forces may impose a stronger influence than cultural traits on the risk-averse attitude.

Although in the hypotheses there are no directional differences between China and Hong Kong for the last four independent variables, the results show that firms in Hong Kong have a higher divisional diversity, more levels of hierarchy, are larger in size, but have less coordination need than firms in China. Since the sample firms in Hong Kong are found to be larger in size than those in China, a more complex organisational structure is expected of these Hong Kong firms. It is therefore not surprising to see that they would have greater divisional diversity and more levels of hierarchy. The lower coordination need of the Hong Kong firms might indicate a lower interdependency among divisions of these firms and divisional performance can thus be more easily evaluated.

The t test (a parametric test) is basically adopted because it is used to examine the difference between the means of two groups (Kerlinger 1986). However, it has always been debated that whether parametric or non-parametric tests are better. The same argument also applies to the adoption of Pearson correlation, a parametric test, and Spearman correlation, a non-parametric test, mentioned in 7.1.2.

A parametric statistical test depends on a number of assumptions about the population from which the samples used in the test are drawn. The best-known assumption is the assumption of normality. It is said that, if the populations from which samples are drawn are not normal, then statistical tests are vitiated. As a result, the conclusions drawn from sampled observations will be in question. The second important assumption is that of homogeneity of variance. That is, variances of populations are assumed to be homogeneous from group to group within the bounds of random variation. If it is not true, some of the parametric tests are also vitiated. However, non-parametric tests are not affected even if all these assumptions are

Table 5

Comparison of the Organisational/Environmental Variables
between China and Hong Kong

<u>Organisational and environmental variables</u>		<u>Predicted direction</u>	<u>Actual direction</u>
H1b	risk-averse attitude	China > Hong Kong	China < Hong Kong
H2b	managerial influenceability	China < Hong Kong	China < Hong Kong
H3b	environmental uncertainty	China > Hong Kong	China > Hong Kong
H4b	management subjectivity	China > Hong Kong	China > Hong Kong
H5b	information cost	China > Hong Kong	China > Hong Kong
H6b	performance observability	China > Hong Kong	China > Hong Kong
H7b	levels of hierarchy	China ≠ Hong Kong	China < Hong Kong
H8b	firm size	China ≠ Hong Kong	China < Hong Kong
H9b	divisional diversity	China ≠ Hong Kong	China < Hong Kong
H10b	coordination need	China ≠ Hong Kong	China > Hong Kong

violated. But, according to Kerlinger (1986), the evidence to date is that the importance of these assumptions is overrated. He notes that it is unwise to use a non-parametric test in place of a parametric one unless there is good evidence to believe that populations are rather seriously distorted by the assumptions. The reason for this is that parametric tests are almost always more powerful than non-parametric tests. Hildebrand and Ott (1996) warn that the normality assumption would be the least crucial if the sample size is not very small (the criterion is less than 10). Results of both kinds of tests would be similar if the sample size is not quite small. This point is supported by Siegel and Castellan (1988) who stress that non-parametric tests are suitable for small samples. Hildebrand and Ott (1996) also note that if sample sizes are not substantially different, the effect of grossly unequal variances is minimal. The criterion is that the largest sample should not be twice of the smallest.

In this study, the parametric test, the t test is basically adopted. The sample size of the China group is 71 and that of the Hong Kong group is 57. Both are not small samples and the difference is not large. However, to guard against any serious departure from the above-mentioned assumptions, the non-parametric counterpart, the Mann-Whitney U test is also performed, and no major differences of the results are found (see Table 18).

Consequently, Hypotheses H2b, H3b, H4b, H5b, H6b, H7b, H8b, H9b, and H10b, can be said to be supported by the statistics whilst H1b is rejected.

One interesting finding of this survey, which is not hypothesised in Chapter 5 is that Hong Kong managers are more likely to be held accountable for uncontrollables than managers in China (see the t value or the Z value of the dependent variables in Table 18). Nevertheless, this is really a corollary to the confirmation of the two sets of hypotheses stated in Chapter 5. The reason is that since the majority of the independent variables (the explanatory factors for the dependent variable – the variation in attitude of holding managers accountable for uncontrollables) differ in degree between China and Hong Kong, it is a natural consequence that the dependent variable also differ between the two places, given the independent variables highly correlate with the dependent variables in each of the two places (see Table 6).

Take the independent variable, Managerial Influenceability, as an example. It is confirmed that managers will be more easily held accountable for uncontrollables if they are able to exert more influence on the decision-making process. It is also confirmed that managers in China are less influential in decision-making than their counterparts in Hong Kong. It therefore follows that managers in Hong Kong will be more easily held accountable for uncontrollables.

7.1.4 Reliability test for the variables

In the questionnaire design in Chapter 6, it was mentioned that most of the variables are measured by more than one question. The purpose is to capture the different characteristics of the same construct (Judd et al. 1991; Foster and Swenson 1997) (see 6.1.1) and to improve the validity of the measurement process (Cronbach 1951) (see 6.2). It was also pointed out that it is necessary to check the consistency of responses to each group of questions whether they measure the same construct. The reliability test, the cronback alpha coefficient, is therefore performed on each of the independent and dependent variables which have more than one question. The range of scores for China is 0.3049 – 0.9348 and that for Hong Kong is 0.3169 – 0.8972. The majority of the scores are medium to high, indicating consistent and reliable answers from the respondents for most groups of questions representing individual variables. (see Table 19).

Reliabilities less than 0.6 are generally considered to be low (Sekaran 1992) and those around 0.7 or above are considered to be good (Litwin 1995). Based on this criterion, the alpha scores of the variables, Firm Size and Risk-averse Attitude, are low for both China and Hong Kong. Low scores also appear in the dependent variable, Accountability of Uncontrollables, for the Hong Kong group, and in the independent variables, Levels of Hierarchy and Performance Observability for the China group.

Relatively low alpha scores do not necessarily mean that there are serious measurement problems. Low scores may reflect a real diversity of behaviours. Increasing the number of questions in a group can also improve the alpha scores. Furthermore, the low-score situation may just be due to chance.

Table 6

**Illustration of the Relationships between
the Two Independent Variables of China and Hong Kong**

<u>China</u>		<u>Hong Kong</u>
ten independent variables	≠	ten independent variables
highly correlated with		highly correlated with
dependent variable	≠	dependent variable

The overall alpha scores of the present study (the range is 0.30 to 0.93) are relatively high when compared with a similar study which examines the performance appraisal practices in Hong Kong and China (Chow 1994). The range of the alpha scores for the latter is 0.30 to 0.75. Chow ascribes the low-score situation to the variations in performance appraisal practices in different organisations. The phenomenon in the present study for a few of the variables can probably be explained by the same reason.

Reliability scores are higher in measures with more individual items (Judd et al. 1991). It is basic principle of sampling: Larger samples produce smaller sampling errors. For example, a 10-item measure might have a reliability of 0.6, whereas a 40-item test of equivalent items could have a reliability near 0.9, simply because a larger sample permits better estimation of population values. In the present study, variables measured by more questions tend to have higher alpha scores. For instance, the alpha scores of Managerial Influenceability (measured by nine items in Question 13 and 14) are 0.8972 for Hong Kong and 0.9120 for China respectively; those for Coordination Need (measured by four items in Question 24, 25, 26 and 27) are 0.8458 for Hong Kong and 0.8885 for China respectively; those for Information Cost (measured by three items in Question 17, 18 and 19) are 0.8558 for Hong Kong and 0.9348 for China respectively (see 6.1.1). Comparatively lower scores are recorded for most of the variables measured by two questions. Since the topic of the present study is not a well-researched area, it is difficult to develop a long multiple-item scale to represent a certain construct given the insufficiency of the extant literature.

Measurement problems may arise due to the specific nature of individual variables. For instance, as pointed out in 6.1.1, it is difficult to choose a perfect surrogate to represent Firm Size. Sales and total assets are chosen for the study because the extent of their variation with economic climate and industry type is thought to be less than that of profit and number of employees. Nevertheless, it is still hard to guarantee that changes in sales and total assets will be consistent: a company with large asset size may not necessarily have a large turnover. It is understandable that these two characteristics may not be closely related, hence the low alpha scores of 0.3049 for China and 0.5130 for Hong Kong.

Risk-averse Attitude is measured by Question 11 and 12: Question 11 asks the attitude given the current socio-economic situations and Question 12 taps the attitude assuming these situations (mostly of an institutional nature) change. This is to take care of the different background in China and Hong Kong. Because of the specific institutional factors in China, employment is more secured and managerial compensation is lower when compared with Hong Kong, answers to only one question of risk attitude might be biased. The second question was thus designed to put China on a more comparable basis with Hong Kong by assuming insecure employment and higher managerial compensation (see 6.1.1). The low alpha scores of these two questions (0.3436 for China and 0.3169 for Hong Kong) mean that there is a change in risk attitude given a change in institutional factors. This probably indicates that institutional forces impose a stronger influence than cultural forces on the risk-averse attitude (see similar argument in 7.1.3).

The alpha score of Levels of Hierarchy for China is 0.5506, which is slightly below 0.6. The components of this variable comprise vertical hierarchy and sequential hierarchy. In 6.1.1 two possible difficulties of measurement were identified in the question design. First, 'nominal' hierarchy might be taken to represent 'real' hierarchy. Second, responsibility centres might be considered as the same as physical divisions. These difficulties appear to be more prominent in China because there were a few respondents that were not familiar with those 'western' management terms such as levels of authority and responsibility centres which are relatively new to them. This same rationale may also help to explain the low alpha score, 0.4047, of Performance Observability in China, because the 'western' management concept of centralisation is measured in one of the component question of this variable.

The alpha score of Accountability of Uncontrollables for Hong Kong is 0.4624 which is below 0.6. There are three component questions for measuring this variable. The first asks for the extent of cost allocation, whilst the second and third measure the extent of holding managers accountable for economic factors and acts of nature respectively (see 6.1). The less consistent answers for these three questions in the case of Hong Kong may be ascribed to the fact that there is a great diversity of treatment of different types of uncontrollables – a similar view taken by Chow (1994) as shown above. The same situation does not happen in China (where the alpha score is above 0.6) probably because managerial decision making is still more centralised

and controlled by government (see 5.2). Managers' views on the treatment of uncontrollables may be more consistent than that in Hong Kong.

7.1.5 Re-grouping of the independent variables

Significant correlation coefficients were recorded for almost all the variables in both China and Hong Kong (see Tables 12, 13, 14,15) except for Firm Size. The high associations among the independent variables might adversely affect their predictive power, and this probably indicates that they are not distinctive constructs. This condition was proved to be not serious (as shown by the analysis of multicollinearity in 7.1.2). Similar situations are rare, but they arise sometimes in studies in the management area. For instance, correlations are high among the majority of the independent variables in the studies by Jang et al. (1997) and Shields and Young (1994). While the former was able to go through the multicollinearity test, the latter failed. Nevertheless, the effects of high associations among independent variables need to be cautiously assessed.

Furthermore, although ten variables that affect the variations of the controllability attitude are identified through literature review, only two of them (Coordination Need and Information Cost) of the China group and three of them (Coordination Need, Divisional Diversity and Managerial Influenceability) of the Hong Kong group are found to have significant influence on the dependent variable when they interact with the other independent variables in the multiple regression analysis (see 7.1.2). This indicates that the number of important independent variables hypothesised can be reduced. Factor analysis is therefore employed to simplify the correlation matrix such that the relationships can be explained in terms of a few underlying factors.

Most of the methods of factor analysis would give similar results. As Kline (1994) notes, factors have to be rotated before they can be usefully interpreted. After rotation each factor would have fewer high loadings (above 0.6). It is generally agreed that Varimax is the most efficient methods of rotation. It produces, for each factor column, factor loadings which are either high or near zero, i.e., it magnifies the contrast between high and low loadings. The Varimax rotation method is thus adopted for analysis.

The results show that most of the independent variables can be regrouped under one factor. For the China data, seven variables, namely Risk-averse Attitude, Managerial Influenceability, Environmental Uncertainty, Management Subjectivity, Information Cost, Performance Observability and Coordination Need load heavily on one factor; three variables, namely Divisional Diversity, Firm Size and Levels of Hierarchy load heavily on another factor (see Table 20). It seems that the first factor mainly encompasses those variables which are of an attitudinal nature. The second factor may represent those variables related to the size of a firm. On the other hand, the Hong Kong data presents a slightly different picture. Eight of the ten variables load heavily on one factor, whilst Firm Size and Managerial Influenceability load heavily on another factor (see Table 21).

Since the factor analysis shows that most of the variables load heavily on one factor only, they tend to share a common nature. However, at present, given the limited useful analysis in the extant literature, it is difficult to name this common nature with a meaningful label. The only thing that can be said now is that most of the independent variables can be grouped together and temporarily labeled as managerial attitude, others can be separately grouped and labeled as size-related factors (see Table 20 and Table 21).

A tentative explanation for this common managerial attitude might be found by linking most variables to managerial observability. For instance, difficult observability of divisional performance may be due to the following factors:

1. The costs of investigating the relevant information of the division are high;
2. The division managers concerned may have great influence on the division's performance, thus distorting 'real' performance;
3. Uncertainty and divisional interdependency may also distort 'real' performance
4. 'Real' performance may be interpreted differently given different subjective attitude of the evaluator and different risk attitudes of the evaluator and the evaluatee.

However, further research is needed to clarify these relationships.

7.2 Results of the Interviews

Some comments on the controllability principle were recorded in the questionnaires, and a few of the respondents (seven in China and seven in Hong Kong) were willing to give more detailed opinions in separate interviews, each of which took about half an hour to one hour to complete. As stated in 6.1.2 their opinions aim to supplement the questionnaire survey. More specifically, they are intended to pick up examples of uncontrollables and to verify the hypothesised factors for the accountability of uncontrollables. The following paragraphs analyse and discuss these comments and interviews. The contents of the interviews and questionnaire comments are recorded in Appendix 5 and Appendix 6 respectively.

7.2.1 Analysis of the interviews and the questionnaire comments in China

The most common comments on the controllability principle in China are about the uncertain environment and the difficulties and costs involved in separating uncontrollable items from controllable items. Uncertainty, common in the finance, property and construction sectors, are caused mainly by rapid changes in demand and economic conditions, fringe benefits, such as schools, quarters, clinics, benefits to retired workers, etc., and even manipulation of financial information. Most have significant effects on the firms' performance, but not all are difficult to identify. Under such circumstances, uncontrollable items can be easily separated from controllables and actual performance can be adjusted for reward purposes. However, when it is difficult to identify uncontrollables, such as separating short-term from long-term behaviour, the costs involved may be considerable. It was suggested that uncertainty and uncontrollables sometimes can be reduced by better education and training, better forecast and planning. But all these need time and money. These comments support the previous statistical findings that cost of information is one of the most significant factors influencing the accountability of uncontrollables (see results of multiple regression in 7.1.2). From these comments it can also be inferred that the cost of information and environmental uncertainty in China are greater than those in Hong Kong. These statements are also supported by the previous statistical analysis (see results of t test and Mann Whitney U test in 7.1.3).

Management style was mentioned as another factor that influences the accountability of uncontrollables. For instance, the rigidity of the targets is sometimes a result of government's regulation or industrial convention. Subjective, flexible and

long-term evaluation of performance are said to be useful for motivation and accountability of performance may be less strict. Other firms may adopt more objective and quantitative measures of performance, and peer and subordinates' reviews may be used. However, in the latter case, evaluation may be stricter. From this, management style seems to have a bearing on the accountability of uncontrollables. On average, there seem to be a higher proportion of the respondents in China arguing for the effectiveness of subjective evaluation style. Again this confirms the higher score of Management Subjectivity in China as compared to that of Hong Kong (see results of t test in 7.1.3)

Many of the respondents express a concern for unfair evaluation due to the difficulties of the identification of uncontrollables and the uncertain environment. This implies a risk-averse attitude of the respondents and this attitude may be a manifestation of the Chinese risk-averse cultural trait. However, it was also pointed out by one respondent that many managers engage in risky behaviour because their employment is generally secured and there is low opportunity cost involved. This exactly illustrates the controversial issue that whether cultural or institutional force gains the upper hand in influencing the risk-averse attitude (see 7.1.3).

7.2.2 Analysis of the interviews and questionnaire comments in Hong Kong

There are two outstanding features of the opinions of the Hong Kong respondents. One is the emphasis on the importance of coordination need among departments and the other is the easy separability of uncontrollables.

Most of the Hong Kong respondents regard coordination need among various departments of a large firm to be of paramount importance. This attitude is displayed in the preference for rewarding teamwork rather than individual performance. One manager mentions that because of departmental interdependency, it may be meaningless to track down indirect and common costs to individual departments. In view of these comments, the argument that the higher the coordination need or departmental interdependency, the less likely managers will be held accountable for uncontrollables, seems to be rational. This opinion also serves to support the survey findings mentioned in 7.1.2. One point worthy of note is that although coordination need is regarded as the most important factor that influences the accountability of

uncontrollables in both China and Hong Kong (see results of multiple regression in 7.1.2), it was seldom mentioned in the interviews and questionnaire comments in China. It seems that its perceived importance is superseded by environmental uncertainty and cost of information or it is not easily detected by the managers. Although there is no predicted direction for the variable, coordination need, it is surprising to see that, as shown by the quantitative results in 7.1.3. China's coordination need is greater than that of Hong Kong. Further research needs to be performed to clarify this issue.

Environmental uncertainty, such as changes in interest rates, currency rates, costs, demand, and particularly the financial turmoil which occurred in southeast Asia in the late 1997, was also mentioned by many interviewees as important uncontrollables. However, most of the respondents feel that they are easy to separate from the controllable items; managers are therefore normally not held responsible for them. This view is also close to that expressed by the respondents in China (see 7.2.1)

Almost all of the respondents, with one exception, said that their companies do not easily hold managers accountable for uncontrollables, because minimising risks is essential for motivation. If the effects of uncontrollables are not taken into consideration in performance evaluation, dysfunctional behaviour will be serious. This point may imply that Hong Kong managers are more risk-averse than their counterparts in China. Again, this argument confirms the previous findings (see 7.1.3).

7.3 Conclusion

In this chapter the results of the questionnaire surveys and the interviews in both China and Hong Kong were analysed and the important findings are summarised as follows:

1. Although the China respondents differ statistically from the Hong Kong respondents on the demographic characteristics of age, education levels and industry types, the differences do not substantially affect comparisons between the two places.

2. By computing the correlation matrix of all the variables, most of the hypothesised determinants were found to vary significantly with the dependent variable, accountability of uncontrollables in the predicted direction. Two of them, Risk-averse Attitude and Coordination Need, are in the opposite direction. This means that managers are more likely held accountable for uncontrollables if they and their superiors are more risk-averse and there is a low coordination need. Importance of the evaluator's risk attitude and divisional interdependency were given as possible reasons to explain for these phenomena.
3. Through the stepwise approach of the multiple regression technique, major determinants of dependent variable were identified. They are Coordination Need and Information Cost for China and, Coordination Need, Divisional Diversity and Managerial Influenceability for Hong Kong. Other independent variables are proved to be insignificant in affecting the dependent variable when they interact with each other. Factor analysis also shows that the determinants in both China and Hong Kong can roughly be categorised into two groups: managerial attitude and firm size-related factors.
4. Both the t test and the Mann-Whitney U test were employed to test the differences of the independent variables between China and Hong Kong. The results show that all of them are found to be significantly different with the predicted direction except for Risk-averse Attitude. China managers are proved to be less risk-averse than their counterparts in Hong Kong. This finding probably implies that institutional factors have a more important role to play in performance evaluation than cultural factors.
5. Using the same technique as in 4, it was also found that Hong Kong managers are more likely to be held accountable for uncontrollables than China managers. This is merely a corollary to the confirmation of the two sets of hypotheses, because the independent variables highly correlate with the dependent variable in each of the two places.
6. No serious problems of collinearity, reliability and normality were recorded for all the statistical techniques used in the quantitative analysis.

7. Written comments in the questionnaires and interviews with the respondents largely confirm some important issues in the quantitative analysis. In China the widely discussed issues are the importance of uncertain environment in affecting performance evaluation and the high cost of identifying uncontrollables. Some argue for the effectiveness of subjective evaluation style whilst others perceive the existence of widespread risky behaviours. In Hong Kong, coordination need is regarded as of paramount importance and the easy separability of uncontrollables is also emphasised.

The combined results of the quantitative and qualitative analysis in this chapter indicate that the two sets of hypotheses made in Chapter 5 are largely supported. Some minor departures from the predicted direction were recorded, but possible explanations were given for their occurrence.

Table 7

Test of Differences of Respondents' Gender
between China & Hong Kong

Count (Column %)	<u>China</u>	<u>Hong Kong</u>	<u>Row Total</u>
Female	21 (29.6)	9 (15.8)	30 (23.4)
Male	50 (70.4)	48 (84.2)	98 (76.6)
Column Total	71 (55.5)	57 (44.5)	128 (100)

<u>Chi-Square</u>	<u>Value</u>	<u>DF</u>	<u>p</u>
Pearson	3.34964	1	0.06722

Table 8
Test of Differences of Respondents' Age Groups
between China & Hong Kong

Count (Column %)	<u>China</u>	<u>Hong Kong</u>	<u>Row Total</u>
20s	17 (23.9)	2 (3.5)	19 (14.8)
30s	25 (35.2)	30 (52.6)	55 (43.0)
40s	26 (36.6)	22 (38.6)	48 (37.5)
50s	3 (4.2)	3 (5.3)	6 (4.7)
Column Total	71 (55.5)	57 (44.5)	128 (100)
<u>Chi-Square</u>	<u>Value</u>	<u>DF</u>	<u>p</u>
Pearson	11.23311	3	0.01053

Table 9
Test of Differences of Respondents' Education Levels
between China & Hong Kong

Count (Column %)	<u>China</u>	<u>Hong Kong</u>	<u>Row Total</u>
Degree	44 (62.0)	51 (89.5)	95 (74.2)
Non-degree	27 (38.0)	6 (10.5)	33 (25.8)
ColumnTotal	71 (55.5)	57 (44.5)	128 (100)

<u>Chi-Square</u>	<u>Value</u>	<u>DF</u>	<u>p</u>
Pearson	12.49768	1	0.00041

N.B. (1) Degree holders include holders of recognised academic degrees such as bachelor, master and doctor.

(2) Non-degrees include qualifications like higher education, research degrees in China and secondary schooling certificates.

(3) Many of the degree and non-degree holders also possess professional qualifications such as accountants, economists, engineers and statisticians.

Table 10
Test of Differences of Respondents' Job Positions
between China & Hong Kong

Count (Column %)	<u>China</u>	<u>Hong Kong</u>	<u>Row Total</u>
Middle managers	56 (78.9)	42 (73.7)	98 (76.6)
Senior managers	15 (21.1)	15 (26.3)	30 (23.4)
Column Total	71 (55.5)	57 (44.5)	128 (100)

<u>Chi-Square</u>	<u>Value</u>	<u>DF</u>	<u>p</u>
Pearson	0.47443	1	0.49096

N.B. (1) Senior Management includes directors, general managers, chief executives and their deputies.

(2) Middle Management includes senior managers, managers, assistant managers, experts like accountants, auditors, engineers, statisticians and their deputies.

Table 11
Test of Differences of Respondents' Industries
between China & Hong Kong

Count (Column %)	<u>China</u>	<u>Hong Kong</u>	<u>Row Total</u>
Commerce	12 (16.9)	5 (8.8)	17 (13.3)
Conglomerate	2 (2.8)	6 (10.5)	8 (6.3)
Finance	17 (23.9)	14 (24.6)	31 (24.2)
Manufacturing	25 (35.2)	7 (12.3)	32 (25.0)
Property	6 (8.5)	18 (31.6)	24 (18.8)
Services	9 (12.7)	7 (12.3)	16 (12.5)
Column Total	71 (55.5)	57 (44.5)	128 (100)

<u>Chi-Square</u>	<u>Value</u>	<u>DF</u>	<u>p</u>
Pearson	20.25878	5	0.00112

N.B. (1) Finance includes finance and banking.

(2) Property includes property development and construction.

(3) Services include utilities, transport, telecommunication, hotels, restaurants and other services

Table 12
Correlation (Pearson) Matrix of the Variables
for the China Sample

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
2	-.6427***									
3	-.6115***	.4676***								
4	.2804**	-.3681**	-.2838**							
5	.2328*	-.1445	-.1807	-.0320						
6	.3797***	-.3395**	-.2888**	.5110***	.0244					
7	.5326***	-.5816***	-.4146***	.3710***	.0377	.3598**				
8	-.6128***	.6719***	.6055***	-.2890**	-.0228	-.2728**	-.6539***			
9	.6184***	-.7730***	-.4839***	.5522***	-.0494	.4003***	.5396***	-.6176***		
10	-.6190***	.7697***	.5650***	-.3845***	-.0345	-.4065***	-.6093***	.7414***	-.6708***	
11	-.4695***	.4949***	.5962***	-.3280**	-.1899	-.3328**	-.5239***	.5514***	-.5409***	.4568***

* Significant at 0.05
** Significant at 0.01
*** Significant at 0.001
1-tailed significance except Information Cost/Accountability of Uncontrollables

N.B.

- 1. Accountability of Uncontrollables
- 2. Coordination Need
- 3. Information Cost
- 4. Divisional Diversity
- 5. Firm size
- 6. Levels of hierarchy
- 7. Mangerial Influenceability
- 8. Performance Observability
- 9. Risk-averse attitude
- 10. Management Subjectivity
- 11. Environmental Uncertainty

Table 13

Correlation (Pearson) Matrix of the Variables
for the Hong Kong Sample

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
2.	-.6764***									
3.	-.4990***	.7440***								
4.	.5714***	-.4842***	-.4243***							
5.	.0293	.0955	.1171	.0347						
6.	.5073***	-.6857***	-.6252***	.5821***	-.0011					
7.	.6464***	-.5047***	-.3845**	.4693***	.2822*	.4680***				
8.	-.5950***	.7795***	.8202***	-.4935***	.0921	-.7275***	-.4822***			
9.	.6242***	-.5926***	-.6540***	.3855**	.1077	.5955***	.6387***	-.6381***		
10.	-.5629***	.7309***	.6628***	-.4173***	.0630	-.6608***	-.4648***	.8386***	-.6457***	
11.	-.4430***	.6569***	.5728***	-.3754**	.3020*	-.5370***	-.0900	.6198***	-.5308***	.7370***

* Significant at 0.05
** Significant at 0.01
*** Significant at 0.001
1-tailed significance except Information Cost/Accountability of Uncontrollables

N.B.

- 1. Accountability of Uncontrollables
- 2. Coordination Need
- 3. Information Cost
- 4. Divisional Diversity
- 5. Firm size
- 6. Levels of hierarchy
- 7. Mangerial Influenceability
- 8. Performance Observability
- 9 Risk-averse attitude
- 10 Management Subjectivity
- 11. Environmental Uncertainty

Table 14
Correlation (Spearman) Matrix of the Variables
for the China Sample

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
2	-.6198***									
3	-.6151***	.3981***								
4	.2549*	-.3559**	-.2588*							
5	.2056*	-.1979*	-.0478	.0877						
6	.4227***	-.3087**	-.3502**	.5488***	.1053					
7	.5241***	-.5519***	-.3830***	.3609**	.0709	.348 8**				
8	-.6242***	.5895***	.6056***	-.2994*	-.0128	-.2815*	-.6525***			
9	.6305***	-.7311***	-.4589***	.5463***	-.0357	.3919***	.5327***	-.5631***		
10	-.6119***	.6892***	.5278***	-.3719***	-.1062	-.4333***	-.5795***	.6940***	-.5955***	
11	-.4772***	.4333***	.5750***	-.3589**	-.1435	-.3620**	-.5257***	.5272***	-.5085***	.4042***

* Significant at 0.05
** Significant at 0.01
*** Significant at 0.001
1-tailed significance except Information Cost/Accountability of Uncontrollables

N.B.

- 1. Accountability of Uncontrollables
- 2. Coordination Need
- 3. Information Cost
- 4. Divisional Diversity
- 5. Firm size
- 6. Levels of hierarchy
- 7. Managerial Influenceability
- 8. Performance Observability
- 9. Risk-averse attitude
- 10 Management Subjectivity
- 11. Environmental Uncertainty

Table 15

Correlation (Spearman) Matrix of the Variables
for the Hong Kong Sample

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
2.	-.6989***									
3.	-.5460***	.7913***								
4.	.6272***	-.4677***	-.4944***							
5.	.1798	-.1537	-.0997	.2738*						
6.	.5325***	-.6072***	-.5886***	.5694***	.4299***					
7.	.6185***	-.4690***	-.4071**	.4967***	.4808***	.3984**				
8.	-.6196***	.7729***	.8329***	-.4809***	-.1834	-.6638***	-.4776***			
9.	.6261***	-.5502***	-.6515***	.3971**	.3804**	.5370***	.6207***	-.6386***		
10.	-.6095***	.7351***	.6831***	-.4285***	-.1998	-.6357***	-.4590***	.8482***	-.6297***	
11.	-.5328***	.6919***	.6074***	-.3959**	.0501	-.5284***	-.1322	.6187***	-.4999***	.7521***

* Significant at 0.05

** Significant at 0.01

*** Significant at 0.001

1-tailed significance except Information Cost/Accountability of Uncontrollables

N.B.

- 1. Accountability of Uncontrollables
- 2. Coordination Need
- 3. Information Cost
- 4. Divisional Diversity
- 5. Firm size
- 6. Levels of hierarchy
- 7. Managerial Influenceability
- 8. Performance Observability
- 9. Risk-averse attitude
- 10. Management Subjectivity
- 11. Environmental Uncertainty

Table 16

Multiple Regression of the Variables
for the China Sample

(Stepwise method)

Adjusted R Square: 0.52324

Analysis of Variance:

	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Regression	2	64.07784	32.03892
Residual	68	55.27825	0.81292

F = 39.41237 Signif F = 0.0000

Variables in the Equation:

	<u>B</u>	<u>Standard Error of B</u>	<u>VIF</u>	<u>T</u>	<u>Sig. T</u>
COSTINFO	-0.335432	0.078682	1.280	-4.263	0.0001
COORDINA	-0.451777	0.092377	1.280	-4.891	0.0000
(Constant)	6.513394	0.401798		16.211	0.0000

Collinearity Diagnostics:

Highest Condition Index: 8.808

N.B.

COORDINA = Coordination Need
COSTINFO = Information Cost

Table 17

Multiple Regression of the Variables
for the Hong Kong Sample

(Stepwise method)

Adjusted R Square: 0.59358

Analysis of Variance:

	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Regression	3	46.44288	15.48096
Residual	53	29.03107	0.54776

F = 28.26251 Signif F = 0.0000

Variables in the Equation:

	<u>B</u>	<u>Standard Error of B</u>	<u>VIF</u>	<u>T</u>	<u>Sig. T</u>
INFLUENC	0.347052	0.104411	1.472	3.324	0.0016
DIVERSIT	0.139326	0.065317	1.433	2.133	0.0376
COORDINA	-0.349530	0.091704	1.500	-3.811	0.0004
(Constant)	3.356624	0.648033		5.180	0.0000

Collinearity Diagnostics:

Highest Condition Index: 15.033

N.B.

- COORDINA = Coordination Need
- DIVERSIT = Divisional Diversity
- INFLUENC = Managerial Influenceability

Table 18
Test of Differences of the Variables
between China & Hong Kong

Variables	Mean		Standard Deviation		t test		Mann-Whitney U test	
	China (n = 71)	HK (n = 57)	China	HK	t	p	Z	p
ACCOUNTA	3.1728	4.0105	1.306	1.161	-3.79	0.000**	-3.7356	0.0001***
COSTINFO	3.7887	2.8596	1.549	1.226	3.79	0.000**	-3.2992	0.0005**
INFLUENC	3.0219	3.6140	1.307	1.149	-2.69	0.004*	-2.6260	0.0043*
OBSERVEA	4.6408	3.7018	1.296	1.538	3.68	0.000**	-3.3205	0.0004**
RISKAVER	3.3592	4.4825	1.358	1.161	-4.96	0.000**	-4.5991	0.0000***
SUBJECTI	4.8662	3.7544	1.213	1.590	4.36	0.000**	-4.0345	0.0000***
UNCERTAI	4.5563	3.6316	1.258	1.438	3.88	0.000**	-3.6892	0.0001***
COORDINA	4.5814	3.4912	1.320	1.317	4.65	0.000**	-4.2619	0.0000***
DIVERSIT	3.1408	4.4386	1.813	1.751	-4.10	0.000**	-3.8855	0.0001***
FIRMSIZE (\$m)	1257	8714	2813	16425	-3.39	0.001**	-4.9216	0.0000***
HIERARCH	2.7408	3.8193	0.959	1.310	-5.20	0.000**	-4.9374	0.0000***

* Significant at 0.01

** Significant at 0.001

*** Significant at 0.0001

1-tailed significance except COORDINA, DIVERSIT, FIRMSIZE, HIERARCH

N.B.

- ACCOUNTA = Accountability of Uncontrollables
- COSTINFO = Information Cost
- INFLUENC = Managerial Influenceability
- OBSERVEA = Performance Observability
- RISKAVER = Risk-averse Attitude
- SUBJECTI = Management Subjectivity
- UNCERTAI = Environmental Uncertainty
- COORDINA = Coordination Need
- DIVERSIT = Divisional Diversity
- FIRMSIZE = Firmsize
- HIERARCH = Levels of Hierarchy

Table 19
Reliability Test of the Questions Making Up Each Variable

<u>Variables</u>	<u>Questions</u>	<u>Cronbach Alpha</u>	
		<u>Hong Kong</u> (n = 57)	<u>China</u> (n = 71)
ACCOUNTA	No. 8, 9, 10	0.4624	0.6206
RISKAVER	No. 11, 12	0.3169	0.3436
INFLUENC	No. 13, 14 (8 items)	0.8972	0.9120
UNCERTAI	No. 15, 20	0.7649	0.5971
SUBJECTI	No. 21, 22	0.8027	0.6477
COSTINFO	No. 17, 18, 19	0.8558	0.9348
OBSERVEA	No. 16,23	0.7619	0.4047
HIERARCH	No. 4, 5	0.7750	0.5506
FIRMSIZE	No. 6, 7	0.5130	0.3049
COORDINA	No. 24, 25,26, 27	0.8458	0.8885

N.B.

- ACCOUNTA = Accountability of Uncontrollables
- COORDINA = Coordination Need
- COSTINFO = Information Cost
- FIRMSIZE = Firm Size
- HIERARCH = Levels of Hierarchy
- INFLUENC = Managerial Influenceability
- OBSERVEA = Performance Observability
- RISKAVER = Risk-averse Attitude
- SUBJECTI = Management Subjectivity
- UNCERTAI = Environmental Uncertainty

DIVERSIT = Divisional Diversity
(Cronbach alpha is not calculated for this variable because there is only one question that can be measured, i.e., No. 2; the other question, No.3, is not measureable.)

Table 20
Factor Analysis of the Independent Variables
for the China Sample

Final Statistics:

	<u>Eigenvalue</u>	<u>% of variance</u>	<u>Cumulative %</u>
Factor 1	5.05750	50.6	50.6
Factor 2	1.18147	11.8	62.4

Factor Matrix (Varimax Rotation):

	Managerial Attitude	Firm Structure & Firm Size
<u>Variable</u>	<u>Factor 1</u>	<u>Factor 2</u>
COORDINA	<u>0.81437</u>	-0.21275
COSTINFO	<u>0.77215</u>	0.06449
DIVERSIT	-0.37700	<u>0.65899</u>
FIRMSIZE	-0.34510	<u>-0.66755</u>
HIERARCH	-0.38366	<u>0.55252</u>
INFLUENC	<u>-0.71594</u>	0.25675
OBSERVEA	<u>0.82722</u>	-0.14448
RISKAVER	<u>-0.72741</u>	0.46005
SUBJECTI	<u>0.80469</u>	-0.28285
UNCERTAI	<u>0.76459</u>	-0.00016

N.B.

COORDINA	= Coordination Need
COSTINFO	= Information Cost
DIVERSIT	= Divisional Diversity
FIRMSIZE	= Firm Size
HIERARCH	= Levels of Hierarchy
INFLUENC	= Managerial Influenceability
OBSERVEA	= Performance Observability
RISKAVER	= Risk-averse Attitude
SUBJECTI	= Management Subjectivity
UNCERTAI	= Environmental Uncertainty

Table 21

Factor Analysis of the Independent Variables
for the Hong Kong Sample

Final Statistics:

	<u>Eigenvalue</u>	<u>% of variance</u>	<u>Cumulative %</u>
Factor 1	5.69176	56.9	56.9
Factor 2	1.45988	14.6	71.5

Factor Matrix (Varimax Rotation):

	Managerial Attitude & Firm Structure	Managerial Influenceability & Firm Size
<u>Variable</u>	<u>Factor 1</u>	<u>Factor 2</u>
COORDINA	<u>0.87982</u>	-0.01281
COSTINFO	<u>0.84856</u>	0.03291
DIVERSIT	<u>-0.60293</u>	0.26460
FIRMSIZE	0.14399	<u>0.83155</u>
HIERARCH	<u>-0.81708</u>	0.14665
INFLUENC	<u>-0.53923</u>	<u>0.68419</u>
OBSERVEA	<u>0.91502</u>	-0.01687
RISKAVER	<u>-0.76556</u>	0.30729
SUBJECTI	<u>0.88238</u>	0.01520
UNCERTAI	<u>0.77912</u>	0.39825

N.B.

- COORDINA = Coordination Need
- COSTINFO = Information Cost
- DIVERSIT = Divisional Diversity
- FIRMSIZE = Firm Size
- HIERARCH = Levels of Hierarchy
- INFLUENC = Managerial Influenceability
- OBSERVEA = Performance Observability
- RISKAVER = Risk-averse Attitude
- SUBJECTI = Management Subjectivity
- UNCERTAI = Environmental Uncertainty

CHAPTER 8

CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH ISSUES

Drawing on the findings of the surveys and interviews in both China and Hong Kong, this chapter compares the results to the objectives of this research with a view to highlighting the contributions that the research has made to understanding the application of the controllability principle in business firms. Limitations of the research are discussed, and opportunities of potential future research are raised.

8.1 Conclusions and Implications

As stated in the introduction, the purpose of this research is threefold:

- (1) It attempts to understand the controllability principle in the context of performance evaluation in China.
- (2) It investigates the determinants of the variations in managerial attitude of holding subordinates accountable for uncontrollables.
- (3) It compares these determinants between China and Hong Kong.

Objective (1) was well covered by Chapter 2, 3 and 4. Through literature review (Chapter 2 and 3) and the case studies carried out in this research (Chapter 4), it was found that in China the notion of controllability principle is basically similar to that of the western concept (see 2.1). That is, subordinates should not be held accountable for uncontrollable items of performance and the difficulty of identifying uncontrollables is also recognised. However, when it is implemented in practice uncontrollable has a wider definition because of the unique organisational and environmental factors in China (see 2.2). High uncertainty in China, which increases the difficulty of separating controllables from uncontrollables, is regarded as the most important reason that causes the apathetic and lenient attitude towards performance evaluation, hence producing a habit of pardoning missed targets (see 2.4 and 4.13). The large number of small responsibility centres in a firm, which makes indirect costs and responsibilities difficult to be traceable, also distorts performance evaluation (see 2.3). Another source of distortion emanates from the Contract Responsibility System, the original intention of which is to bind the firms to commitment through legally enforceable contracts. The

vague contract terms between the state and the contracting managers, the uncertain environment, and the limited wealth of the contractors fail to make the contract fully enforceable, and they thus fail to make the evaluation and rewarding systems work efficiently (see 3.4 and 4.12).

There is very little research evidence that addresses issues of performance evaluation and controllability in China. The scarce information available largely relate to situations in the 1980s. Due to the rapidly changing socioeconomic conditions in the mainland in the last decade, case studies were performed in this research to update this information. The findings of the case studies confirm that most of the above-mentioned problems of performance evaluation in the literature review continue to exist in the 1990s (see 4.14). China has been taking positive steps to modernise its regulatory framework in the areas of financial reporting, auditing and taxation since the early 1990s. New accounting and auditing standards based on the US and Taiwanese models have been implemented in the past several years (Liu and Zhang 1996; Tang et al. 1996). Nevertheless, there is little reporting on the improvement of management accounting practices and in particular that on performance measurement systems. The Chinese authorities have obviously recognised the urgency of modernising financial accounting but have neglected the importance of management control systems in improving the economic efficiency of business firms. Perhaps it is now time for them to reconsider the priority of the agenda items in the accounting modernisation programme. Equal importance should be given to internal management control and performance measurement as well as to external financial reporting.

Quantitative analysis of the questionnaire survey in Chapter 7 proves that objective (2) is basically fulfilled. Variations in the treatment of uncontrollables can be explained by the ten hypothesised factors, namely, risk-averse attitude, managerial influenceability, environmental uncertainty, management subjectivity, information cost, performance observability, levels of hierarchy, firm size, divisional diversity and coordination need. Among these factors in China the most influential ones are coordination need and information cost. In Hong Kong coordination need again was identified as one of the most influential factors together with divisional diversity and managerial influenceability (see 7.1.2). The present study discovers the fact that some factors are more influential than others which was not identified by previous studies of controllability.

Although the effects of all the independent variables were confirmed, two of them were found to exert their influence in the opposite direction as predicted. The results reveal that managers are more likely held accountable for uncontrollables if they and/or their superiors are more risk-averse and coordination need is low in the firm. These findings challenge some of the previous studies. For risk attitude, Merchant (1987) probably overrates the importance of the risk attitude of the evaluatee. Demski's (1976) argument -- increased accountability results from the risk sharing notion of the evaluator, albeit somewhat dated, seems to be valid in modern management practice (see 7.1.2).

On the other hand, many researchers (such as Ugras 1994; Zimmerman 1979; Demski 1981; Cohen and Loeb 1988; Suh 1987; Suh 1988; Rajan 1992) advocate that coordination need varies positively with cost allocation, which is regarded as the sole element of uncontrollables. They neglect the fact that economic and competitive effects and acts of nature are also elements of controllables (Merchant 1987; Merchant 1989) (see 7.1.2). Their attitude towards coordination need may be different if they take into account of the last two elements. Besides, some writers, such as Hopwood (1974), Anthony and Govindarajan (1998), Magee (1986) and Horngren et al. (1997) assert that it is unwise to hold managers strictly accountable for their divisional performance if there is strong divisional interdependency (see 7.1.2), because, under this circumstance, the uncontrollable elements increase and rigid evaluation of divisional performance becomes unfair. Assuming coordination need is close to divisional interdependency, it is not surprising to see that coordination need varies negatively with accountability of uncontrollables. The theories developed by these writers need be carefully reviewed in the future.

Quantitative analysis in Chapter 7 also confirms objective (3). Comparison of the variables (both independent and dependent) between China and Hong Kong were found to be significantly different. All the explanatory variables, except for risk-averse attitude, are in line with the predicted direction (see 7.1.3). It follows that the dependent variable, accountability of uncontrollables in Hong Kong is more likely than that in China, because the majority of the explanatory variables are significantly correlated with the dependent variable. In Hong Kong, managers' performance is considered largely under their control; they have great influence in decision making; they are not

subject to high environmental uncertainty; it is easier to separate uncontrollables from controllables; objective measures of performance are preferred, and it is difficult to observe divisional performance. In view of these characteristics, it is understandable that managers in Hong Kong would more likely be held accountable for uncontrollables items of performance than managers in China.

According to the above comparison of the explanatory variables between China and Hong Kong, managers in China are more ready to take risks than their Hong Kong counterparts. This is contrary to the many studies of the Chinese culture where a risk-averse and conservative nature is found. Examples are Hofstede (1980), Birnbaum and Wong (1984), Lai and Lam (1986) and Tang (1995). It was argued in 7.1.3 that institutional factors, such as the short-term behaviour produced by the Contract Responsibility System and the uncertain environment may exert a greater influence on managerial behaviours in respect of the risk attitude than the Chinese cultural traits. It seems that Child's (1994) argument that institutional forces under the Communist rule are less influential than Chinese traditions and cultures (see 7.1.2) needs to be reassessed.

Apart from the quantitative analysis, written comments in the questionnaire and the interviews with the respondents also contribute to support some of these differences between China and Hong Kong. Mentioned most were the effects of the uncertain environment and the difficulties in identifying uncontrollables on performance evaluation. The subjective evaluation styles and the widespread risky behaviours were also described as popular in China. Meantime, in Hong Kong coordination need was regarded as of paramount importance and team assessment was given due regard. Although uncontrollables were seen to affect performance, it was easily separated from controllables (see 7.2.1 and 7.2.2). According to the quantitative analysis, coordination need was shown to be the most important independent variable affecting controllability in both China and Hong Kong. Its scores in China are even higher than those in Hong Kong (see 7.1.3). However, it does not appear in the respondents' comments in China at all. The importance of coordination need may be overshadowed by the obvious forces of the uncertain environment. The negligence of management control by the Chinese authorities shown above (see 3rd paragraph in this section) may be evidence of the holding of such a perception.

The findings of the above differences between China and Hong Kong have important implications for performance evaluation. As more Hong Kong and western firms relocate to China to get the advantages of cheaper labour and land, their senior management should not simply transplant the same style of performance evaluation to China. This is particularly the case in Chinese-foreign joint ventures, where the foreign partner is usually responsible for managing the firm for the sake of importing advanced management techniques. Conflicts of performance evaluation problems between the Chinese and foreign partners were recorded in Nyaw and Lin (1986), Sun (1988), Goldenberg (1988), Yang and Cao (1992), Yu (1991), Gu and Xu (1989), Liu (1992), the Combined Investigation Group (1989) and Liu et al. (1994). To regain harmony and to ensure the successful implementation of company policies, it is imperative for the foreign party to adopt appropriate performance measures to accommodate the Chinese management styles.

The example of coordination need can be taken to illustrate the importance of this problem. As discovered by Child (1994),

...[Departments in Chinese firms] are not only reluctant to share information but fail to communicate with each other even when this is the only possible way to keep production going and to overcome problems...

Lockett (1988) also notes that,

...poor lateral communication is a major problem in Chinese organisations. It is partly a result of the vertical authority chains which the Chinese have been used to in the state bureaucratic governance system – where everything has to be referred to the top. It has also partly to do with the absence of a concept of ‘inter-dependence’ between departments and units, and of interest among employees in how they fit into an overall organisational process...

Both Child (1994) and Lockett (1988) clearly identify the condition of high coordination need in China which is compatible with the finding of this research. The present research also indicates that managers should be less accountable for uncontrollables given high coordination need (see 7.1.3). In other words, a more relaxed and flexible style of evaluation should be adopted in such circumstances.

8.2 Limitations

The present study is a non-experimental research. It was performed in the real-life environment where survey subjects cannot be freely manipulated and selected. This difficulty becomes more pronounced when most of the selected subjects are senior managers who are always busy and few in number. Comparison of the demographic data of the survey respondents between China and Hong Kong shows that there are significant differences for the items of age, education levels and business types (see 7.1.1). This situation is understandable, first, because the Hong Kong respondents are participants of a seminar and the China respondents are part-time MBA students. Second, indigenous features of the educational systems and the patterns of industry distribution of both areas prevent comparisons to be put on complete equal basis. Consequently, different backgrounds of the respondents may not seriously distort their responses. However, enlargement of the sample size will hopefully reduce such differences, albeit getting access to senior executives is not always easy.

The access problem also causes the adoption of a convenient method instead of the legitimate random method of choosing samples. In the present study, the subject managers were selected from a captive environment – a part-time MBA programme in China and a seminar in Hong Kong. The expectation of a low response is the reason for abandoning the random sampling method. The non-response problem is particularly serious in China where the culture of responding to research surveys is not yet formed and statistics for research sample determination is not complete (Liu and Chui 1992). In Hong Kong the situation is not much better. Several respondents in the present study revealed that a non-response attitude is now common because managers of large companies are increasingly overwhelmed by a huge amount of research questionnaires from academic and commercial institutions. In view of these difficulties, convenient sampling seems to be a compromise for doing management accounting research which mainly involves internal information (see 6.1.2).

Another problem generated from the non-experimental type of research is that independent variables in a multiple regression are always intercorrelated (Lewis-beck 1980). This will reduce the predictive ability of the regression. A trace of collinearity, albeit not serious by statistical criteria, between the independent variables is found in the present regression analysis (see 7.1.2). The factor analysis also indicates that most of the independent variables which reflect managerial attitudes load heavily on one factor (see 7.1.5). This means that they share a common nature. However, given the

limited useful analysis in the literature, it is difficult to name this common nature with a meaningful label.

Measuring the consistency of the responses to the questions which make up the components of each of the variables does not produce an ideal result. Not all the reliability scores of those constructs which are measured by more than one question are high (above 0.6) (see 7.1.4). However, they constitute only a minority of the variables. Overall speaking they are also higher than those in a similar study by Chow (1994) which examines the performance appraisal practices in China and Hong Kong. She attributes the relatively low reliability scores in her study to the diversity of management practices. In other words, a fixed pattern of management practices are difficult to come by in both China and Hong Kong. Some of the low reliability scores in the present study may also be caused by the same reason. Nevertheless, reliability scores may be improved by increasing the number of questions for each variable. However, this development can only be accomplished if more empirical evidence is available in the literature.

8.3 Future Research Issues

As indicated by the above analysis, although hypothesised determinants of the accountability of uncontrollables and their directional differences between China and Hong Kong are largely supported, some doubtful findings need be clarified in future research.

First, the positive relationship between risk-averse attitude and accountability of uncontrollables needs to be reconfirmed. Practical conditions in both China and Hong Kong support Demski's (1976) argument instead of Merchant's (1987) argument. Since the former is only theory-based, more empirical studies are required to test his theories (see 8.1 and 7.1.2)

Second, the finding that managers in China are less risk-averse than those in Hong Kong also contradicts arguments in previous studies. The main crux of the problems relies on whether institutional forces and the difficulty of assessing risk are more influential on performance evaluation than cultural forces (see arguments in 8.1 and 7.1.3). In business practices, due to the simultaneous interaction of divergent forces,

it is very difficult to identify clearly the 'true' cause of a certain managerial behaviour. In the present context, the interplay of the difficulty of assessing risk, institutional and cultural forces is a case in point. Future research studying one of these variables should try to keep other forces or factors constant.

Another finding of the present study which challenges the literature is that coordination need varies negatively with accountability of uncontrollables. Since there are minority opinions in the literature that support this finding, strictly speaking, theories are clearly split on this issue (see 7.1.2 and 8.1). More empirical research is required to clarify the cause-and-effect relationship between these two variables. Coordination need was found to be higher in China than in Hong Kong. Investigations can be performed to pursue the question: whether this is the norm and why it occurs in China only. In this connection, the validity of Lockett's (1988) argument of the centralisation problem and the absence of the interdependence concept can be examined (see 8.1). The case study approach is recommended for such empirical investigation because it is the best method to answer the 'why' question in real-life environment (Yin 1994). According to Spicer (1992), it also helps to challenge established theories and build alternative explanations in the management accounting area.

In the statistical analysis, ten determinants were identified to affect accountability of uncontrollables. Some are found to be more influential than others. The more influential factors found in China are coordination need and information cost, whilst those found in Hong Kong are coordination need, divisional diversity and managerial influenceability (see 7.1.2). It is difficult to explain why they are more influential because their extraction is not by deductive reasoning. Unfortunately, the subsequent interviews of the respondents do not reveal the same set of influential factors. The common comments made in China are on environmental uncertainty, information cost and management subjectivity (see 7.2.1). In Hong Kong, the common comments relate to coordination need, information cost and environmental uncertainty (see 7.2.2). Since the influential factors identified separately in the quantitative analysis and the qualitative analysis do not match perfectly, there is a need to do further research to explain why some of the factors are more influential than others.

Factor analysis shows that the ten determinants have much in common. For either China and Hong Kong, they can be simplified into two major categories.

Tentatively, one category comprises factors which reflect managerial attitude and the other category relates mainly to firm size (see 7.1.5). Previous studies fail to explain how these factors interrelate in such a pattern. A tentative explanation is that most variables are connected with managerial observability. Hopefully further research can clarify this issue.

Overall, the research is an exploratory study of the determinants of the controllability principle of performance evaluation, because there is little previous empirical research on these issues. The three empirical studies which directly examined the reasons for the variation in the accountability of uncontrollables are Merchant's two case studies in 1987 and 1989, and Ugras' survey in 1994. However, Merchant's two studies are of the case study type, their generalisability is doubtful, and Ugras' study is limited in the sense that it defines uncontrollables as the allocation of recorded indirect cost only, neglecting opportunity costs and revenues. All other 'related' studies mostly tend to develop theoretical models of the controllability principle under the agency settings without attempting to empirically test their models. Investigating the determinants of the controllability principle is also not their mainstream research. Because of the dearth of prior research the effectiveness of developing hypotheses is thus affected. Despite all these limitations, the present study has launched a systematic and comprehensive investigation of the determinants of the controllability principle and has also examined certain defects of the related theories. It is hoped, in particular, that future research should be more empirically based and cover more geographical areas so that the determinants of the controllability principle can be supported with more evidence.

Appendix 1

The SS Case

STATE-OWNED INDUSTRIAL ENTERPRISES

Comprehensive Agreement for Managing the Enterprise's Business under the Contract Responsibility System

The Contract Responsibility System for managing the Enterprise's business is implemented to achieve the objectives of (a) deepening the reform of enterprises; (b) strengthening the principle of separating ownership from management in state-owned enterprises; (c) satisfying the requirement of the City Government. The purpose of this Agreement is to confirm the rights and responsibilities of both parties.

Party A of this Agreement is:

‘SS General Refrigerator Factory’

Party B of this Agreement is:

‘The Second Light Industry Bureau of the City of Shanghai’

and

‘The Finance Bureau of the City of Shanghai’

I. Form of Contract:

Party A's promises include the submission of a certain amount of profit to the City Government; the achievement of a certain level of technological improvements; the gain of a certain amount of foreign currencies from exports; the linking of payroll to the economic efficiency of the Enterprise.

The specific form: The base amount of the submitted profits.

II. Period of Contract:

From 1 Jan. 1988 to 31 Dec. 1992.

III. Targets of Contract:

1. Base amount: Submitted profits	– RMB14m.
Submitted tax	– RMB3.2m.

Submitted profits and tax (targets for reference)

1988 RMB17.89m.
 1989 RMB17.89m.
 1990 RMB17.89m.
 1991 RMB17.89m.
 1992 RMB17.89m.

2. Managers' targets to be evaluated:

(1) Technological improvements:

The amount to be invested in 1988 should be RMB2m. and the accumulated investments by the end of 1992 should be RMB10m. All of these investments should be made for technological improvements and increase of fixed assets¹⁴.

(2) Value of products for export:

RMB37.18m. (subject to the formal agreement made between the Enterprise and the trade authorities)

(3) Quality of products:

Passing rate of first inspection – 90%.
 Score for physical quality – 94 marks¹⁵.

(4) Product innovation:

new models of refrigerators to be produced:

- (a) BCD -- 165W
- (b) BCD -- 180W
- (c) BCD -- 210W
- (d) BCD -- 25W

(5) Enterprise management:

The Enterprise should reach the standard of the Second-Level enterprises by the end of 1989.

(6) Production safety:

No occurrence of death incidents.
 Incidents of injuries should be below the limit of the City authorities.

IV. The Responsibilities, Rights and Interests of Party A and Party B:

1. Party A's responsibilities, rights and interests:

(1) To implement the various guiding principles and policies of the state;
 To abide by the laws and regulations of the state.

(2) To achieve completely the various targets specified in this Agreement.

(3) If the contracted base amount is exceeded by Party A, Party B will, according to the 'Opinions relating to the perfection of state-owned enterprises under the Contract Responsibility System', allow Party A to retain a portion of the exceeded amount for the Enterprise. If, for a certain year, Party A fails to achieve the contracted base amount, the Enterprise should use its own funds to make good for the deficiencies.

(4) If the representatives of Party A achieve the contracted targets for a particular year, their income can be higher than that of an average worker by one to three times. If their performance is outstanding, their income can be even higher. If the contracted base amount is not achieved, the representatives will not get this reward and their basic salaries will be reduced by 5% to 10%. If they fail to achieve the other contracted targets, their bonus will be reduced by 5% to 10% for every item not achieved.

2. Party B's responsibilities, rights and interests:

(1) To protect the contracting managers' legal interests and to help them in co-ordinating activities and in solving problems during the operation of the Enterprise's business.

(2) To guarantee the realisation of Party A's rights and interests as specified in this Agreement.

(3) To review and investigate Party A's contracted management activities through the finance, banking and auditing authorities.

(4) If Party A cannot completely fulfil the contracted targets, Party B reserves the right to demand compensation according to the specifications of the Agreement.

V. Party A is required to absorb all the effects of changes in price during the contract period. However, due to important changes in government policies and other uncontrollable factors, it may be necessary to amend the terms of this Agreement. Under these circumstances, both parties can make appropriate amendments and add supplementary items.

VI. The contracted Enterprise will implement the principle of linking payroll with its economic efficiency. The details will be governed by a separate scheme.

There will be four copies of this Agreement. One will be held by Party A and three will be held by Party B.

Party A

Party B

XX

XX

XX

(Sealed)

(Sealed)

(Sealed)

Representative

Representative

Representative

XX

XX

XX

(Signed & Sealed)

(Signed & Sealed)

(Signed & Sealed)

Date

Date

Date

Appendix 2

The XH Case

Summary Translation of the First Contract
Guangdong Xinhui Polyester Fibre Group Company
(former name of the Company)
The Contract Responsibility System
for Managing the Business of Enterprises
The Agreement

Date: 18 December, 1990

According to the State Council's Instruction on deepening the reform of enterprises and the spirit of the County Government's¹⁶ Document No.[90]67, together with the feature of the multi-economic-component enterprises encouraged by the County Government, the Xinhui County Government has delegated to Party A and Party B the power to sign this Agreement under the contract responsibility system.

I. Form of contract and period:

(1) The form:

The contract adopts a policy of linking the enterprise's sales and loan repayment to its staff's variable remuneration and benefits.

Party B is committed to targets of loan repayment. If these targets are achieved, an agreed portion of sales may be used to pay the staff's remuneration and benefits. If the targets are not completely achieved, the payment may be reduced by the same rate as the deficiency bears to the targets.

(2) The period:

From 1 January, 1991 to 31 December, 1993.

II. The contract targets:

Targets of loan repayment -	1991	RMB35,400,000
	1992	RMB36,000,000
	1993	RMB38,000,000

Party B may repay its loan from three sources -

the amount of profits actually received in cash,
the amount of depreciation of fixed assets,
the amount of taxes exempted.

Party B must fulfil its targets every year within the contract period.

III. Payment and accrual of staff's remuneration and benefits within the contract

period.

(1) When the targeted loan is repaid, 3.8% of the sales value may be expensed as costs for paying staff's remuneration and benefits.

(2) Staff's remuneration and benefits include the variable wages and salaries and their related payments, overtime wages, insurance premium for staff's safety, staff's and their dependents' medical expenses, staff's part-time study allownaces, staff's hardship allowances, young children allowances, food allowances, special awards, and other 30 items of expenses.

(3) The payment of remuneration and benefits is to be made monthly, adjusted every quarter and at year end¹⁷. It is to be validated and approved by the Enterprise's superior department before the money can be drawn from the bank.

IV. Rewards and penalties:

Basing on the amount exceeding the targets, Party A will report to the related government department. The contractor may obtain their annual rewards after approval is granted.

According to the related regulations of the County, the Enterprise needs to pay a management fee of 0.2% on sales to the County Economic Commission, payable monthly. This amount can be expensed as costs.

Expenses relating to the acquiring of business are limited to a maximum of 0.3% of sales. Actual outgoing will be compensated on a reimbursement basis.

Party A:	Finance Bureau	Representative:
	(sealed)	(signed)

Party B:	The Enterprise's Superior Agency	Representative:
	Xinhui County Textile Industrial Main Company	
	(sealed)	(signed)

Witness:	Office of System Reform Xinhui County Government	Representative:
	(sealed)	(signed)

Appendix 3

The XH Case

Summary Translation of the Second Contract
Guangdong Xinhui Polyester Fibre Co., Ltd.
The Contract Responsibility System
for Managing the Business of Enterprises
The Agreement

Date: 18th March, 1994

After discussion, Party A, the City Economic Commission, and Party B, Guangdong Xinhui Polyester Fibre Co., Ltd., reached an agreement under the contract responsibility system with the following terms:

- I. Form of contract: Profit targets are fixed annually; but they have to be submitted to the Government monthly; that part of the profits exceeded the targets can be retained.
- II. Contract period: From 1 Jan. 1994 to 31 Dec. 1994.
- III. Contract targets: Annual Base Figures

<u>Items</u>	<u>1994</u>
Submitted profits	RMB12,947,000
* Production safety industry ratio (Serious injuries per thousand persons)	0.18
Product quality (Pass rate 100%)	100%
Charges for conservancy and irrigation	RMB236,700
Contribution for helping difficult enterprises	RMB1,082,600

* There is also a minimum level of production safety, i.e., no casualty, no breakdown of production facilities, and no fires.

- IV. Rewards and penalties: At year end, the internal audit department of the Company has the duty to check the actual profit figure, the amount to be submitted to the Government, and whether other financial targets have been fulfilled. Party A will also examine the non-financial aspects of performance. Appropriate rewards and penalties will be made according to the Document of the local City Government No. 1990.

V. Party A's duties:

- (1) Within the contract period, Party A has the duty to check, monitor, and manage comprehensively the production operations and activities of the Company according to the related policies, laws, regulations, and the terms of this Contract. This duty must be carried out once or twice every year. It should also go through the year-end audit together with the internal audit department of the Company.
- (2) Party A must respect and protect Party B's legal interests. It should not act counter to Government's policies and the terms of this Contract. It should not interfere into the normal production activities of the Company.
- (3) Party A should try its best to help the Company to solve its operational problems, and to provide an appropriate business environment for the Company.

VI. Party B's duties:

- (1) Within the contract period, Party B has the duty to make good the amount that falls short of the financial targets from its own accumulated funds.
- (2) Within the contract period, Party B should enter into contracts and set targets with its sub-units similar to this contract. The purpose is to exercise effective control and evaluation over its sub-units.
- (3) Within the contract period, Party B should handle the issue of income distribution among staff members in a fair manner. Meantime, it should try to avoid unreasonable increases in entertainment expenses. The amount of wages increase should be below that of the economic efficiency. The increase in staff income should fall behind that of the labour productivity rate. Reasonable arrangements must be made on profits submission, loan repayment, and retained earnings of sub-units. The distribution of income and rewards among staff members must be discussed and approved by the Assembly of the Workers Representatives of the Company and a related report must be filed with Party A.
- (4) Party B must abide by the financial discipline, the financial and economic laws and regulations, and the accounting regulations. It must honestly prepare the profit and loss figures so as to reflect the true financial position. Data manipulation and short-term behaviour¹⁸ are not allowed, otherwise actions will be taken against the Company according to the 'Temporary Regulation of Penalties Relating to the Violation of the Financial Regulation'.
- (5) Party B must emphasise the 'Two Aspects of Civilisation Construction'¹⁹ of an enterprise; strengthen the political ideologies, education, and training of the staff members; and upgrade their thinking and cultural qualities.

VII. Others:

- (1) Within the contract period, both parties should abide by the terms of the contract. Each party should not by itself violate the contract. In case there are important changes in governmental policies, financial structures, and tax regulations, both parties, after consultation with each other and obtaining approval from the City Government, may terminate the whole or part of the contract.
- (2) The amount of the target profits must be paid directly to the Economic Commission through its Industrial Development Company²⁰. The payment must be made monthly on an average basis. The last payment should be paid within one month after the contract period. (The detailed payment method will be announced by the Economic Commission.)
- (3) The Company is committed to pay management fee to the Government and expenses have to be incurred for acquiring business. These amount will be fixed and regulated by the related regulations of the City Economic Commission and the Finance Bureau.
- (4) Copies of this Agreement are to be retained by Party A, Party B, the City Office of System Reform, and the Finance Bureau.

Party A:	the City Economic Commission	Representative:
	(sealed)	(signed)

Party B:	the contracting enterprise	Representative:
	(sealed)	(signed)

Witness:	the City Office of System Reform	Representative:
	(sealed)	(signed)

Endnotes:

14. It is surprising to see that only the amount of spending in technological improvements is specified in the contract concerned while the improvements are better evaluated by physical measurement. Arguments on the actual improvements will arise if prices change.
15. Similar to the explanation given in Endnote 14, arguments will also arise because the method of quality control is not clearly stated in the contract.
16. The local government of Xinhui was upgraded from a county to the status of a city after the first contract was signed.
17. Since staff's remuneration and benefits are a percentage of sales, the actual figures are available at year end only, therefore, their monthly payment has to be estimated in advance, and adjustments be made at quarter/year end.
18. 'Short-term behaviour' is the exact term used in the contract concerned. It is commonly used in the Chinese literature to describe the behaviour of a contractor who seeks his own short-term gains at the expense of the long-term benefits of the organisation with which he/she enters into a business contract under the Contract Responsibility System. Examples and reasons for this kind of behaviour is thoroughly analysed in Liu and Liu (1994).
19. The two aspects of civilisation normally refer to morality and materialism.
20. The Industrial Development Company is a firm set up by the Economic Commission for doing business.

Appendix 4

Questionnaire

This questionnaire is designed to examine the extent to which certain environmental and organisational factors affect the attitude of senior management in holding managers of responsibility centres accountable for uncontrollable items of performance.

Please provide information of your organisation or express your opinions as indicated in the following questions by ticking or circling the appropriate items.

1. What type of industry does your firm fall into?

Industrial (including manufacturing & mining) _____ Construction _____
Agricultural (including forestry and fishery) _____ Property _____
Finance (including banking and insurance) _____ Hotel & Restaurant _____
Transport (including road, rail, sea, air transport) _____ Hospital _____
Commerce (including retail, wholesale, agricultural _____ Telecommunication _____
product supplies & sale, import & export trading) _____
Other services (including professional service and entertainment) _____
Others, please specify _____
2. How much variation is there in the activities of the production and frontline (offering direct services to customers) divisions in your organisation?

No diversity exists _____ A considerable amount of diversity exists _____
1 2 3 4 5 6 7
3. What are the major product lines or services marketed by your firm?

4. How many levels of authority are there in the organisational structure of your firm, including both the highest level (the chief executive) and the lowest level (the direct worker/clerical staff)?

<4 4-5 6-7 8-9 >9
5. How many responsibility centres do your primary products or services have to sequentially go through on average?

<3 3-5 6-8 9-11 >11
6. What is the annual amount of net sales as shown in your firm's last income statement?

14. How would you describe the extent of autonomy enjoyed by the responsibility centres in your organisation for each of the items listed below?

	Very little					Very great	
	1	2	3	4	5	6	7
Determining selling prices							
Determining the quantity of output	1	2	3	4	5	6	7
Specifying the amount of capital expenditure in the annual budget	1	2	3	4	5	6	7
Choosing capital expenditure projects within capital expenditure limits	1	2	3	4	5	6	7
Arranging external short-term borrowing	1	2	3	4	5	6	7
Arranging external long-term borrowing	1	2	3	4	5	6	7
Determining the level of investment in debtors and cash	1	2	3	4	5	6	7
Determining the level of investment in stocks	1	2	3	4	5	6	7

15. To what extent do environmental uncertainties affect the performance of the responsibility centres and the organisation as a whole? In the present context, environmental uncertainties mainly refer to factors such as unexpected inflation, changes in government policy, structure, legislation, industrial economic conditions, and social systems etc.?

To a very small extent					To a very great extent	
1	2	3	4	5	6	7

16. How difficult is it to observe the managerial performance of responsibility centres?

Very easy					Very difficult	
1	2	3	4	5	6	7

17. How costly is it to evaluate the responsibility centre's managerial performance on average?

Low cost					Very costly	
1	2	3	4	5	6	7

18. How difficult is it to separate controllable from uncontrollable items of managerial performance?

Very easy					Very difficult	
1	2	3	4	5	6	7

19.

How costly is it to separate controllable from uncontrollable items of managerial performance?

Low cost

Very costly

1234567
20.

To what extent do environmental uncertainties make the separation of controllable from uncontrollable items of performance difficult in your organisation? Examples of environmental uncertainties include inflation, changes in government policy, structure, legislation, industrial economic conditions, and social systems, etc.

To a very small extent

To a very great extent

1234567
21.

To what extent is managerial performance evaluation done subjectively?

To a very small extent

To a very great extent

1234567
22.

To what extent does the management style of senior management affect the performance evaluation of middle and lower level managers?

To a very small extent

To a very great extent

1234567
23.

To what extent is decision-making centralised, i.e., managerial decisions being made by a small group of senior executives?

To a very small extent

To a very great extent

1234567
24.

To what extent are organisational strategies employed to achieve co-ordination among responsibility centres?

To a very small extent

To a very great extent

1234567
25.

To what extent do managers from the different responsibility centres have to avoid creating problems or interference with each other's duties?

To a very small extent

To a very great extent

1234567
26.

To what extent do the responsibility centres have to work together to do their job properly and efficiently without duplicating each other's duties?

To a very small extent

To a very great extent

1234567

问 卷

此问卷旨在探讨某些外部环境及机构内部各因素怎样影响管理层考核责任中心（指负有责任的部门）主管不可控制业绩的态度。

请就下列问题提供贵机构的有关资料或表达阁下的意见，以“○”或“✓”方式表示。

1. 贵机构所属行业为何？

- 工业（包括制造业及采矿业）_____
- 农业（包括林业及渔业）_____
- 金融业（包括银行及保险业）_____
- 运输业（包括海路、道路、铁路、航空运输）_____
- 商业（包括零售、批发、物资供销、进出口贸易）_____
- 建筑业_____
- 房地产业_____
- 酒店及餐饮业_____
- 医院_____
- 电讯业_____
- 其他服务业（包括专业服务及娱乐业）_____
- 若属其他行业，请注明 _____

2. 贵机构内的各生产及前线（提供直接服务给顾客）部门的活动经营性质是否很不相同？

- 并无不同
- 极为不同
- 1234567

3. 请列出贵机构的主要产品及服务类别。_____

4. 贵机构的组织结构中，权力层的数目共有多少？权力层的数目包括最高层（如总经理）及最低层（如工人及一般职员）。

< 4 4—5 6—7 8—9 > 9

5. 贵机构的主要产品及服务通常需要通过多少个责任中心来处理？

< 3 3—5 6—8 9—11 > 11

6. 贵机构最近一年的损益表，净营业额是多少？_____

7. 贵机构最近的资产负债表，总资产（包括固定资产及流动资产）是多少？

8. 贵机构以考核为目的分摊予各责任中心的不可控制的成本为多少？不可控制的成本是责任中心不能直接控制的项目，如税项、利息支出、汇价波动损失、高级行政人员的报酬、非针对个别产品的广告费、行政管理费及属于机构整体性的而个别责任中心无绝对影响力的项目。

< 20% 20— < 40% 40— < 60% 60—80% > 80%

9. 经济环境及竞争因素（如经济循环、货价及质量的竞争）可能影响责任中心主管的考核，贵机构的管理层会否排除这些因素的影响于考核范围以外？

可能性极小				可能性极大		
1	2	3	4	5	6	7

10. 自然力量，如火灾、地震及意外事件，可能影响责任中心主管的考核，贵机构的管理层会否排除这些力量的影响于考核范围以外？

可能性极小				可能性极大		
1	2	3	4	5	6	7

11. 贵机构的管理层是否不鼓励责任中心主管采取冒风险的行为？

绝不鼓励				绝对鼓励		
1	2	3	4	5	6	7

12. 若责任中心主管并非贵机构的永久雇员（即很容易解雇），而他们正获得优厚的报酬，您认为他们会否采取冒风险的行为？

可能性极小				可能性极大			
1	2	3	4	5	6	7	

13. 责任中心主管的决策会否影响贵机构的整体活动及政策？

可能性极小				可能性极大			
1	2	3	4	5	6	7	

14. 各责任中心是否享有下列决策的自主权？

	极小					极大		
订定货价	1	2	3	4	5	6	7	
订定产量	1	2	3	4	5	6	7	
在每年的预算中订定资本性支出金额	1	2	3	4	5	6	7	
在预定的金额范围内选择资本性支出项目	1	2	3	4	5	6	7	
向外筹措短期借款	1	2	3	4	5	6	7	
向外筹措长期借款	1	2	3	4	5	6	7	
订定投放于应收帐和现金的金额水平	1	2	3	4	5	6	7	
订定投放于存货的金额水平	1	2	3	4	5	6	7	

15. 不稳定的环境因素对各责任中心及机构整体业绩的影响有多大？不稳定的环境因素包括很难预测的通货膨胀、政府政策、结构、法规、行业情况及社会制度的改变等。

影响极小				影响极大			
1	2	3	4	5	6	7	

16. 观察责任中心主管的业绩是否很困难？

极为容易				极为困难			
1	2	3	4	5	6	7	

17. 考核责任中心主管的业绩是否需要付出很高的成本及代价？

极低							极高
1	2	3	4	5	6	7	

18. 将考核项目分为可以控制及不可以控制两类是否很困难？

极为容易							极为困难
1	2	3	4	5	6	7	

19. 将考核项目分为可以控制及不可以控制两类是否需要付出很高的成本及代价？

极低							极高
1	2	3	4	5	6	7	

20. 不稳定的环境因素是否会使辨别可以控制或不可以控制两类考核项目变得非常困难？不稳定的环境因素包括很难预测的通货膨胀、政府政策、结构、法规、行业情况及社会制度的改变等。

极为容易							极为困难
1	2	3	4	5	6	7	

21. 业绩的考核是否主观？

极不主观							极为主观
1	2	3	4	5	6	7	

22. 管理层的管理风格对中、下层管理人员的考核是否产生很大的影响？

影响极小							影响极大
1	2	3	4	5	6	7	

23. 决策权是否非常集中（即由少数高层人员垄断）？

极不集中							极为集中
1	2	3	4	5	6	7	

24. 贵机构利用整体策略来帮助协调各责任中心运作的程度有多大?

极小

极大

1 2 3 4 5 6 7

25. 各责任中心主管是否已尽量避免给其他责任中心制造麻烦或干扰它们的事务?

极少避免

绝对避免

1 2 3 4 5 6 7

26. 各责任中心是否尽量合作、做好本份及避免重复其他责任中心的工作?

绝不合作

绝对合作

1 2 3 4 5 6 7

27. 各责任中心员工的工作是否已计划妥当?

绝不妥当

绝对妥当

1 2 3 4 5 6 7

28. 在贵机构内您的职位为何? _____

29. 閣下的性別: 男 ; 女

30. 閣下的年齡: <30 30—<40 40— <50 50—60 >60

31. 閣下的教育程度為何？

博士 _____ 研究生学历 _____

硕士 _____ 本科学历 _____

学士 _____ 大专及本科以下学历 _____

专业资格（如会计师、律师、工程师等）_____

中学毕业 _____

32. 请阁下在下面空位表达您对考核责任中心主管应否包括不可以控制因素的意见。

多谢阁下的合作。

— 完 —

Appendix 5

Contents of the Interviews

A. Interviews with Respondents in China

Respondent A (Manager of a manufacturing enterprise):

It is important not to exclude considering uncontrollables in performance evaluation because there are many forms that uncontrollables take in China and their effects are far reaching in business enterprises. The main problem is that most of the business enterprises are still government owned and controlled. Firm executives find it difficult to implement important policies according to their own wishes. For instance, laying off workers are discouraged by the government even if they are inefficient. In addition, the workers concerned will create trouble and make retaliation to the executives, because they have not yet prepared to meet with unemployment which have been guaranteed for a long period of time in the past. On the other hand, the executives, being paid poorly and not the real owner of the enterprises, do not have motivation to exert their full efforts to improve performance. Most of them prefer fostering better personnel relationship to spending more time on management. The chance of their dismissal is low and even if they are dismissed their losses are small. They are mostly appointed by the government and they are seldom recruited through open competition in the labour market, their competence is therefore doubtful.

Respondent B (Deputy manager of a pharmaceutical enterprise):

It is difficult to control the performance of the sales outlets of the enterprise because the management cannot accurately predict the demand pattern of the customers. Consequently the present way of operation is to set profit targets for the various branches to be submitted to the headquarters periodically. It is impossible to forecast both the amount of revenues and expenses for each branch. Reasons for the variability of demand may be due to two factors. One is the rapid changes of economic conditions and the other is the different pace of economic reform in various parts of China.

Respondent C (Chief Factory Director of an electronic group)

The performance measures of member firms within the group include production value, profit, level of safety, sales and the quality of assets. Targets are carefully set after a prolonged negotiation between the evaluator and the evaluatee. Once set, the targets are difficult to change. Achievement of targets will be rewarded and miss of targets will be penalised by forfeiture of bonus or dismissal. Since the type of performance measures are specified by the government, the factory director is unable to make adjustments. It is admitted that product demand fluctuates widely and there are keen competition from the foreign investment enterprises, the force of uncontrollables is not small. However, member firms are now given more autonomy which include the recruitment of workers, product pricing, production volume, investments and borrowing capacity. Member firms' attitude towards the controllability of performance is not quite negative.

Respondent D (Manager of a construction enterprise)

Although formal targets are normally set for the quality and quantity of a construction project, they are seldom used for reward and penalty. The senior management of the enterprise prefer performance to be evaluated on a long-term and subjective basis. They recognise that performance in the construction industry is always affected by many uncontrollables and that there is hard to set objective targets in the short-term. Rigid adherence to the latter will adversely affect managerial motivation.

Respondent E (Deputy general manager of a petrochemical enterprise)

The performance of middle level managers and department heads are evaluated on four measures, namely integrity, competence, diligence, and operational results. The first three factors are qualitative ones which can only be judged subjectively, whilst the last one is based on objective quantitative performance. The operational results are expressed by three factors: the contract realisation rate, the cost rate, and the quality rate. Overheads, which occupy 40% of the total costs, comprise management expenses, financial and selling costs, and they are allocated to the responsibility centres on the basis

of production value. Standard cost is adopted to simplify book-keeping as well as to evaluate performance of production centres, the managers of which are required to stick to the standard cost as far as possible, because it is believed that production is mostly within their control under a relatively stable environment of the industry concerned. However, it is often difficult to separate behaviour into short-term and long-term nature.

Respondent F (Deputy director of a manufacturing group)

Various targets are set for the member firms of the group, such as revenues, rate of return, technology level, new products achieved, contract realisation rate, and cost amount. The target level is sometimes questionable. For example, due to the complexity of the technology, it is difficult for senior management to set appropriate technology targets. On the other hand, standard costs for certain products and processes are specified by the industry concerned, an individual enterprise has no right to change. Variances arisen from measuring actual results with performance targets influenced by such factors may not reflect the true managerial performance.

Respondent G (Personnel manager of a television group)

This enterprise has a very comprehensive and detailed performance assessment system of its managerial staff. Performance measurement is rated heavily on actual operational results, the weight given to this element is 70%; 20% is given to evaluation by subordinates and 10% is given to evaluation by management staff. Actual results are measured by a number of items including profits before tax, cost reduction, quality management, technology innovation, accidents, production disruption, workers' discipline, punctuality, control of supplies, management of plant and machinery. Subordinates' evaluation is based on the following items: diligence, management ability, decision making ability, personnel manoeuvring, professional knowledge, innovation, articulation, morality, honesty. Management staff members who participate in evaluating a manager include the senior management, department heads and their deputies and other managers. There are few uncontrollables affecting the firm. The most important one is the product demand, but its effects are separable. As a result, the uncontrollable factor can be adjusted easily. Furthermore, since the firm is new, there are few old and retired

workers; accordingly fringe benefits of staff do not constitute a heavy burden. However, a rapid drop in product demand can bring serious effects for the group, because sales, production and profits will decline considerably.

B. Interviews with Respondents in Hong Kong

Respondent A (Operations manager of a bank)

At the beginning of every year, a business plan, including mainly targets, is prepared for every operation, procedure and service. Reviews are made, actual performance recorded and variances noted towards the end of the year. Variances may occur because of changes in demand. For example, a mortgage product has to be launched to respond to the market's need. However, there are many market-driven factors. External economic forces, such as changes in interest rates and cost rises may create variances and these factors usually constitute the major part of the uncontrollables. Compared with other banks in Hong Kong, the bank itself is relatively small. It has only 27 local branches, 12 branches run through a subsidiary in the neighbouring city of Macau, and another branch in Shenzhen, a special economic zone in China. Because it is small, it is less competitive to the large banks and more vulnerable to economic impacts during crises, like the financial turmoil occurred in Southeast Asia in the second half of 1997. Senior management will not hold their managers accountable for this kind of uncontrollables.

Competitive factors may also influence performance, but they will not be regarded as significant uncontrollable items. Senior management usually wants managers to respond to these items. Examples of competitive factors may take the form of the opening/closing of a branch of a rival bank nearby or the launch/withdrawal of a new product/service of a rival bank. Exceptions are those situations where poor performance is the direct result of the aggregate policy of the bank. These factors may be treated as uncontrollables.

The most powerful reward is promotion. Salary increase and bonus only produce a small incentive effect. Dismissing people is rare. It happens only when a staff member

seriously violate regulations. Lack of promotion, and sometimes degradation and transfer, are already regarded as very strong penalty. Performance has to be reviewed for a lengthy period of time before actual rewards are granted. Management attitude in this respect can be described as conservative, but it is people-oriented, because the specific circumstances in every case is carefully considered. If people make mistakes they will be given the opportunity to make up for the loss or take follow-up action of remedy. In case no remedy can be made, at least, the reason of the mistake can be given, so that it might be forgiven. On average, the variable part of a manager's remuneration is small. For supporting staff, it is less than 10%. For frontline staff, it is about 30%. Reward for teamwork is emphasised because coordination is important for success. Although rewards are mainly based on controllable items of performance, they are granted very strictly. If targets are missed, no rewards are granted.

Management style does not affect the treatment of uncontrollables very much. Senior management usually adopt consistent policies and their attitude is labeled as enlightened and westernised. They are well-experienced in the banking businesses. Uncontrollables are easily identified and separable from controllables. Indirect costs are not allocated to responsibility centres for performance evaluation purposes, because they are regarded as uncontrollables, and their amount is not significant.

Respondent B (Finance director of a property development company)

The major items of uncontrollables come from the economic environment. Businesses have been mainly affected by changes in interest rates, currency rates and the demand for property. It is regarded as important that managers should take seriously steps to minimise risks.

Although quantitative targets are usually set at the beginning of the year for all the managers and there is a sophisticated managerial appraisal system, performance evaluation at the end of the year is bound to be judgmental and subjective, because there are many uncontrollables which hinder the achievement of targets. Bonus and share options are still granted based on this subjective evaluation.

Evaluation is even made more difficult by the long term nature of the business. Performance is to be judged on the basis of at least several years instead of on one year alone.

Since the company is highly functionally structured and there are few departments which can be regarded as profit centres, therefore the objective profitability yardsticks for measuring performance cannot be fully used. Overheads also cannot be directly charged to a certain department simply because it is heavily using the central computer facilities or it is incurring the major part of the legal charges. Departmental interdependency makes it meaningless to track down the true costs incurred by a certain department.

The company is large in terms of its fixed assets and turnover. But it has only a workforce of 625 within which about a hundred are managerial grade staff. Property companies usually assume such a structure.

Respondent C (Manager of a multinational company)

The company belongs to a multinational group which has a sound control system. Analysis of projects are comprehensive and detailed and incorporate all kinds of contingencies and problems. All the risks are carefully calculated. In addition, the senior management are well experienced in handling large infrastructure projects such as power stations. Whether an item of performance is regarded as uncontrollable or not depends very much on the experience of the person in the business. An experienced person may encounter fewer uncontrollables than an inexperienced one, because his forecast and estimate are mostly comprehensive and accurate. In view of such background of the company, the senior management can easily identify 'real' uncontrollables, the effects of which can be excluded from performance evaluation. The headquarters seldom interferes into the business of its subunits or subsidiaries. Coordination is good and responsibility centres are satisfied with their present state of autonomy.

Respondent D (Financial controller of a trading company)

This company is within a stable environment. It encounters few environmental uncertainties. Its divisions do not have much interdependency. It has few overheads allocated to its divisions. Since headquarters is very familiar with every aspect of its business, a centralisation policy in management is adopted. Divisional autonomy is kept to a minimum. Consequently, uncontrollables, when arise, are easily identifiable and they would usually be excluded from performance evaluation. Managerial accountability, however, is accordingly low.

Respondent E (Auditor of a merchant bank)

The bank has been expanding very fast in the past two years. Total staff force increases from 120 to 250. Recently, the bank has been subject to two problems of uncontrollables. One is the recent financial turmoil in the Southeast Asia. There is a tremendous rise in interest rates in the second half of 1997. The bank, having only one office, does not have a local deposit base. The absence of a branch network makes it difficult to fund its lending through cheaper local currency deposits. Lending were mainly funded by borrowing from the inter-bank market where the interest rates are extremely high at the moment. Consequently, its profit margin is seriously affected. However, this phenomenon is not expected to last long, actual performance so influenced will be adjusted for performance evaluation. The other obvious uncontrollable is the management style of the Chief Executive, who had exerted a extremely strong influence on every facet of the bank's business. This is also true in terms of performance evaluation. Many people start to look for jobs when he left the bank recently.

Respondent F (Marketing manager of a bank)

The manager believes that there are relatively few uncontrollables in his bank. However, one typical example can be quoted. For every marketing manager, targets of a certain amount of deposit and lending are set every year. Sometimes, it may happen that a big customer withdraws all his deposits just to pay off his debts. The withdrawal occurs not because your service is not good, but because there is a contingency. Nevertheless, the manager concerned has to work very hard for the rest of the year to make up for the

lost amount of deposit. Normally, the target amount will not change, because the senior management are of the opinion that there are good times and bad times in the long run.

Respondent G (Financial controller of a construction company)

The company is a medium to large construction firm in Hong Kong, albeit it has approximately 250 staff members. Most construction companies keep a small permanent staff force but contracting much of their work outside. It is a member firm of a large listed group with its holding company in Germany. The managing director of the company reports to the Asian Group Executive of the holding company in Germany.

The company is regarded as one of the operating units of the group. It mainly manufactures building materials, such as concrete blocks for the pavements and the precast concrete posts for the viaduct. It has to send detailed management reports monthly to the Asian Group Executive who then gives summaries to the headquarters in Germany. The reports are chiefly financial statements. Senior management regard profitability, debtors, and cash flow as the most important items. If they are not satisfied with the figures, they will probe into the details and the contents of the other statements.

Like the other operating units in the Asian Group, the company is basically treated as a profit centre. Target profit is set after negotiation between the headquarters and the managing director of the company. There is no participation in the process by other parties. It is also believed that even the managing director has little influence in setting the target. Non-financial measures of performance are absent. The Asian Group Executive is mainly concerned about whether an operating unit makes profit or not. If it makes profit, he normally does not intervene further into its daily operations. However, if it suffers loss, he will start to investigate into details of its daily operations and will ask for explanations for the loss and will require more performance indicators to be reported. Profit margin, therefore, is the most important performance indicator of the operating unit.

As a control device, the headquarters issues letters of direction to every senior manager in an operating unit specifying in detail his sphere of authority. These letters

contain many regulations and guidelines for the managers to follow when approving expenses and committing investments. For instance, the company can purchase fixed assets such as machinery, but it cannot set up business entities of its own and make new investments and purchase/build plants. Approval of the latter activities is required from the headquarters.

Since the headquarters is principally interested in the profit indicator and the managing director understands that a good performance of which is very important for his job retention, he therefore tries hard to produce a 'comfortable' profit margin every year in the management report. In doing so, some manipulation of accounts (such as leads and lags) and covering up of certain adverse situations are unavoidable. For example, it once happened that a client of the company was not satisfied with the quality of one of its construction projects. After many unsuccessful negotiation and bargaining with the company, he circumvented the managing director and aired his grievances to the headquarters in Germany. Nevertheless, accounting manipulation and information filtering activities are not thought to be serious, because it is believed that they will have no effects in the long run, and it is not worthwhile to take the risks.

The managing director's attitude towards the control mechanism of the group is one that he will protect the interest of his staff more than that of the group. Information asymmetry exists in the group because the company is an overseas member of the group which is incapable to monitor its operations in detail. The managing director realises that the management-by-exception concept is adopted here since closer monitoring will be initiated only when loss incurs. Although the group's businesses are diversified, they are somewhat related to the construction industry. Senior management is not unfamiliar with the group's activities, information asymmetry is therefore regarded only as medium.

The simple profit measure implies that the headquarters will not bother to adjust profit targets for evaluation purposes when they are missed. Senior management have no intention to examine the reasons for the failure of an overseas operating unit to achieve a 'reasonable' profit target. No efforts will be made to analyse items of performance into controllables and uncontrollables. Separating them is difficult because project construction is often affected by the weather and the technical risks involved. Uncertainty

is therefore recognised as part of the life. Nevertheless, overheads are only 5% of the total costs and cost allocation is not important.

The headquarters treats member firms of the group as independent companies. There are no concessions in transactions among them. As such, they are encouraged to compete with each other in sourcing and bidding for contracts. Resources will thus be wasted and efforts duplicated. However, the intention of keeping member firms as 'real' independent profit centres are very strong. A budget constrained style of performance evaluation may be justified in this case.

Bonus is only granted to the company as a whole when the profit targets are exceeded or achieved. There is no difference for each individual. A modest bonus of 10% on the basic salary is given for the past year. Some people were dismissed two years ago because of underperformance.

Appendix 6

Summary of the Questionnaire Comments

A. Questionnaire Comments in China

1. Most of the respondents agree that uncontrollables should be clearly defined and categorised by degree before performance and their effects separated from controllables. Adjustments of the actual results should be made in response to the uncontrollables when granting performance-linked reward and penalty, so that motivation can be enhanced. Otherwise, performance evaluation will become a meaningless exercise.
2. Some industries are constantly affected by uncontrollables. Examples are finance and property and industries of uncertain environment. To reduce this adverse impact, it is advisable to improve the techniques of forecasting, to set more realistic targets, and to have better strategic planning. Some respondents even suggest to enhance the awareness of riskiness and to promote the financial knowledge of division managers. Since manipulation of financial information is widespread, this practice is treated by one respondent as an element of uncontrollables. He asserts that evaluation cannot reflect real performance if accurate profit figures are unavailable.
3. It is important but very difficult to separate controllables from uncontrollables. In practice, senior management do not exert sufficient efforts to do so because of the considerable costs involved.
4. In many cases, controllability is a matter of degree. If it is difficult to identify uncontrollables clearly, then performance evaluation should emphasise the ability of division managers to deal with them. It is important for division managers to react to uncontrollables. They can take steps to avoid risk and minimise losses. Evaluation should be harsher for those who do not react to uncontrollables or do not handle uncontrollables well.

5. Many uncontrollables are wrongly classified as uncontrollables. An example is given by a respondent. He experienced an incident where a fire could be prevented if the extinguisher was properly used and due care was taken by the staff members concerned. This implies that better staff training and education can reduce uncontrollables.
6. Finally, if the effects of uncontrollables cannot be separated in performance evaluation and the managers are adversely affected, the situation can be alleviated by consolation.

B. Questionnaire Comments in Hong Kong

There are few respondents in Hong Kong giving comments on controllability. The following points are mentioned.

1. Holding managers accountable for uncontrollables will lead to frustration and they will spend more as a matter of protest. The result is quite costly to an organisation.
2. When services are provided to responsibility centres and are charged on time basis, uncontrollables can be easily identified and therefore should not be taken into the centre's account.
3. In practice, middle level managers are subject to numerous uncontrollables. Most importantly, in many cases, they are unable to influence the decisions of senior management, but they are usually held accountable for the most part of their performance. It is therefore difficult to avoid subjective and biased evaluation.

REFERENCES

- ALAM, M. 1997. Budgetary process in uncertain contexts: a study of state-owned enterprises in Bangladesh. *Management Accounting Research*, 8(2), 147-167.
- ANTHONY, R.N. and GOVNDARAJAN, V. 1998. *Management control systems*, Chicago: Irwin.
- ANTLE, R. and SMITH, A. 1986. An empirical investigation of the relative performance evaluation of corporate executives. *Journal of Accounting Research*, 24(1), 1-39.
- ANYANE-NATOW, K. 1991. A comparison of budgetary control systems in American and Japanese manufacturing firms. *Asia Pacific Journal of Management*, 8(2), 201-221.
- ARROW, K.J. 1963. Uncertainty and the welfare economics of medical care. *American Economic Review*, 53(5), 941-973.
- ATKINSON, A.A. 1987. *Intra-firm cost and resource allocations: theory and practice*, Toronto: Canadian Academic Accounting Association.
- AUDITING CADRE COLLEGE OF HUBEI PROVINCE & AUDITING ASSOCIATION OF HUANGSHI CITY OF HUBEI PROVINCE. 1993. *Practical auditing of the contract responsibility business*, Beijing: China Auditing Publisher.
- AYRES, F.L. 1985. Models of coalition foundation, reward allocation and accounting cost allocations: a review and synthesis. *Journal of Accounting Literature*, 4, 1-31.
- BAILES, J.C. and ASSADA, T. 1991. Empirical differences between Japanese and American budget and performance evaluation systems. *International Journal of Accounting*, 26(2), 131-142.
- BAIMAN, S. 1982. Agency research in managerial accounting: a survey. *Journal of Accounting Literature*, 7, 154-213.
- BAIMAN, S. and DEMSKI, J.S. 1980. Economically optimal performance evaluation and control systems. *Journal of Accounting Research*, 18, Supplement, 184-220.
- BAIMAN, S. and NOEL, J. 1985. Noncontrollable costs and responsibility accounting. *Journal of Accounting Research*, 24(2), 486-501.
- BANKER, R.D. and DATAR, S.M. 1989. Sensitivity, precision, and linear aggregation of signals for performance evaluation. *Journal of Accounting Research*, 27(1), 21-39.
- BARROW, N. and LIU, K.C. 1988. Management accounting in Hong Kong: an economy-wide survey of current practice. *Proceedings of the National Conference of the British Accounting Association*, Nottingham, April.
- BELSLEY, D.A., KUH, E. and WELSCH, R.E. 1980. *Regression diagnostics: identifying influential data and sources of collinearity*, New York: Wiley.
- BIERMAN, H. and DREBIN, A. 1972. *Management Accounting: an Introduction*, London: Macmillan.

- BIRNBAUM, P.H. and WONG, G.Y.Y. 1984. *Cultural values of managers in the People's Republic of China and Hong Kong*, Research Paper, Hong Kong: Department of Management Studies, University of Hong Kong.
- BREWER, P.C. 1998. National culture and activity-based costing systems: a note. *Management Accounting Research*, 9(2), 241-260.
- BRISLIN, R.W. 1970. Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216.
- BROMWICH, M. and WANG, G.Q. 1991. Management accounting in China: a current evaluation. *International Journal of Accounting*, 26(1), 51-66.
- BULL, C. and ORDOVER, J.A. 1987. Market structure and optimal management organizations. *Rand Journal of Economics*, 18(4), 480-491.
- BYRD, W.A. 1992. The Anshan Iron and Steel Company. In: W.A. BYRD, ed. *Chinese industrial firms under reform*, (Ed.) Byrd, W.A., World Bank: Oxford University Press, 303-370.
- CAI, B.L. 1992. *The design of responsibility accounting*. Beijing: Beijing Economic School Publisher.
- CAMPBELL, N. 1987. Experiences of western companies in China. *Euro-Asia Business Review*, July, 35-38.
- CHATTENJEE, S. and PRICE, B. 1991. *Regression analysis by example*, New York: Wiley.
- CHEN, S.E. 1992. *A comprehensive book of legal documents for business enterprises in China*, Beijing: Reform Press.
- Child, J. 1994. *Management in China during the age of reform*, Cambridge: Cambridge University Press.
- CHINA STATISTICAL INFORMATION & CONSULTANCY CENTER. 1999. *China Monthly Statistics 1998, December, January*, Beijing.
- CHONG, V.K. and CHONG, K.M. 1997. Strategic choices, environmental uncertainty and SBU performance: a note on the intervening role of management accounting systems. *Accounting and Business Research*, 27(4), 268-276.
- CHOUDHURY, N. 1986. Responsibility accounting and controllability. *Accounting and Business Research*, 16(63), 189-198.
- CHOW, C.W., KATO, Y. and SHIELDS, M.D. 1994. National culture and the preference for management controls: an exploratory study of the firm-labour market interface. *Accounting, Organizations and Society*, 19(4/5), 381-400.
- CHOW, I.H.S. 1994. An opinion survey of performance appraisal practices in Hong Kong and the People's Republic of China. *Asia Pacific Journal of Human Resources*, 32(3), 67-79.

- COHEN, S.I. and LOEB, M. 1988. Improving performance through cost allocation. *Contemporary Accounting Research*, 5(1), 70-95.
- COMBINED INVESTIGATION GROUP 1989. A research on the evaluation of joint ventures, *Management World*, 1, Beijing.
- COOPER, D.R. and EMORY, C.W. 1995. *Business research methods*. Chicago: Irwin.
- COOK, D. 1986. The psychological impact of certain aspects of performance reports. *NAA Bulletin*, July.
- CRONBACH, L.J. 1951. Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.
- DEAN, G.W., JOYE, M.P. and BLAYNEY, P.J. 1991. *Strategic management accounting survey: overhead cost allocation and performance evaluation practices of Australian manufacturers*, Accounting and Finance Foundation, The University of Sydney and National Industries Extension Service, Monograph No.8.
- DEMSKI, J.S. 1976. Uncertainty and evaluation based on controllable performance. *Journal of Accounting Research*, 14(2), 230-245.
- DEMSKI, J.S. 1981. Cost allocation games. In: S. MORIARITY, ed. *Joint cost allocations*, Norman: University of Oklahoma Press, 142-173.
- DEMSKI, J.S. and FELTHAM, G. 1978. Economic incentives in budgetary control systems. *Accounting Review*, 53(2), 336-359.
- DEMSKI, J.S. and SAPPINGTON, D.E.M. 1989. Hierarchical structure and responsibility accounting. *Journal of Accounting Research*, 27(1), 40-58.
- DOPUCH, N., BIRNBERG, J. and DEMSK, J. 1974. *Cost accounting for management decisions*, 2nd ed., Fort Worth: Harcourt Brace Jovanovich.
- DRURY, C. 1996. *Management and Cost Accounting*, London: Thomson.
- DRURY, C., BRAUND, S., OSBORNE, P. and TAYLES, M. 1994. *A survey of management accounting practices in UK manufacturing companies*, London: Chartered Association of Certified Accountants.
- EMMANUEL, C., OTLEY, D. and MERCHANT, K. 1990. *Accounting for management control*. London: Chapman and Hall.
- FERRARA, W.L. 1964. *Responsibility accounting – a basic control concept*, NAA Bulletin, September.
- FINANCE BUREAU OF GUANGDONG PROVINCE. 1996. *The Notification of Obtaining Forms of Financial Reports*, Administrative Document of the Finance Bureau of Guangdong Province, No.64, 27 June, 1996, China.

- FITZERALD, L., JOHNSTON, R., BRIGNALL, S., SILVESTRO, R. and VOSS, C. 1991. *Performance measurement in service businesses*. London: Chartered Institute of Management Accountants.
- FOSTER, G. and SWENSO, D.W. 1997. Measuring the success of activity-based cost management and its determinants. *Journal of Management Accounting Research*, 9, 109-141.
- FREMGEN, J.M. and LIAO, S.S. 1981. NAA Research Report – the allocation of corporate indirect costs. *Management Accounting*, September, 66-67.
- GE, J.S., LIN, Z.J. and LIU, F. 1997. Accounting standards and practices in China. In: BAYDOUN, N., HISHIMURA, A. and WILLETT, R. eds. *Accounting in the Asia-Pacific Region*, Singapore: Wiley.
- GENEEN, H. and MOSCOW, A. 1984. *Managing*, Garden City: Doubleday.
- GEORGE, A.L. and MCKEOWN, T.J. 1985. Case studies and theories of organisational decision making. In: *Advances in information processing in organizations*, Vol.2, Greenwich: JAI Press, 21-58.
- GOLDBER, V.P. 1976. Toward an expanded economic theory of contracts. *Journal of Economic Issues*, 10(1), 45-61.
- GOLDENBERG, S. 1988. *Hands across the ocean: managing joint ventures with a spotlight on China and Japan*, Boston: Harvard Business School.
- GORDON, L.A. and NARAYANAN, V.K. 1984. Management accounting systems, perceived environmental uncertainty and organisation structure: an empirical investigation. *Accounting, Organizations and Society*, 9(1), 33-47.
- GORDON, M.J. 1963. Towards a theory of responsibility accounting systems. *NAA Bulletin*, December.
- GOVINDARAJAN, V. 1984. Appropriateness of accounting data in performance evaluation: an empirical evaluation of environmental uncertainty as an intervening variable. *Accounting, Organizations and Society*, 9(2), 125-135.
- GOVINDARAJAN, V. 1986. Decentralization, strategy and effectiveness of strategic business units in multi-business organizations. *Academy of Management Review*, 11, 844-856.
- GOVINDARAJAN, V. 1988. A contingency approach to strategy implementation at the business unit level: integrating administrative mechanisms with strategy. *Academy of Management Journal*, 31, 828-853.
- GU, G.X. and XU, X.M. 1989. An investigation of Shanghai's enterprises with foreign capital participation. *Journal of Fu Dan University*, 4, Shanghai.
- GUL, F.A. 1991. The effects of management accounting systems and environmental uncertainty on small business managers' performance. *Accounting and Business Research*, 22(85), 57-61.

- GUL, F.A. and CHIA, Y.M. 1994. The effects of management accounting systems, perceived environmental uncertainty and decentralization on managerial performance: a test of three-way interaction. *Accounting, Organizations and Society*, 19(4/5), 413-426.
- GUPTA, A.K. 1986. Matching managers to strategy: point and counterpoint. *Human Resource Management*, 25(2), 215-234.
- HE, H.B. 1989. *The principle of responsibility accounting*, Kaifeng: Henan Education.
- HECKATHORN, D.D. and MASER, S.M. 1987. Bargaining and sources of transaction costs: the case of government regulation. *Journal of Law, Economics, and Organization*, 3(1), 69-98.
- HILDEBRAND, D.K. and Ott, R.Y. 1996. *Basic statistical ideas for managers*, Belmont: Duxbury.
- HOFSTEDE, G.H. 1967. *The game of budget control*, Van Gorcum.
- HOFSTEDE, G.H. 1980. *Culture's consequences: international differences in work-related values*. Beverly Hills: Sage.
- HOFSTEDE, G.H. 1984. Cultural dimensions in management and planning. *Asia Pacific Journal of Management*, 1(2), 81-99.
- HOFSTEDE, G.H. and BOND, M. 1988. The Confucian connection: from cultural roots to economic growth. *Organizational Dynamics*, Spring, 5-21.
- HOLMSTROM, B. 1979. Moral hazard and observability. *Bell Journal of Economics*, 10(1), 74-91.
- HOLMSTROM, B. 1982. Moral hazard in teams. *Bell Journal of Economics*, 13(2), 324-340.
- HOPWOOD, A.G. 1976. *Accounting and human behaviour*, Englewood Cliffs: Prentice-Hall.
- HORNGREN, C.T., FOSTER, G. and DATAR, S M. 1997. *Cost accounting: a managerial emphasis*, Englewood Cliffs: Prentice-Hall, Englewood Cliffs.
- JANG, Y., SUH, K. and LEE, J. 1997. Empirical study of management consulting success in Korea. *Asia Pacific Journal of Management*, 14(2), 165-183.
- JAWORSKI, B. J. and YOUNG, S.M. 1992. Dysfunctional behaviour and management control: an empirical study of marketing managers. *Accounting, Organizations and Society*, 17(1), 17-35.
- JENSEN, M.C. 1983. Organization theory and methodology. *Accounting Review*, 58(2), 319-339.
- JENSEN, M.C. and MECKLING, W.H. 1976. Theory of the firm: managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.

- JONES, G.R. 1995. *Organisational theory*, New York: Addison-Wesley.
- JUDD, C.M., SMITH, E.R. and KIDDER, L.H. 1991. *Research methods in social relations*, Fort Worth: Harcourt Brace Jovanovich.
- KAHN, R.L., WOLF, D.M., QUINN, R.R., SNOEK, J.D. and ROZENTHAL, R.N. 1964. *Organizational stress: studies in role conflict and ambiguity*, New York: Wiley.
- KAPLAN, R.S. 1983. Measuring manufacturing performance: a new challenge for managerial accounting research. *Accounting Review*, 58(4), 686-705.
- KERLINGER, F.N. 1986. *Foundations of behavioural research*, New York: CBS.
- KLINE, P. 1994. *An easy guide to factor analysis*, London: Routledge..
- KONG, S.L. 1989. *Chinese culture and lore*, Hong Kong: Kensington Educational.
- LA BARRE, W. 1946. Some observations on character structure in the orient. *Psychiatry*, 9, 375-395.
- LAI, T.L.G. and LAM, Y.W.C. 1986. A study on work-related values of managers in the People's Republic of China, Part II. *Hong Kong Manager*, 22(2), 19-51.
- LAU, C.M., LOW, L.C. and EGGLETON, I.R.C. 1997. The interactive effect of budget emphasis, participation and task difficulty on managerial performance: a cross-cultural study. *Accounting, Auditing and Accountability Journal*, 10(2), 175-197.
- LAU, D.C. 1992. *Confucius: the analects*, Hong Kong: Chinese University Press.
- LEGGE, J. 1960. *The Chinese Classics*, 1. Hong Kong: Hong Kong University Press.
- LEVINTHAL, D. 1988. A survey of agency models of organizations. *Journal of Economic Behavior and Organization*, 9(2), 153-185.
- LEWIS-BECK, M.S. 1980. *Applied regression: an introduction*, Beverly Hills: Sage.
- LI, T.M. 1994. *Management accounting research*, Shanghai: Li Xin Accounting Press.
- LI, W.W., YANG, J.L., CHEN, Y. and WANG, S.Q. 1993. *The relationship between the government and state enterprises in China – a study of the contract responsibility system*, Shanghai: Institute of National Economy, Shanghai Academy of Science
- LIANG, J.Q., TANG, S.H.S., TSANG, C.H.V. and YAU, S.W.J. 1995. The enterprise bad debts in China. *Hong Kong Accountant*, March/April, 66-72.
- LIN, G. 1994. *A study of responsibility accounting*, Beijing: The People's University of China Press..
- LIN, T. and WU, A. 1998. A survey report on management accounting practices in China. *Financial Affairs and Accounting*, December, 10, Beijing: The People's University of China..
- LIN, Y.T. 1988. *The Chinese People*. Shanghai: Zhe Jiang People's Press, Ch. 3, 59-80.

- LITWIN, M.S. 1995. *How to measure survey reliability and validity*, Thousand Oaks: Sage.
- LIU, K.C. 1990. The need for improvements in monitoring performance: preliminary findings of a study of banks in Hong Kong. *Proceedings of the Northern Accounting Group Annual Conference of the British Accounting Association*, Leicester, September.
- LIU, K.C. 1993. Relaxation of state control: a case study of a manufacturing enterprise in China. *Proceedings of the International Symposium on Current Accounting and Auditing Issues in China*, Xiamen University, Xiamen, June, 175-178.
- LIU, K.C. 1996. Cultural influence on practices of performance evaluation in China. *Proceedings of the Second South China International Business Symposium*, Macau, November, 855-871.
- LIU, K.C. and CHUI, J. 1992. Responsibility accounting in China: public sector perspective, features and research limitations. *Proceedings of the Fourth Annual Conference of Accounting Academics*, Hong Kong, April, 290-297.
- LIU, K.C., FUNG, D. and NG, A. 1993. Performance measurement: the case study of a life insurance company in Hong Kong. *Proceedings of the Fifth Annual Conference of Accounting Academics*, Hong Kong, April, pp.313-322.
- LIU, K.C. and LIU, X. 1994. Management myopia of the contract responsibility system in China? *Asia Pacific Journal of Management*, 11(1), 125-131.
- LIU, K.C. and MA, A.K.W. 1991. Activity-based costing in banks: a review of recent developments in Hong Kong. *Proceedings of the Third Annual Conference of Accounting Academics*, Hong Kong, March, 215-224.
- LIU, K.C. and ZHANG, W.G. 1996. *Contemporary accounting issues in China: an analytical approach*, Singapore: Prentice-Hall.
- LIU, X. 1992. Introducing foreign direct investment: a macro evaluation of economic efficiency. *Journal of Quantitative and Engineering Economics*, January.
- LIU, X., LIU, K.C. and YANG, X.T. 1994. Evaluating the performance indicators of Chinese-foreign joint ventures. *Proceedings of the Sixth Asian Pacific Conference on International Accounting Issues*, California State University, Fresno and National Taiwan University, Taipei, November, 194-197.
- LIU, X., YANG, X.T. and LIU, K.C. 1993a. Share capital system: the main reform direction of state-owned enterprises in China. *Proceedings of the Fifth Annual Conference of Accounting Academics*, Hong Kong, April, 621-626.
- LOCKETT, M. 1988. Culture and the problems of Chinese management. *Organization Studies*, 9(4), 475-496.
- LOTHIAN, N. 1987. *Measuring corporate performance*. London: Chartered Institute of Management Accountants.
- LUAN, T. and LI, Z.Z. 1993. *The difficulties and future opportunities of large and*

- medium sized enterprises in China*, Beijing: China Finance and Economics Press.
- LUO, Y.D. and Min, C. 1997. Does guanxi influence firm performance? *Asia Pacific Journal of Management*, 14(1), 1-16.
- LYNN, M. 1989. Management accounting maturity in Hong Kong: evidence from publicly-listed companies. *Hong Kong Journal of Business Management*, 7, 49-70.
- LYNN, M. 1990. Evaluation of foreign subsidiaries and their managers in Hong Kong. *Hong Kong Journal of Business Management*, 8, 31-55.
- MACIARIELLO, J.A. and KIRBY, C.J. 1994. *Management control systems: using adaptive systems to attain control*, Englewood Cliffs: Prentice-Hall.
- MAGEE, R.P. 1986. *Advanced managerial accounting*, New York: Harper & Row.
- MAHER, M.W. 1987. The use of relative performance evaluation in organizations. In: eds. W.J. BRUNS and R.S. KAPLAN, *Accounting and management: field study perspectives*, Boston: Harvard Business School, 295-315.
- MACDONALD, G.M. 1984. New directions in the economic theory of agency. *Canadian Journal of Economics*, 17(3), 415-440.
- MARCH, J.G. and OLSEN, J.P. 1976. Organisational choice under ambiguity. In: eds. J.G. MARCH and J.P. OLSEN, *Ambiguity and choice in organizations*, Bergen: Universitetsforlaget.
- MASON, E.J. and BRAMBLE, W.J. 1989. *Understanding and conducting research: applications in education and the behavioural sciences*, New York: McGraw-Hill.
- MCNALLY, G.M. 1980. Responsibility accounting and organizational control: some perspectives and prospects. *Journal of Business Finance and Accounting*, 7(2), 165-181.
- MERCHANT, K.A. 1985. *Control in business organizations*, Boston: Pitman.
- MERCHANT, K.A. 1987. How and why firms disregard the controllability principle. In: eds. W.J. BRUNS and R. KAPLAN, *Accounting and management: a field study Perspectives*, Boston: Harvard Business School, 316-338.
- MERCHANT, K.A. 1989. *Rewarding results: motivating profit center managers*, Boston: Harvard Business School.
- MERCHANT, K.A. 1990. The effects of financial controls on data manipulation and management myopia. *Accounting, Organizations and Society*, 15(4), 297-313.
- MIA, L. 1993. The role of MAS information in organizations: an empirical study. *British Accounting Review*, 25(3), 269-285.
- MINISTRY OF PUBLIC SECURITY, PEOPLE'S REPUBLIC OF CHINA. 1996. *National statistics of population in the People's Republic of China: 1995*, Beijing: University of Public Security Press.

- MONTGOMERY, D.C. and PECK, E.A. 1992. *Introduction to linear regression analysis*, New York: Wiley.
- MOORHEAD, G. and GRIFFIN, R.W. 1995. *Organizational behavior*, Boston: Houghton Mufflin.
- NORUSIS, M.J. 1992. *SPSS for Windows, professional statistics, Release 5*, Chicago: SPSS Inc.
- NYAW, M.K. and LIN, G.S. 1986. The organization structure of joint ventures in Shenzhen, China: an empirical study. *Hong Kong Journal of Business Management*, 4, 167-186.
- O'CONNER, N.G. 1995. The influence of organizational culture on the usefulness of budget participation by Singaporean-Chinese managers. *Accounting, Organizations and Society*, 20(5), 383-403.
- OTLEY, D.T. 1978. Budget use and managerial performance. *Journal of Accounting Research*, 16(1), 122-149.
- OTLEY, D.T. and PIERCE, B.J. 1995. The control problem in public accounting firms: an empirical study of the impact of leadership style. *Accounting, Organizations and Society*, 20(5), 405-420.
- PRATT, J.W. and ZECKHAUSER, R.J. 1985. *Principals and agents: the structure of business*, Boston: Harvard Business School.
- RAJAN, M.V. 1992. Cost allocation in multiagent setting. *Accounting Review*, 67(3), 527-545.
- RAMADAN, S. 1989. The rationale for cost allocation: a study of UK divisionalized companies. *Accounting and Business Research*, 20(77), 31-37.
- RESEARCH OFFICE OF THE STATE COUNCIL, THE PEOPLE'S REPUBLIC OF CHINA. 1988. *The development and problems of the contract responsibility system*, Beijing: China Finance and Economics Press.
- RIZZO, J.L., HOUSE, R.J. and LIRTZMAN, S.I. 1970. Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly*, 15, 150-163.
- RONEN, J. and LIVINGSTONE, J.L. 1975. An expectancy theory approach to the motivational impacts of budgets. *Accounting Review*, 50(4), 671-685.
- RUSSELL, B. 1966. *The Problem of China*. London: George Allen & Unwin.
- SANNELLA, A.J. 1986. An application of income strategy to cost allocation and segment reporting. *Journal of Accounting, Auditing and Finance*, 4, 288-304.
- SAPPINGTON, D.E.M. 1991. Incentives in principal-agent relationship, *Journal of Economic Perspectives*, 5(2), 45-66.
- SCAPENS, R.W. 1990. Researching management accounting practice: the role of case study methods. *British Accounting Review*, 22(3), 259-282.

- SCAPENS, R.W. 1991. *Management accounting: a review of contemporary developments*, London: MacMillan.
- SCHILIT, H.M. 1993. *Financial shenanigans: how to detect accounting gimmicks and frauds in financial reports*, New York: McGraw-Hill.
- SEDDON, J.W. 1987. Assumptions, culture and performance appraisal. *Journal of Management Development*, 6(3), 47-54.
- SEKARAN, U. 1992. *Research methods for business: a skill building approach*, New York: Wiley.
- SHARP, J.A. and HOWARD, K. 1996. *The management of a student research project*, Hants: Gower.
- SHI, C.Y. and ZHANG, H.X. 1994. *A comprehensive book on the practices of accounting reform in China*, Dalian: Dong Bei University of Finance and Economics Publisher.
- SHIELDS, M.D. and Young, S.M. 1994. Managing innovation costs: a study of cost conscious behaviors by R & D professionals. *Journal of Management Accounting Research*, 6, Fall, 175-196
- SIEGEL, G. and RAMANAUSKAS-MARCONI, H. 1989. *Behavioral accounting*. Cincinnati: South-Western Publishing Co.
- SIEGEL, S. and CASTELLAN, N.J. 1988. *Nonparametric statistics: for behavioral sciences*, New York: McGraw-Hill.
- SIMON, H.A., GUETZKOW, H., KOZMETSKY, G. and TUNDALL, G. 1954. *Centralization vs. decentralization in organizing the controllers department*, Controllership Foundation.
- SKINNER, R.C. 1990. The role of profitability in divisional decision making and performance evaluation. *Accounting and Business Research*, 20(78), 135-141.
- SOLOMONS, D. 1965. *Divisional performance: measurement and control*, Homewood: Irwin.
- SPICER, B.H. 1992. The resurgence of cost and management accounting: a review of some recent developments in practice, theories and case research methods. *Management Accounting Research*, 3(1), 1-37.
- STARKS, L.T. 1987. Performance incentive fee: an agency theoretic approach. *Journal of Financial and Quantitative Analysis*, 22(1), 17-32.
- STAW, B.M. 1977. Motivations in organizations: towards synthesis and redirection. In: eds. B.M. STAW and G.R. SALANICK, *New directions in organizational behavior*, Chicago: St. Clair Press.
- SUH, Y.S. 1987. Collusion and noncontrollable cost allocation. *Journal of Accounting Research*, 25, Supplement, 22-46.

- SUH, Y.S. 1988. Noncontrollable costs and optimal performance measurement. *Journal of Accounting Research*, 26(1), 154-168.
- SUN, Y.P. 1988. Improving the operation mechanism of foreign enterprises: a preliminary investigation. *Theory and Practice of Finance and Economics*, 4.
- TAN, J.T. 1995. A case of responsibility accounting in controlling cost of quality. In: eds. Y.Z. WANG and Y.Z. YI, *Cost of quality and responsibility accounting*, Beijing: China Finance and Economics Press, 163-253.
- TANG, G.L. 1990. *Finance and accounting for the contracting enterprises*, Beijing: Commercial Publisher of China.
- TANG, Y.W. 1990a. *Responsibility accounting in China*, presentation at the City Polytechnic of Hong Kong, August, Hong Kong.
- TANG, Y.W., CHOW, L. and COOPER, B.J. 1996. *Accounting and finance in China: a review of current practice*, Hong Kong: FT Law and Tax Asia Pacific.
- TAYLOR, D.W. and LIU, K.C. 1992. Management autonomy and financial performance criteria: the case of a state commercial enterprise in China. *Asian Review of Accounting*, 1(1), 87-98.
- THOMPSON, J.D. 1967. *Organizations in action*, New York: McGraw-Hill.
- TRICKER, R.I. and DOCKERY, A. 1995. *Performance measurement that matters: using non-financial indicators for corporate success in Hong Kong*, Hong Kong: Pitman.
- UENO, S. and WU, F.H. 1993. The comparative influence of culture on budget control practices in the United States and Japan. *International Journal of Accounting*, 28(1), 17-39.
- UGRAS, Y.J. 1994. Factors affecting allocation of noncontrollable costs for performance evaluation use: a survey. In: ed. M.J. EPSTEIN. *Advances in management accounting*, Vol.3, Greenwich: JAI Press, 255-278.
- VANCIL, R.F. 1979. *Decentralization: managerial ambiguity by design*, Homewood: Irwin.
- WANG, R.L., CHIANG, W. and GONG, Y.R. 1990. Enterprise autonomy and market structures in China. *International Studies of Management and Organisation*, 20(1/2), 23-33.
- WEN WEI PO DAILY. 1995. *Triangle debts in China*, 26 January, Hong Kong.
- WOO, J. 1992. The Nanning Silk and Ramie Textile Mill. In: ed. W.A. BYRD. *Chinese industrial firms under reform*, World Bank: Oxford University Press, 276-302.
- WU, F.X., LIU, H.Z. and QIN, C.Z. 1994. *Modern enterprise management: a market economy model*, Beijing: China Price Press.

- XIE, Q.H. and LIN, Y.F. 1992. *The theory and practice of state assets management*, Beijing: Economics Science Publisher.
- XU, G.H. and LIU, J.S. 1989. *Contract responsibility system, fund separation system, share capital system*, Beijing: Qinghua University Press.
- YANG, B. and CAO, L. 1992. A discussion of the evasion and avoidance of tax by foreign investors and their related prevention measures, *Journal of Xiamen University*, 1, Xiamen.
- YANG, K.S. 1981. Social orientation and individual modernity among Chinese students in Taiwan. *Journal of Social Psychology*, 113(2), 159-170.
- YANG, R.L. 1996. *Property right of the modern business enterprise*, Beijing: The People's University of China Press.
- YIN, R.K. 1994. *Case study research: design and methods*, Thousand Oaks: Sage.
- YU, J. 1991. A systematic analysis of Chinese-foreign joint ventures' economic interests. *Proceedings of the First National Chinese Youth Academic Conference of Management and System Science*, Xi'an Jiaotong University, Xi'an.
- ZHANG, Y.J. 1995. *The practices of the contract business*, Beijing: China University of Politics and Law Publisher.
- ZIMMERMAN, J.L. 1979. The costs and benefits of cost allocations. *Accounting Review*, 54(3), 504-521.