MODERN ENTERPRISE SYSTEM RESTRUCTURING EXPERIMENTAL PROGRAMME FOR 100 LARGE & MEDIUM SIZE STATE-OWNED ENTERPRISES

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Abstract

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The establishment of a modern enterprise system has become a key priority of economic reform in China since late 1993. The Chinese Government hoped that the adoption of a modern corporate governance system, based on international experience, would help improve state-owned enterprise (SOE) performance and competitiveness. In general, new economic reform measures are usually introduced in a gradualist and incremental style. The modern enterprise system has taken a similar gradualist procedure, and was first undertaken as an experiment with certain enterprises before expanding to the whole economy. In November 1994, the State Council selected 100 large and medium sized SOEs to undertake the experimental practices of establishing the modern enterprise system, called "the one hundred enterprise pilot programme".

This study examines whether the financial and operating performance of the chosen pilot firms actually improves after they have undertaken the restructuring activities implied by the modern enterprise system. International experience suggests that privatization has significant positive effects on the SOE performance. However, the empirical results of this study document that the performance of the corporatized SOEs did not improve as expected. The majority of performance measures for pilot

enterprises actually show little change after the restructuring process: return on sales, sales efficiency, net income efficiency, employment, and real sales all remained relatively stable. Only leverage ratios drop significantly. The results are also quite similar when the data are partitioned into smaller sub-samples, listed versus unlisted firms, and industrial versus non-industrial firms. Despite the argument that listing SOEs is the only feasible way to improve their performance, the results from this study show that the effect of partial listing on the overall performance improvement of an SOE appears to be quite limited.

This study also attempts to explain two major reasons for the lack of overall performance improvement for the pilot firms. Firstly, the required effective corporate governance mechanisms were not put in place, and government administration still dominated the management of the corporatized SOEs. Secondly, some matched reforms closely linked to SOE reform, such as the reform of pricing, public finance, and social security reform, lagged behind enterprise reform, and this affected the results of SOE restructuring. These findings suggest that the corporatization of SOEs alone may not be enough to improve their corporate performance. Substantial changes in corporate governance structures and matched government reforms closely linked to SOE reform are needed in order to realize the benefits of enterprise reform.

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Chapter One

Introduction

Poor state-owned enterprise (SOE) performance has restrained economic development in China since the beginning of the economic reform period. Although many measures have been taken to reform SOEs, their deficits have increased year after year. Before 1988, the deficit figures of SOEs were kept below RMB yuan 10 billion. However, SOE losses reached 20 billion in 1989, 30 billion in 1990, and 40 billion in 1993. Two thirds of SOEs were estimated to be in the red explicitly or implicitly in the early 1990s. Despite the argument that poor SOE performance arises from public ownership and soft budget systems, Chinese decision-makers tended to believe that such poor SOE performance was attributable to unclear property rights and the lack of functional separation between the government and its SOEs. The modern enterprise system, proposed and encouraged by the Third Plenary Session of the Fourteenth Central Committee of Chinese Communist Party in November 1993, was regarded as the appropriate SOE reform direction. The government hoped that the adoption of a modern corporate governance system, based on international experience, would help improve SOE performance and competitiveness. The prospect of China's entry into the World Trade Organization certainly raised the reform stakes, but the actual restructuring of SOEs was fraught with difficulty. No model for such reform existed, and most problems were addressed through experimentation. The modern enterprise system reform took place in the typically

gradual Chinese manner, and the State Council selected 100 large and medium sized SOEs to undertake the experimental practices of establishing a modern enterprise system, named as "one hundred enterprise pilot programme".

The primary objective of this study is to examine whether the financial and operating performance of the pilot enterprises improves after they undertake the restructuring activities of establishing the modern enterprise system. This study also attempts to explain the major causes for any changes in SOE performance. The data sample used in this study reflects the largest and most important corporate restructuring activity undertaken by the central government during the 1994-1997 period. By incorporating observations of the SOEs from both before and after restructuring, the results of this study will indicate some practical ways of improving SOE performance, and provide useful implications for policy-makers.

Although international experience suggests that privatization has significant positive effects on the performance of SOEs, the empirical results of this study show that the performance of the corporatized SOEs did not improve as expected. The majority of the performance measures for the pilot firms show little change after restructuring: return on sales (the most reliable ratio among three profitability ratios), sales efficiency, net income efficiency, employment, and real sales are little changed. Only leverage ratios drop significantly after the pilot period. These findings suggest that without substantial changes in corporate governance structures and concomitant reforms, such as the reform of banking, public finance, and social security system, the corporatization of SOEs alone seems unlikely to improve their performance.

This study is organized as follows. A brief introduction is provided in Chapter One. Chapter Two presents a review of SOE reforms enacted since 1979. Chapter Three covers " the one hundred enterprise pilot programme" in detail. A single detailed restructuring case from amongst the 100 pilot firms is illustrated in Chapter Four. Chapter Five presents the data and methodology used in this study, as well as the empirical results. Finally, Chapter Six presents concluding remarks.

Chapter Two

A Review of SOE Reform Phases in China

2.1 1949-1978: The Pre-reform System

Before 1979, China operated a planned economic system that was based on a model borrowed from the Former Soviet Union. Under that system, all SOEs were subject to the direct control and mandatory plans of the state, and were completely disconnected from the market. Firms served as production units, rather than as economic identities. The production of an SOE was entirely determined by plans that were stipulated by the central government. Input materials required by firms were supplied by the state, and the central government decided sales levels as well as prices. Investment and available capital were supplied through government grants. Consequently, the SOEs remitted any profits to the government, and in return the state budget covered all losses. Furthermore, China adopted a lifetime employment system, and SOEs did not have the right to hire or dismiss workers. Salary levels were fixed by the relevant authorities, and followed a national scale. Workers depended on their SOEs for housing, retirement pensions, healthcare expenses, and the education of their children. SOEs were even responsible for finding jobs for the dependants of existing employees. In fact, every SOE under the planned economy was a small society with complete social infrastructure and welfare functions.

Under this system of centralized planning and control, the SOE was not an independent economic identity in a real sense, but rather a simple production unit directly subject to state plans. David Dollar (1990) points out that the Chinese economy suffered three main sources of inefficiency in the pre-reform period. Firstly, planners did not generally have the necessary information to optimize the general allocation of resources. Secondly, planners did not have the ability to monitor SOEs to ensure that the resources were used efficiently. Thirdly, there were no incentives to reward excellent SOE performance. Such firms had neither operational autonomy nor profit-based incentives to improve efficiency and increase profitability. Dissociating SOEs from the marketplace had several unwanted results. Production became highly subjective and willful, and thus was unable to satisfy the social demand for an abundance of high-quality goods. The distribution of goods was very irrational. Enterprises were developed so sluggishly that technological progress and the development of new products were greatly hindered. Tidrick and Chen suggest that under such a command economic system, productivity and economic returns tend to decline (Tidrick and Chen 1985).

As Tidrick and Chen (1985) noted, state planners faced a very difficult economic situation by the late 1970s. SOEs did not produce the products people needed, and the disconnection of production from social demand brought about unavoidable results: huge, but useless, inventories were common. Between 1976 and 1978, total inventories in the state-owned sector ranged between 95% and 98% of net material product (Tidrick and Chen 1985). Almost an entire year's worth of production had piled up in warehouses, and SOE reform was absolutely unavoidable.

2.2 1979-1980: Expanding Enterprise Autonomy

In 1978, the State Council selected six SOEs in Sichuan Province to take part in an experimental programme of expanding enterprise autonomy. Based on the success of this experiment, the State Council issued five regulations[1] on expanding enterprise autonomy in July 1979. These regulations were considered the very foundation of enterprise reform in China. With profit retention as a major goal, the regulations were specified as follows.

1. Some enterprises have the right to retain a small proportion of profits after they fulfil the target set in the state plan. Based on the previous year's performance, the proportion of profit-retention is determined by the different levels of the Financial Bureau. The relevant enterprises are required to divide retained profits into three parts – a production development fund, a welfare fund, and a bonus fund.

2. The enterprises are required to pay charges for their fixed assets. Working capital previously granted from the state budget is to be transformed into bank loans.

3. After the state plan has been fulfilled, enterprises can produce beyond the relevant quotas. In addition, the government raises the depreciation rate. The

[1] These five regulations include : (a) " Several Rules Concerning the Expansion of Managerial and Marketing Autonomy in State-owned Industrial Enterprises; (b) " The Regulation on Profit Retention in State-owned Enterprises"; (c) "The Provisional Regulation on a Fixed-asset Tax in State-owned Enterprises";(d)"The Regulation on the Increase in the Depreciation Rate and Improvement in the Use of Depreciation Funds in State-owned Enterprises; and (e)" The Provisional Regulation Concerning the Use of Bank Loans for the Total Amount of Working Capital in State-owned Enterprises".

enterprise can retain as much as 60% of the depreciation fund for fixed assets, as against 40% in the past.

Although the programme of expanding SOE autonomy was initially designed for a small number of firms, it soon spread all over the country. By the end of 1979, 6600 firms, accounting for 60% of the total output and 70% of the profits under the state budget, had adopted it (Naughton 1995:100).

Expanding enterprise autonomy achieved success in some respects. The output of the experimental 6,600 firms grew in 1979 and 1980, and the total profits delivered to the state increased by 7.4% (Hay, Morris, Liu and Yao 1994). However, the increased output depended mainly on high input, and efficiency was not actually enhanced. Under the profit-retention system, the enterprises found it to their advantage to convert available funds into capital investment. They believed that capital investment could upgrade their production capacity, and therefore the prospect of claiming a further share of any profits. The percentage of extra-budgetary investment across the country rose from 20% in 1979 to 38% in 1980 (Hay, Morris, Liu and Yao 1994). Many unwise and inefficient investment projects placed an extra strain on the national economy. Furthermore, this over-expanded level of investment created considerable economic imbalance, which lead to a high inflation rate and fiscal deficits. The government deficits broke records in 1978 and 1979, reaching RMB yuan 17,060 million and 12,750 million respectively (Lee 1987). In order to cope with this financial crisis, the State Council had to reformulate the profit-retention system. Under this circumstance, another programme of reforming SOEs, the Economic Responsibility System, was introduced.

2.3 1981-1982: the Economic Responsibility System

In order to cut down the high inflation rate and increase state revenues, the State Council reformulated the policy of profit-retention, and introduced the Economic Responsibility System (ERS) in October 1981. The profit-retention remained at the core of the new system, but the objective of ERS was to develop a profit-sharing relationship between the state and SOEs, and to provide strong incentives for SOEs to improve their performance and efficiency in production. With the introduction of the new system, SOEs were held responsible for their own profits and losses, and forced to ensure profit turnover in the form of contracts. The profit quotas were set according to the profit levels of the preceding years. Enterprises could retain a fixed proportion of profits within state allocated quotas, and a higher proportion of any excess profits. The new system provided a direct link between employee income and SOE performance. The profit quotas and retention rates were subject to bargaining between firms and their supervisory authorities.

The ERS was first implemented on a trial basis in Shandong Province, but soon spread to SOEs nationwide. By the end of 1981, 60% of SOEs – 42,000 in total – had implemented the new system. Some were inspired to fulfil their production plans in a short period, but the majority did not improve their performance greatly. Naughton (1995) points out that when firms respond to incorrect prices, any increase in their decision-making power or ability to respond to profit levels does not necessarily improve the performance of the economic system as a whole. Indeed, such actions can easily harm the economy. During the 1981-1982 period, the

distorted price system failed to reflect the real level of enterprise profitability. Negotiations between SOEs and the government greatly weakened the proffered incentives. Furthermore, profit quotas were set according to previous performance records. SOEs that generated large extra-quota profits faced the risk of a higher profit quota in the next year. Those that did not fulfil quotas were not penalized, and the state still covered all losses. Under this system, the most profitable enterprises actually had the weakest incentives. Some economists describe this phenomenon as "whipping the fast ox". Since the fast ox suffered the disadvantages and the slow oxen reaped the benefits; consequently, SOEs deliberately slowed their production and business operations. As the government shared the meagre profits and was liable for all losses, state revenues dropped sharply during the period from 1979 to 1983.

2.4 1983-1986: the Tax-for-profit Scheme

Faced with uncertainty in profit remittances, the Chinese government began a scheme that substituted tax payments for profit remittances in mid-1983. This tax-for-profit scheme was experimented with ten SOEs (which later rose to 400), and it came into nationwide effect during July 1983. The scheme was intended to promote profit-oriented behaviour through a new tax law, and encourage SOEs to become truly independent economic entities. Before 1983, SOEs were only obliged to undertake "profit remittance", which was subject to the bilateral negotiation between enterprise and government. The substitution of taxation for profit remittance was considered a new departure for Chinese enterprise reform, and was designed to create an entirely new financial system for SOEs. Under the tax-for-profit system,

financial obligations to the state were limited to tax payments, and SOEs were granted substantial autonomy when dealing with after-tax profits.

The two Stages of the Tax-for-profit Scheme

As the price system was still seriously distorted, the tax-for-profit scheme had to be implemented in two steps. During the first stage, tax payments and profit remittances co-existed. The Enterprise Income Tax was imposed on all SOEs, with a rate set according to firm size. Medium and large sized SOEs were required to pay a uniform tax rate of 55% of profits. Moreover, due to factors such as price structure, location, and capital endowment, firms could only garnish a legally regulated amount of post-tax income, which was decided by the different levels of the Ministry of Finance; the remainder had to be remitted to the government. If the total amount of after-tax profit retained by the SOE was less than that of the previous year, then the tax level could be reduced. This resulted in a form of financial indiscipline, or in Kornai's (1990) concept, "soft budget constraints". For smaller enterprises, eight progressive tax rates were applicable, with a range from 7% to 55%.

During the second stage of implementation, the government's attention turned to completely removing the profit distribution system, and replacing it with a genuine system of tax collection. Profit remittance was entirely cancelled. When the post-tax profits of medium and large-sized SOEs exceeded those of the previous year, they were remitted to the government in the form of Adjustment Tax payments. The Adjustment Tax was imposed in order to eliminate unequal opportunities caused by factors such as price structure. Without comprehensive price restructuring and

capital charges, the enterprise adjustment tax rate had to be determined on a firm-by-firm basis, according to 1983 profit levels. After the payment of Adjustment and Income taxes, SOEs could freely allocate their profits. Medium and large-sized firms still paid 55% income tax, but more importantly they were now allowed to deduct the principle as well as interest of bank loans before being taxed. The after-tax profits of SOEs were divided into five categories: that going to the Bonus Fund, the New Product Development Fund, the Product Development Fund, the Reserve Fund, and the Welfare Fund. The level of contributions to the employee Welfare and Bonus Funds were based on profit earned before the repayment of bank loans. Eight new progressive income tax rates were applied to small firms.

The Dual-Track Price System

During May 1984, the State Council promulgated the "Provisional Regulations on Further Enlarging the Autonomy of the State-owned Industrial Enterprises". The new regulations emphasized the ideal of enterprise autonomy that had first been put forward in 1979 but never fully implemented. Also known as the "Ten Articles", the regulations led to a substantial increase in the executive powers of SOEs. It granted the state-owned industrial enterprise ten rights. The main ideas can be summarized as the follows: firms now had the right to produce and sell whatever was needed or in short supply, after the fulfillment of state plans and orders. With the exception of necessities and products needed for agriculture, prices could fluctuate within a 20% range of the state price. The allocation of retained profits, depreciation funds, and levels of maintenance funds were decided by the SOEs themselves. The "Ten Articles" also granted managing executives the right to employ or dismiss workers,

and to determine employee salary in line with state standards. Managers were also given effective control over economic decisions, such as selling unneeded fixed assets, determining investment projects, and setting up new businesses without changing ownership. Furthermore, the State Planning Commission issued several proposals during October 1984 to reduce the number of products subject to state planning, and allow the market to regulate prices. In February 1985, the price restriction of 20 percent limit on non-planned products was eliminated, and the so-called double-track price system came into effect: mandatory and market-determined prices co-existed.

Advantages of the Tax-for-Profit Scheme

The tax-for-profit scheme represented one of the most radical enterprise reforms ever carried out in China. Since SOEs now fulfilled their financial obligations to the state by paying taxes, the relationship between enterprises and the government became clear. Lee (1987) pointed out two main advantages of the tax-for-profit scheme. Firstly, SOEs could become genuine and dynamic economic entities with financial independence: they had greater autonomy to allocate net profits than before. The bonds of the financial system of unified revenue and expenditure could be broken. Secondly, the tax-for-profit scheme eliminated regional boundaries to facilitate greater economic co-operation.

The new initiative made enterprises fully accountable for their operations and thus strengthened the link between employee benefits and economic performance. Moreover, the new system, to some extent, improved enterprise management and

encouraged the development of pure economic ties among enterprises. Until 1983, profit remittances were determined on an annual basis through bilateral negotiation between the enterprise and the government. The major problems of such a system were the uncertainty faced by firms over their future obligations, and the revenue instability faced by the government (Fan and Schaffer 1991). The new system shifted the financial relationship between firms and the government to a much sounder basis.

Tax revenue was divided among the different authorities concerned. Some types of taxes belonged to the central government, while others were revenues of local government. This ended the situation of continuous negotiation over the revenue shared among different authorities. The initial results of the tax-for-profit scheme were encouraging. The profits of industrial SOEs in 1983 were RMB yuan 4,200 million -- higher than in 1982. The distribution ratio of profits between the state and SOEs was favourable, at 61.8% of profits paid to the state in the form of tax and 38.2% for SOEs. The amount of profits retained by firms rose sharply. A total of 107,145 enterprises in the fields of industry, trade, and transport were involved in this new system, and they accounted for 92.7% of profit-making enterprises in these sectors by late 1983. By the end of 1985, four-fifths of SOEs had been covered by the tax-for-profit system (Hay, Morris, Liu and Yao 1994).

Some Problems of the Tax-for-profit Scheme

Although some results of the tax-for-profit scheme were favourable, the new system was still faced with some thorny problems due to the lack of significant price reforms.

Firstly, the tax-for-profit scheme failed to solve the problem of negotiation over the adjustment tax rate. Although the enterprise income tax was uniform for all medium and large-sized enterprises, the adjustment tax rate had to be determined on a case by case basis. Without price and associated reforms, the profit difference among SOEs only reflected divergent price structures and past capital grants, rather than any true economic performance: the new system still implied "whipping the fast ox". The more profitable firms incurred the higher adjustment tax rate, and therefore had weaker incentives to increase their performance. The reformed enterprise income tax system may be regarded as a compromise between profit remittance and a true enterprise income tax (Fan and Schaffer 1991).

Secondly, as both interest and principal repayment on loans were tax-deductible, the effective interest rate dropped to zero or below. This policy offered much incentive for SOEs to convert bank loans available into investment capital. The growth rate of bank loans to SOEs almost doubled, increasing from 24.9% in 1985 to 43.9% in 1986 (See Table 2.1). Since the firms used bank loans with no economic return pressure, they wasted capital on overlapping construction projects and over-expansive investment (Lu 1999). Furthermore, as employee bonus and welfare funds were based on profit before loan repayments, real wages increased sharply. The inflation rate accelerated, peaking between 18% and 19% in the 1988-1989 period (Hussain and Stern 1991).

Finally, tax rates were set high in order to simulate the pressure of market conditions. However, high tax rates led to lower profit retention, and there was little incentive for SOEs to improve performance. For instance, a report of the Economic

and Development Research Centre showed that the eleven most profitable SOEs in Tiensin only retained about 10% of their total profits, 7% of which were allocated to Bonus Funds, and only 3% to the firms themselves (Sah 1990). From the government's viewpoint, tax payments could not make state revenues certain, and they fluctuated over the time (See Table 2.1). This was particularly the case in 1986. Hence, the government had to tighten monetary control. With incomplete price reform, the tax-for-profit system experienced great difficulties, and was terminated during late 1986. As a suitable environment for a market economy had not been established in China, the decision-makers had to resort to the contract-responsibility system, which was more familiar and seemed more feasible to them.

Insert Table 2.1 Here

2.5 1987-1992: the Contract-Responsibility System

Popularity of the Contract-Responsibility System

Faced with the difficulties resulting from the tax-for-profit scheme, the central government was forced to move to the third stage of enterprise reform, which was known as the Contract-Responsibility System (CRS). On December 5 1986, the State Council issued a "Decisions on Intensifying the Enterprise Reform and Revitalizing Enterprises", which emphasized the separation of ownership from management, and granted firms significant autonomy. This document suggested two main methods of reforming SOEs. The CRS was introduced in large and medium sized SOEs, but

Table 2.1
Rates of inflation, loan interest, and
sources of investment funds in SOEs during 1981-1988(%)

Year	inflation rate (%)	loan interest rate (%)	real loan interest rate (%)	growth rate of loans to firms (%)	sources of investment funds in SOE (%)	
					Gover. Budget	bank loans
1981	2.4	4.9	2.5	11.7	44	14
1982	1.9	6.9	5	7.3	39	16
1983	1.5	6.8	5.3	11.3	41	14
1984	2.8	6.7	3.9	38.3	39	15
1985	8.8	7.3	-1.5	24.9	26	23
1986	6	7.6	1.6	43.9	24	23
1987	7.3	7.6	0.3	20.4	21	25
1988	18.5	7.8	-10.7	22.2	15	24

Source: Hussain, A. and N. Stern 1991. Effective demand, enterprise reforms and public finance in China. Economic Policy, April 1991, pp. 142-186

small firms, and those of medium size that were loss-making or with low profitability, were allowed to apply their lease arrangements (State Council 1986). The essential feature of the CRS was that contracts were negotiated between firms and their supervisory authorities. These contracts stipulated levels of profit remittance and investment, technical renovation targets, and the link between wage bills and total profits. In March 1987, the National People's Congress clearly pointed out the need to revitalize large and medium-sized SOEs through the implementation of the CRS. The high tide of CRS promotion occurred in May 1987, when the system became the mainstream of China's urban economic reform. By the end of 1987, the CRS had been implemented in 78% of industrial enterprises covered by the state budget, and 82% of large and medium-sized SOEs had been involved with the implementation of this system. By the end of 1988, the CRS implementation rate rose to 90% for all industrial and commercial enterprises and 95% of large and medium-sized enterprises had adopted this system (Sah 1990).

Special Characteristics of CRS after 1986

Elements of the CRS emerged as early as 1981, but after 1986 the system developed its own special characteristics. Firstly, the economic situation was different: the economic responsibility system of 1981-1982 allowed the state to dominate all enterprise production activities, including investment, production, sales, and income levels. Firms were entirely subject to the control of mandatory plans. Moreover, each SOE was burdened by its own communist party committee. The communist party leader, not the firm's management, had the final decision on enterprise production and business. After 1986, some important changes took place: SOE managing

directors were responsible for enterprise production operations, and the scope of business activity covered by state mandatory plans was decreasing. Enterprise autonomy was greatly encouraged and strengthened.

Secondly, the meaning of responsibility was modified. Before 1987, there were no effective financial constraints on enterprise responsibilities: for instance, when profit quotas were unfilled, no penalties were incurred. After 1987, firms were required to make up profit quota shortfalls with their own funds, and were subject to more business risk (Hay, Morris, Liu and Yao 1994).

Thirdly, contracts varied greatly. Pre-1987 contracts were very simple: each firm was responsible for its own profits and losses, and a link between profit and wage bills was provided. After 1987, the CRS was implemented in various manners, which were not simply methods of ensuring the fulfillment of profit turnover quotas. Rather, they were intended to separate ownership from management, and to reduce government interference (Sah 1990).

Finally, the CRS introduced an open competition bidding system. Contractors selected through public bidding were granted full rights to determine production, product sales, and allocation of profits after the payment of profit quota set in contracts fees. Bidding for contracts now provided strong incentives for more efficient management (Hay, Morris, Liu and Yao 1994). At the same time, the CRS provided employment opportunities for capable managers who previously would not have been nominated for senior management positions by government departments.

Major Forms of the CRS

The main aim of the CRS was to force SOEs to fulfill their profit quotas. The new system took five main forms.

Firstly, the *"two guarantees and one link"*. The enterprises under this form were required to hand over taxes and profits to the state, and set aside funds available for investment for technical renovation. At the same time, the total income was to be closely connected to enterprise performance. This kind of contract was suitable for large and medium sized enterprises that had a shortage of funds for technical renovation, but had normal production, supply, and marketing channels. Such contracts were not encouraged by local authorities with financial problems, because the deduction of technology development funds reduced their profit shares.

Secondly, *"increasing profit-turnover rate"* required firms to pay a predetermined profit quota that increased by a fixed percentage each year. Above-quota profits could still be retained, but shortfalls were to be made up by the firms themselves. This system was suitable for enterprises in the petrochemical, metallurgical, and engineering industries, or in light industries such as food processing or brewing. Such firms were considered to have good potential for development. However, the problem of this CRS form lay in determining how to finalize a reasonable fixed payment and annual rate of increase.

Thirdly, *"fixed profit turnover and surplus profit sharing"* required firms to remit fixed levels of profit, and surplus profits were shared with the state according to a progressive ratio. This system was applicable to the light industry sector, including the textile industry. However, the system provided very little incentive for

enterprises to improve their performance.

Fourthly, *"fixed profit turnover rate"* required firms to pay a predetermined profit quota that was fixed for some years in advance, and keep any profit over that quota. Similar to the second form of CRS implementation, firms which failed to fulfil their profit quota had to make up the shortfall with their own funds. This system was particularly suitable for enterprises in the red, or with low profitability. The basic requirement for applicability was that firms should manufacture products with favourable market potential, and need technical renovation funds urgently.

Finally, the *"input-output system for industries"* fixed the distribution of state subsidies to certain industries. Such industries kept above-quota profits, and the state did not allocate any extra subsidies to them. This system was adopted by large enterprises in the following industrial sectors: petroleum, chemicals, nonferrous metal, metallurgy, railroad transportation, postal and telecommunication, and civil aviation.

Achievements of the CRS

It is widely agreed that the CRS was more effective than the profit-retention and tax-for-profit schemes. The CRS emphasized the separation of ownership from management. The responsibilities, rights, and interests of both state authorities and the firm were clearly identified by contracts. Enterprises responded enthusiastically to the new system, under which they experienced much autonomy: they could keep all, or at least most, of their extra-quota profits, and bonus payments to workers were intimately linked with firm performance. This proved to be a very good incentive

measure. As Jefferson and Xu (1991) point out, there is an intimate link between compensation paid to labor and its productivity. The 1987 reform of worker's wages and bonuses apparently showed some success. Planners appear to have developed methods to compensate partially for the absence of more complete products and labour markets.

The CRS stipulated that enterprises must set aside special funds for technical renovation, which were designed to advance the technology progress. It is reported that in 1987, the mainland Chinese textile industry developed more than 10,000 new products (Sah 1990). Moreover, the open bidding system provided even greater performance incentives. A survey, carried out on 110 large and medium sized SOEs that had adopted the CRS, indicated that 73 increased their profits by 12%. These firms also increased the profits and taxes remitted to the state from January to September 1987 by 14.4%, compared with those of the same period of 1986. For 37 enterprises that did not implement the CRS, the rates of increase were only 4.7% and 5.7% respectively (Sah 1990). Additionally, the adoption of the new system brought about a general improvement in economic performance. From 1986 to 1987, all enterprises covered by the state budget showed improvement in economic productivity and profitability. Total output value increased by 11.3%, employee productivity increased by 7.6 %, income from sales by 17.1%, profits by 9.9%, and profits and taxes paid to the state by 6.7% (Sah 1990). This success encouraged the central decision-makers to continue applying the CRS to the next round of contracts signed in 1990. In April 1989, the "Outline of Economic Reform for 1989" had been issued to announce further development of the CRS.

Some Problems of the CRS

Although the CRS was generally considered successful, there remained a number of problems. The major disadvantage of the system was that contracts required a complicated negotiation procedure. Some economists thought that the CRS was a reversal of the reformed tax system. Since there were no reasonable or formal regulations to decide the profit-remittance quota, it was difficult for the authorities to determine the fixed profit payment amounts and annual increase rate, if any, on a firm-by-firm basis. The basic amount of profits due to the state became a sensitive issue: SOEs spent a great deal of time and energy on the negotiation procedure, while insufficient attention was paid to production. On the other hand, the state faced serious asymmetries of information, because SOE managers were understandably reluctant to divulge their extensive local knowledge. Some successful firms deliberately reduced their profits or slowed production in the year when their contracts expired. In this way, they made sure of steady increases in profits, continuous increases in wages paid to employees, and maximized profit-retention. This was a serious obstacle to improvement in productivity.

Besides the effects of contract-related bargaining, the CRS encouraged SOEs to emphasize short-term activities at the expense of long-term interests. Managers may lose their positions when contracts expired, so they rarely invested funds in research or production development. Firms preferred to spend funds on increasing the employee bonus, and one report noted that SOEs in Liaoning Province increased their welfare expenses by 23.4% while their profits increased by only 5.8% (Geng 1995). From the state's point of view, the CRS agreements stipulated that shortfalls

n profit remittance had to be made up with the SOE's own funds, but in practice, nost firms used bank loans for that purpose. Furthermore, the inflation rate reduced he real value of the fixed profit remittance. Consequently, state revenues steadily decreased with the implementation of the CRS.

As the CRS still operated under the system of centralized control and economic planning, it could not solve the deep-rooted economic problems in China. The SOEs under this system were still subject to government interference, and were often forced to accept unreasonable contracts. Although some measures were taken to improve the CRS, such as the requirement that contracts be subject to a bidding process, the situation was far from perfect. After 1989, losses in the state industrial sector became significant for the first time since reform began. Although there were always some loss-making SOEs, their total losses had never substantially exceeded 1 percent of GDP before 1990. However, during 1990 the total losses of SOEs doubled and surpassed 2% of GDP. One third of SOEs were in a loss-making situation, and another third were only profitable on paper. Most SOEs went into financial difficulties in the early 1990s.

2.6 1993-Present: The Modern Enterprise System

The Deteriorating Financial Condition of SOEs

Since the open-door policy was launched in 1978, much successful effort went into reforming SOEs. Total productivity factor improved greatly, and SOE industrial output value grew 7.7% annually between 1978 and 1991(Naughton 1995).

However, the need for further intensified reform during the early 1990s. The reform measures enacted before 1993 mainly focused on decentralization and enlarging SOE autonomy. However, even as SOE decision-making powers gradually expanded, state-owned assets were drained away, and increasing numbers of firms suffered declines in profitability. An estimated two thirds of all SOEs were in the red either explicitly or implicitly in the early 1990s. Those in North China -- where the old industrial bases were located -- experienced an even worse situation. According to statistics provided by the ministries concerned, SOEs operated 70% of state-owned assets in 1995, and more than half of the state assets were being operated inefficiently by SOEs. China's SOEs held about 80% of all loans issued by state banks, of which approximately 67% were invested in fixed assets, but these firms contributed only 35% of the GDP. The profits and taxes of SOEs as portions of their total current and fixed assets dropped from 24.8% in 1979 to 9.68% in 1993 (Geng, Xiao 1995). The government collected less and less revenue from SOEs, but had to provide more subsidies to cover their losses. Coupled with the huge drain on state assets through bank loans, these subsidies threatened to cause macroeconomic instability, particularly high inflation. Moreover, competition from the newly created non-state sector put even more pressures on SOEs and the central government had to initiate another reform programme.

A Socialist Market Economic Structure and the Modern Enterprise System

In November 1993, the Third Plenary Session of the Fourteenth National Congress of the Communist Party of China implemented a new round of SOE reforms by issuing its "Decisions on Issues Concerning the Establishment of a Socialist Market

Economic Structure". This document outlined a 50-point agenda for economic reform to be attained by the end of Year 2000, including: (a) the creation of a modern enterprise system; (b) encouraging the development of diversified ownership forms, including the privately owned and foreign-invested sectors; and (c) requiring the state to provide a fair competitive market environment for all firms with different forms of ownership. The "Decision" clearly pointed out that the establishment of a modern enterprise system was essential for the development of socialized mass production and a socialist market economy. However, it was only a statement of principles, and as with previous reform processes, the central government first undertook a small-scale pilot scheme before expanding to the nationwide economy.

In early 1994, the State Council initiated several pilot components of the implementation programme for the "Decisions on Issues Concerning the Establishment of a Socialist Market Economic Structure". This pilot scheme was labeled the "10,000-1000-100-10" enterprise reform experiment, according to the numbers of enterprises and cities involved. Under this project, 10,000 large and medium-sized SOEs were to adopt new accounting systems and new asset valuation techniques, and enjoy more financial autonomy. 1000 large SOEs deemed critical to the economy were to adopt new state asset administration regulations (promulgated in July 1994) within 2 or 3 years, and delegate their assets to a state asset supervisory committee. A further pool of 100 large and medium sized SOEs carefully selected by the State Council transformed into companies, and were collectively know as "the one hundred enterprise pilot programme". 10 cities, with the addition of 8 latecomers, set about optimizing the capital structure of their newly corporatized

SOEs. As the 100 enterprise pilot scheme is the focus of this study, I will discuss it in detail in the following chapter.

As to enterprise ownership restructuring, it has been suggested that the state should retain control over relatively few firms. Most SOEs should open themselves to capital investment from all available sources, and the government should only retain a majority share in those companies deemed to be critical to the economy. This sort of thinking led to a policy described as "grasping large enterprises and making small ones more flexible". Although there were 71,600 SOEs with independent financial accounting systems at the end of 1993, the 1000 largest produced almost two thirds of the state output, held the bulk of state bank loans, and dominated important production sectors. Therefore, the fate of China's economic future lay in the successful reform of these firms.

The Matched Reform Measures

From the past experience of enterprise reform, the central government realized that restructuring SOEs required a whole range of specific reforms in the economic field, including the reform of prices, tax, labour, finance, and the banking system. In order to set up a socialist market economy and ensure the success of enterprise restructuring, the central government has embarked upon extensive economic reforms since 1993. This package of reform measures was aimed at creating a sounder fiscal, monetary, and legal system within which market forces could function. These measures were also designed to harden SOE budget constraints and provide a fair competitive environment for all enterprises with different forms of

ownership. The package included a broad range of additional measures, which had important effects on SOEs. The dual-track price system that came into effect in the mid-1980s shrank rapidly after 1992. All products except for a few associated with grains, raw materials, energy, and transportation, have been freed from the state control, and the use of market prices greatly expanded since the beginning of 1995. Without serious price distortion, the profitability of SOEs could, to a certain extent, reflect their performance. On 1 January 1994 a new tax system came into force, under which SOEs that fell into different ownership categories all paid the same income tax rate of 33%. At the same time, the dual foreign exchange rate was eliminated.

In the area of employment, the "iron rice bowl" employment system was abolished, and state firms gained autonomy to hire and fire labour. Some enterprises transferred all of their workers to employment contracts. By the end of 1992, one third of industrial workers had been covered by contractual systems (Naughton 1995). The banking system also underwent transformation: existing specialized banks such as the Industry and Commerce Bank became independent commercial banks that were free from government policy considerations. The People's Bank of China was restricted to its central bank functions, and state-influenced policy loans were transformed to "Policy Banks", such as National Development Bank. The Company Law regulating all company activities came into effect on July 1 994.

The most important development among these reforms was that of China's capital market. A shareholding system experiment was introduced in 1984, and in December 1986 the State Council encouraged further experimentation with the

shareholding system in certain suitable large and medium-sized enterprises. However, the number of SOEs that took part in the shareholding system experiment was very limited. Most were not really shareholding companies at all, and only issued shares equal to around 20 % of their total assets. Furthermore, most of these shares were sold to employees instead of the general public, and were mainly an SOE fund-raising channel.

With the founding of the Shanghai and Shenzhen Securities Exchanges in 1990, capital markets in China developed rapidly. Only seventy stocks (including B shares) were originally listed on the first level of the Shenzhen and Shanghai stock markets, but at the end of 1995 there were just over three hundred publicly listed companies on the two exchange markets. RMB 200 billion, and an estimated $US 6 billion, were raised on the domestic A and B markets respectively. The total number of listed companies increased rapidly from 745 in 1997 to 851 in 1998. In late 1998, the total market value of listed shares was RMB 1950 billion, which accounted for 24.6% of the GDP for that year (Ma and Wang 1999).

After dozens of drafts were issued since 1992, the Securities Law came into effect in December 1998. This law attempted to quash the "rampant speculations" that had taken place in the past. The capital market has greatly promoted economic development by helping to diversify the fund-raising channels for SOEs, and alleviating state burdens. Hakansson (1999) points out that banking systems which are heavily leveraged and subject to regulatory imperfections will bring about serious problems, and the presence of a well-developed securities market (including corporate bonds) has a strong positive effect on an economy. Although the

development of China's capital market has made some achievements, it is still a very weak market. Some Chinese economists argue that while China has had securities markets for some time now, people neither understand nor use these markets correctly. The actual issuance and listing of enterprise stocks are subject to the State Council's overall planning. The State Council annually decides the number of newly listed companies and the total amounts of capital to be raised, and then the central government allocates quotas to various provinces and ministries. Some government departments even demand that firms must acquire or merge with a loss-making SOE before being listed. Moreover, the government prohibits the selling of state shares and state-owned legal person shares in the trading markets. In a word, Much progress of economic reform since 1993 has been made, but work still needs to be done.

Chapter Three

The One Hundred Enterprise Pilot Programme

3.1 Policy Background

From the preceding review, we can see that SOEs have been the focus of economic reform in China since 1978. The Chinese government has never relented in its efforts to improve SOE performance. Annual total factor productivity growth in SOEs was below 2 percent from 1980 to 1984, increased to about 3% from 1984 to 1988, and was about 2.5 % from 1988 to 1992 (Jefferson and Rawski 1994). While annual total factor production for SOEs increased, its growth was only about one third to one half of the corresponding rate for non-state enterprises. Moreover, the SOE share of industrial output declined greatly after the advent of reform, but was still significant. From the viewpoint of some economists, the greatest achievement of economic reform in China was the rapid growth of non-state enterprises, which did much to foster a truly competitive market environment.

Poor SOE performance has definitely restrained China's economic development. Losses have increased year after year. Before 1988, the deficit figures of SOEs had been kept below the level of RMB yuan 10 billion, but they reached RMB yuan 20 billion in 1989, 30 billion in 1990, and 40 billion in 1993. Two thirds of all SOEs were estimated to be loss-making explicitly or implicitly in early 1990s. Despite the common argument that this situation arose from public ownership and a

ft budget system, the Chinese authorities tended to believe that such poor SOE ;rformance was attributable to unclear property rights and the lack of functional ;paration between the government and SOEs. In November 1993, The Third lenary Session of the Fourteenth Central Committee of Chinese Communist Party ssued its "Decisions on Issues Concerning the Establishment of a Socialist Market Economy Structure". This document proposed the establishment of a modern enterprise system towards which SOE reform should move, and the modern enterprise system in China would display the following characteristics: explicit responsibilities and rights, clearly defined property rights, the functional separation of SOEs and government, and scientific management. Establishing this system in traditional SOEs has become a key priority of economic reform in China since late 1993. The Chinese government hoped that the adoption of modern enterprise system, based on international experience, would help improve SOE performance and competitiveness.

3.2 The One Hundred Enterprise Pilot Programme

From 1978 to 1992 numerous reforms were introduced, always in the gradualist and incremental Chinese style. They often began as experiments in certain regions or enterprises, and then expanded to cover the whole country. Such was the case with the modern enterprise system. Moreover, there was no existing model to serve as a reference for solving SOE difficulties, and experimental practices were deemed the most appropriate. Accordingly, the State Council selected 100 large and medium sized SOEs, known collectively as "the one hundred enterprise pilot programme", to

undertake experimental practices of establishing the modern enterprise system in November 1994. These 100 firms participating in this pilot scheme should represent major aspects of China's national economy. They were chosen by the State Council from key economic or geographic areas, and from main industrial and commercial sectors critical to the economy, including those of chemicals, iron and steel, textiles, and automobiles. The relevant government departments, such as the State Economic and Trade Commission (SETC) and the State Commission on Restructuring Economic Systems, were in charge of overseeing this pilot programme. The main objective of this programme was to transform traditional SOEs into modern corporations with improved performance and competitiveness. The programme's main components include:

- clearly defining property rights;
- lifting of social burdens;
- restructuring SOE debts;
- establishing modern corporate governance mechanisms

Based on the "Decisions", documents concerning the one hundred enterprise pilot programme were promulgated in 1994, and they set the end of 1996 as the deadline for programme completion. It would take two years, 1995-1996, for these 100 SOEs to complete the pilot programme.

3.3 The Restructuring Methods of the Pilot Firms

The pilot firms came from diverse geographic locations and industries, and they could not feasibly adopt the same restructuring approach. Each firm chose its own

appropriate method of setting up the modern enterprise system, but most focused on the following aspects.

Clearly defined property rights

According to property rights theory, the property rights of China's SOEs had been incomplete or absent, and this always resulted in the low efficiency of economic resources. A major problem with the system of SOE property rights was that there was no representative of the state asset owner in SOEs. Many government departments exercised certain powers usually associated with asset ownership, but none were entirely responsible for the final results of SOE performance. The absence of clear property rights brought about inefficiency, as well as serious agency problems. Thus, clearly defined property rights and responsibilities became a precondition to establishing a modern corporate governance system in SOEs.

During the experimental period, the pilot firms clarified the rights and responsibilities associated with operating state-owned assets by clearly defining property rights, and separating government functions from firm responsibilities. All pilot firms were first audited, had their assets re-valued, and their debts re-assessed. New institutions, known as "State-owned Assets Management Committees", or "Managing Institutions of State-owned Assets " (MISOA), now made investments in SOEs on behalf of the state. MISOA investment in an enterprise constituted an equity injection into the firm, and was then, as now, recorded as owners' equity. The physical assets resulting from the investment were considered as corporate property and were recorded as assets on the balance sheet. On the other hand, MISOA only owned assets in the form of values (equity claims). In this way investor ownership

rights, corporate property rights, and state asset operating rights were separated from each other. The relationship between the government and SOEs was to be transformed from one of administrative subordination into one of asset linkages. Some pilot enterprises signed contracts with MISOA to ensure asset value preservation and appreciation. In practice MISOAs were not always set up in the same way. Some were created from large firms or holding companies, and others had formerly been national companies or government departments.

Debt Restructuring

The debt to assets ratio of SOEs had long been on the rise. In 1980, the ratio for industrial SOEs was 18.7%, but by 1993 it had climbed to 67.5%, with current liability to current assets ratio climbing to 95.6%. Such SOEs relied almost completely on bank loans for their operating capital, and shouldered heavy interest burdens that could not always be covered by their net operating incomes. The formation of high debt ratios in China's SOEs has its own special historical reasons and backgrounds (Lu 1999). Although modern theories of capital structure do not solve the problem of how to determine an optimal capital structure, there does exist in the corporate world a naturally developed debt-equity ratio, within which a certain amount of debt is considered normal. When the debts of a firm exceed a certain limit, the extra debt is thought to harm its normal operation. Such high debt ratios in Chinese SOEs seriously impeded their development. SOE debts were mainly owed to the state banks, and Hakansson (1999) has pointed out that an overly large burden of corporate loans taken on by the banking system will lead to excess productive capacity, bad loans, and finally economic crisis. In order to lower SOE leverage

ratios, the pilot firms explored some useful ways of restructuring their debts. The main methods used are described as follows:

- Injection of capital by the state. The government provided some preferential policies for the pilot firms to increase capital injection. Firstly, a certain proportion of income taxes remitted by firms were refunded to them as state capital injection. Secondly, the principal and interests of some loans from the state, such as "grants for loan", were transformed into state equity. Finally, both income after tax and state asset revenues were kept by enterprises until they reached a reasonable asset-liability ratio.

- Debt-equity swaps between enterprises. The problems of chain debts were common amongst SOEs in China. Some loss-making enterprises could not pay off their debts owed to other enterprises at all. Some SOEs financed by 100% debt were founded without any equity. After debtors and creditors negotiated, some debts between enterprises were transformed into equity during the pilot period, and therefore the creditors became shareholders. The debt-equity swap not only lowered debt ratios of SOEs, but also diversified their ownership structures.

- Issuing public shares. During the pilot period, around 40 pilot firms had issued public shares equal to a certain proportion of their total assets. Since the central government has very strict requirements on asset quality and profitability of listed firms, in order to meet such requirements, the pilot firms generally had only the profitable sections listed, and this kind of listing

is defined as partial listing in this study. Through this channel, these partially listed pilot firms raised RMB yuan 4.58 billion. The raised capital also contributed to debt restructuring and lowering leverage ratios.

The Lifting of Social Burdens

Chinese SOEs have to shoulder many social welfare responsibilities, which has resulted in heavy financial and administrative burdens. In 1995, the main burdens on SOEs were surplus workers and various welfare and service facilities, such as pensions, housing, healthcare, and education facilities. At the end of 1993, the total number of employees in SOEs across the country was 76 million. Although it can not be accurately estimated, most people tend to think that about 20 percent of SOE employees were surplus labour. In addition to overstaffing and pensions, SOEs also ran a large number of welfare and service facilities for their employees. Statistics illustrated that there were 110,000 medical institutions operated by SOEs in 1995, employing one-third of country's medical personnel. The numbers of primary and middle schools run by SOEs were 18,000(Hu 1995). The large amount of social welfare expenditure greatly increased SOE production costs, and reduced their profits. These non-operating expenses made it difficult to calculate SOE profits accurately. Therefore, the lifting of SOE social burdens was a main component of the pilot programme.

The pilot firms took various measures to reduce social burdens. With laid-off workers, they adopted the principle of "internal settlement within the enterprises as the main channel, and social settlement as the supplement channel". Some service facilities were separated from firm operations, and become independent entities that

were responsible for their own profits and losses. Those laid-off workers who could not be placed in other employment by the pilot firm itself were passed on to the relevant re-employment agencies. Some new independent tertiary industries were established to absorb surplus workers. Service personnel who were not directly involved in production and operation were separated from SOEs. Some elderly employees relinquished their jobs before the standard retirement age and were still provided with living expenses equivalent to their base wages. Other workers were retrained to improve their skills and expertise, and then allowed to compete for new employment opportunities. Workers were also encouraged to look for jobs on their own. For the sake of social stability, only a small proportion of laid-off workers were completely cut adrift.

Through the above measures, many social burdens of the pilot enterprises were reduced. Enterprise managers could now concentrate on production and operations. The enterprises become commercial entities with the objective of maximizing profits. By the end of 1996, the pilot enterprises had relinquished 31 schools, 4 healthcare institutions, and 239 welfare and service institutions. However, the reduction of SOE social burdens depended heavily on the development of a matched social security system, and without such a safety net the pilot enterprises could not effectively ease social burdens.

The Establishment of Corporate Governance Mechanisms

Virtually most recent international SOE restructuring activities have employed modern enterprise systems as a vehicle for improving SOE performance. The precondition for implementing effective systems of corporate governance is a clear

definition of property rights. If there is a clearly defined and concrete representative of state assets (namely MISAO), the state shares can be determined, after which internal organizational and management systems can be reformed. Since the "Decisions" clearly points out that the corporatization of SOEs is a positive experiment for building a modern enterprise system in China, most pilot firms adopted the corporate system as a major organizational form.

Ninety-three of the pilot firms were transformed during the period of experimentation, largely into limited-liability and limited-liability shareholding companies. The international experience[2] of SOE reform suggests that a dynamic internal management system ensures the success of the modern corporate form. Generally speaking, the management structure of a company should consist of three levels: the shareholder congress, the board of directors, and senior managers. In China, the "Company Law", enacted in December 1993, added one more level to the corporate governance structure – that of the supervisory board. The major function of the supervisory board is to supervise the activities of the board of directors and senior managers. In terms of the Company Law, most pilot enterprises set up an internal governance structure that consisted of a shareholder congress, a supervisory board, a board of directors, and senior managers. Each of the four parts has its own rights and responsibilities. They balance powers with each other in order to guarantee efficient operation of enterprises. The essence of the management structure established by the pilot enterprises lies in the separation of ownership and corporate

[2] See Megginson, Nash and Randenborgh (1994), Boubakri and Cosset (1998), D'Souza and Megginson (1999), La Porta and Lopez-de-Silanes (1999), Eckel, Eckel and Singal (1997), et al.

controls. However, after the pilot firms were transformed into companies, some internal governance problems still existed in corporatized SOEs. According to a survey of 30 pilot firms conducted by the State Commission on Restructuring Economic Systems in early 1998, only 4 enterprises had elected boards of directors through their shareholder congress, and 20 enterprises -- accounting for 67.7% of the total surveyed -- had board directors appointed by their supervisory government departments. Despite much progress, government administrative influence certainly did not fade after the pilot firms had been corporatized.

3.4 Research Importance and Objectives

The pilot scheme had a very significant impact on the field of SOE reform in China. The major reasons for carrying out such an experimental scheme was to find out the difficulties and problems of SOE corporatization, and thus to look for feasible solutions. Since the modern enterprise system was considered both a direction towards which SOE reform should move, as well as the basis for establishing a socialist market system, the pilot scheme was of great importance. This study will conduct empirical systematic research into the pilot firms, and examine whether the financial and operating performance of the chosen pilot firms actually improves. The aim is to identify successful experiences, and to establish the most practical ways to improve SOE performance. The results will also carry useful implications for policy-makers, and allow the statement of recommendations for SOE reform.

Chapter Four

A Case Illustration from "The One Hundred Enterprise Pilot Programme"

The case of an Iron and Steel Limited Co. (CSLC) will further illustrate the pilot programme, and help us understand the special restructuring activities undertaken by all pilot enterprises. For confidentiality reasons, the corporation's real name is not mentioned in this study and is only symbolized as CSLC.

4.1 Introduction

CSLC is an old SOE, with more than 100 years of history. After many years of development, CSLC become a 'giant' iron and steel ente prise in China, which can be seen from its industrial distribution, assets, work force, tax contributions, and market share. The company's current capacity of steel production has reached 1.5 million tons per year, and in terms of sales it has ranked among the 50 largest industrial enterprises in China for seven consecutive years. With state sources presenting the corporation as one of the 'ten bigs' of China's domestic steel and iron producers, CSLC's main products are sold all over the country and exported to overseas markets. Its annual foreign earnings are close to US $100 million. Some of its products account for a great majority of domestic steel market. There is even one product, railway steel pads, for which CSLC is the only domestic supplier in China.

Under the previous planned economic system, CSLC was always on the

ate's industrial priority list. However, due to keen market competition the company egan to face serious financial difficulties, and in late 1993 was chosen for the pilot rogramme. The CSLC case is worthy of detailed illustration for several reasons:

- China is the largest producer of steel in the world, and the steel and iron industry obviously plays a very important role in China's national economy. As the 100 pilot firms were selected by the State Council to represent major aspects of the national economy, any successful experiment of the modern enterprise system in iron and steel SOEs would augur well for the future development of China's economy.

- The CSLC was a typical old Chinese SOE with features and difficulties common to most SOEs, such as high debt ratios, heavy social burdens, outdated equipment, and overstaffing. Thus, the restructuring practices and experimental results of CSLC promised to indicate practical ways to solve the key issues and difficulties of most SOEs.

- The CSLC experience was also typical of the many restructuring activities undertaken by the pilot enterprises. Such activities included the restructuring of debts, the reduction of social burdens, the clear definition of property rights, and the establishment of corporate governance schemes. Furthermore, during the pilot period a section of CSLC's steel making operations, the Fourth Steel Plant, received permission to be listed on the Shenzhen Stock Exchange. This situation was typical of such listings in China: only the profitable sections of SOEs are listed. Does this kind of partial listing help

improve the performance of the whole SOE? Through the CSLC case study, we may find some answers to this question.

4.2 The main problems and difficulties for CSLC before restructuring

Facing keen market competition, the CSLC had been caught up in serious financial difficulties. The main problems and difficulties can be summarized as:

- **Deep-seated effects of the old planned economic system.** Under the planned economic system, CSLC was always on the state's industrial priority list. The planned economic system still had deep-seated effects on CSLC's operation mechanisms, which could not adapt to the development of a market economy. Furthermore, its outdated technology and aging equipment dropped below the average industry level. Whilst annual production in China's ten largest steel companies averaged 50.63 tons per person in 1993, CSLC's annual average was only 26.69 tons.

- **High leverage ratios**. CSLC suffered a heavy debt burden before restructuring. At the end of 1994, the debt to assets ratio of CSLC was as high as 81.7%, which meant that the corporation relied almost completely on loans for their operations.

- **Overstaffing**. At the end of 1994, the number of workers and employees in CSLC totaled around 50,000. However, according to the principle of efficiency and reasonable distribution of resources, only 25,000 workers and employees were required for production and operation. Approximately 50%

of workers and employees in CSLC were surplus labour.

- **Heavy social burdens.** CSLC ran a large number of schools, hospitals, and some other welfare facilities for their employees before restructuring. The number of these welfare and service institutions totaled 55 at the end of 1994, and they employed 5500 personnel. The net assets of these institutions exceeded RMB yuan 150 million, accounting for 1.8% of CSLC's total assets. These welfare and service institutions required annual expenditure of more than RMB yuan 160 million. In addition, CSLC was responsible for pensions and housing for its employees. These social affairs placed heavy financial and administrative burdens on CSLC, marginally increased production costs, and reduced profits.

4.3 Typical restructuring practices undertaken by CSLC

During the process of restructuring, CSLC adopted the following experimental practices to set up a modern enterprise system.

- Clearly defining property rights

Within the framework of a modern enterprise system, it is undoubtedly very important to clearly define property rights. The issue of property rights is of particular significance at the SOE level, and CSLC placed a great deal of emphasis on it. Upon the approval of the SETC and the local government, CSLC was transformed into a corporation solely owned by the state and called " An Iron and Steel Limited Corporation". The corporatized CSLC was authorized by the state to play the role as representative of the owner of state-owned assets. CSLC signed a

contract to ensure state asset-value preservation and appreciation. The government could not intervene in the corporation's day-to-day operations. In this way, the property rights of CSLC were defined, but even though the CSLC experience was typical of such reform, the results of this practice are still questionable.

- Setting up the corporate governance structure

After CSLC was corporatized, it set up a corporate governance structure in line with the Company Law, and became a solely state-owned corporation. According to the Company Law, such a corporation does not hold a general meeting of shareholders: the board of directors is authorized to exercise power instead, and the members of the board of directors are appointed by the state. Accordingly, the CSLC board of directors included 9 people, all of whom were appointed by the relevant governmental departments. In addition, a supervisory board was established to oversee the activities of the board of directors and senior managers. The senior managers were selected by the board of directors, and were responsible for daily management. From the case of CSLC, we can see that the solely state-owned company has many disadvantages, which do not favour the functional separation between the government and SOEs. The government still has many chances to intervene in the company's daily management and operation.

- Restructuring debts

At the end of 1994, the debt to assets ratio of CSLC was as high as 81.7%. The formation of these debts mainly resulted from changes in state policies, and some market factors. In order to improve its competitiveness, CSLC received strong

support from the government to restructure debts and lower leverage ratios. The debt restructuring of CSLC was undertaken mainly through the following three channels.

1. Debt-investment swaps between the state and the enterprise. Of the huge debts of CSLC, a certain proportion was due to the state. These debts were mainly "loans for grants". During the process of restructuring, RMB 200 million debts were transformed into state investments, recorded as state equity.

2. Debt-equity swap between enterprises. As we know, the problem of chain debts amongst Chinese enterprises is ubiquitous. A certain proportion of CSLC's debts was due to other enterprises. With the government's intervention, CSLC negotiated with some creditor enterprises to transform debts to equities. In this way, RMB 912 million debts were transformed, and the creditors of CSLC became shareholders.

- Employing a contractual system.

At the end of 1994, the number of employees in CSLC totaled approximately 50,000. As stated earlier, around 50% of those employees were surplus labour. It is clear that the restructuring policy of the pilot programme was aimed at forcing SOEs to optimize the use of their workforce, and ensure that they were operating efficiently in the marketplace. In order to achieve this goal, CSLC completely abolished the practice of offering lifetime job tenure, and replaced it with a contractual system. The workers competed for work positions. Furthermore, CSLC laid off a number of

its surplus workers. Some were redirected to the company's tertiary-industry departments -- all of which assumed sole responsibility for their own profits and losses, and others retired early. These measures were all aimed at reducing the excess workforce, and thus improving efficiency.

- Reducing social burdens.

Under the old system, the number of the non-production welfare and service institutions operated by CSLC totaled 55, including 26 schools. After CSLC was corporatized, all these welfare and service institutions should have been separated from the enterprise. 18 of the 26 schools were passed on to the local government during the pilot period. Some other welfare and service units were also separated from the company's operations and became financially independent. However, without a well-established social security system, the remaining units have to be still financed by CSLC.

- Listing parts of CSLC.

In late 1996, the Fourth Steel Plant of CSLC received permission to be listed on the Shenzhen Stock exchange. The central government had strict regulations on the number of listed companies. A listed company must meet the high requirements of asset quality and profitability set by the Security Regulatory Commission (SEC). Hence, to meet the SEC 's regulation, CSLC had its most profitable section listed. Before being listed, the Plant undertook asset restructuring, separated some problematic assets, and returned them to CSLC. Does partially listing an SOE help improve the whole SOE performance? This question still calls for study and

discussion. Through study of the CSLC case, we can find some answers.

- Strengthening internal management

During the trial period, CSLC laid stress on strengthening its internal management. Since steel demand will not grow very fast in the foreseeable future, CSLC changed its focus from the pursuit of quantity to the pursuit of quality. In an attempt to improve its competitiveness, CSLC put more emphasis on cost reduction and product quality. Regarding cost reduction, CSLC set down "target costs". These "target costs" were subdivided into smaller quotas for implementation by workshops and individuals. If work units or individuals failed to accomplish the assigned task of cost reduction, their wages were adjusted downward. Through these measures, CSLC decreased several product costs during the period from January to August 1995, compared with the same period in 1994. The production cost of rolled steel decreased by 15.15%, that of steel by 17.21%, and that of pig iron by 15.38%. From the beginning of the trial programme, not only production units but also the sales and finance departments demonstrated higher efficiency than before.

4.4 What changes happened to CSLC after restructuring?

- **Performance changes**

Since the deep-rooted problems of SOEs are very complicated, and each of the pilot enterprises underwent relatively unique experiences, the restructuring results of CSLC case are best considered mainly in their own light, although they can illuminate the general situation.

1. Employment Level

As stated earlier, the total workforce in CSLC numbered about 50,000 before restructuring, and around 25,000 of them were estimated to be surplus. CSLC adopted the policy of "the internal settlement within the enterprise as the main channel, and social settlement as the supplement channel". Surplus employees were to be resettled in alternative employment by the company itself, with only a very small proportion to be turned over to the government and society to tackle. Was this method of resettlement able to efficiently solve SOE overstaffing? From Table 4.1, we can see that the number in the CSLC workforce decreased from 55,240 before restructuring in 1994, to 49,650 after restructuring in 1997. Despite around 50% of employees constituting a surplus, the company only laid off 5590 workers, accounting for about 20% of the total surplus. The corporatized CSLC is still absorbing most of its surplus workers. This result is not unexpected, given that the national social security system is not well established. Without a well-developed social security system, the corporatized SOEs will not be free from the burden of surplus labour.

Insert Table 4.1 Here

2. Social burdens

Before restructuring, CSLC operated a total of 55 welfare and service institutions, employing over 5000 people. During the pilot period, 18 out of 26 schools operated by CSLC were separated from the corporation and passed on to the local government. Some of other welfare and service institutions were socialized, and

became financially independent entities responsible for their own profits and losses.

3. Leverage ratios

Supported by the government, CSLC restructured debts in order to alleviate its debt burdens and lower leverage ratios. The measures used to decrease leverage ratios were mainly debt-investment and debt-equity swaps. In this way, company debts to the value of RMB 1.12 billion were written off. Table 4.1 illustrates that CSLC experienced a significant drop in its debt to asset ratio after restructuring, from 82.34% in 1994 to 65.62% in 1997. This significant decrease in debt ratios was attributable to the government's direct intervention and support. The "excessive liabilities" of SOEs resulted from their operating mechanisms and changes in state policies. Thus, the government's direct intervention to solve SOE debt accumulation could only be a temporary solution, rather than effecting a permanent cure. Old debts were settled, but new debts still came forth. Only after the mechanisms that resulted in the "excessive liabilities" of SOEs are completely abolished, will their debt restructuring be done and their debt burdens be solved once and for all.

4. Profitability and operating efficiency

Three ratios are employed to measure CSLC's profitability: return on sales (ROS), return on assets (ROA), and return on equity (ROE). Despite the impressive debt reduction, the profitability of CSLC did not experience significant increases. Interest on debt was often waived prior to restructuring and so the reduction of debt did not yield much saving from interest expenses. Table 4.1 indicates that ROS and ROA on average increased by 0.1% in 1995, and the same again in 1996. However, both ROS

and ROA deteriorated in 1997. Regarding the ROE, CSLC experienced a certain decrease annually from 1994 to 1997, which may be attributable to the debt-equity swap.

As for operating efficiency, two ratios are used for measurement: sales per employee (SE), and sales per assets (AE). Table 4.1 shows an increase in both SE and AE after restructuring. SE increased from 70,400 yuan per employee in 1994 to 115,600 yuan per employee in 1997, and AE rose from 49.24 percent in 1994 to 63.3 percent in 1997. CSLC's operating efficiency improved subject to restructuring. However, the precise causes of profitability and efficiency changes at CSLC were not clear because of data limitations.

Table 4.1
Performmance Changes of CSLC, 1994-1997

Variables	1994	1995	1996	1997
Assets *	7898.7	7555.72	7495.12	9066.57
Net income*	44.4	51.47	52.4	31
Employment	55240	54728	54260	49650
Sales*	3888.99	4041.31	3895.95	5739.35
Debt to asset	82.34%	71.13%	70.26%	65.62%
Return on sales	1.14%	1.27%	1.34%	0.50%
Return on assets	0.56%	0.68%	0.69%	0.34%
Return on equity	2.99%	2.36%	2.35%	1.04%
Sales per employee #	7.04	7.38	7.18	11.56
Sales per asset	49.24%	53.49%	51.98%	63.30%

* Unit: million Yuan # Unit: 10,000 Yuan

Chapter Five

An Empirical Examination of the Effectiveness of "The One Hundred Enterprise Pilot Programme"

5.1 Introduction

During the past two decades, privatization of SOEs has been very popular throughout much of the world, and has drawn significant attention from many researchers. International experience suggests that privatization has significant positive impacts on former SOE performance. China chose the modern enterprise system as a vehicle for improving SOE profitability and efficiency in late 1993, and implemented the aforementioned pilot programme in late 1994. The Chinese government hoped that the adoption of the modern enterprise system in line with international experience would help improve SOE performance.

The primary objective of this study is to examine whether the financial and operating performance of the pilot firms improved after they undertook restructuring aimed at establishing the modern enterprise system. Moreover, regression models are developed in an attempt to explain the reasons for these performance changes. International experience suggests that the modern enterprise system is one of most effective organizational forms for achieving efficiency and reasonable distribution of resources. However, international results are not necessarily applicable to China, given the complexity and difficulties of China's SOEs. Existing studies of the privatization effect on financial and operating performance have mainly focused on firms privatized through public share offers, primarily because the data of these firms

are publicly announced and easily available. However, because the Chinese central government seriously limits the number of listed companies, most SOEs have not had the chance to issue public shares. Consequently, enterprises which are restructured without the issuance of public shares account for the majority of SOEs. Thus, the empirical study of these SOEs is of great importance.

The research methodology of this study will follow the methodology employed by some previous studies. Therefore, I will review some previous research in the first part of research design.

5.2 Literature Review

During the past two decades, the privatization of SOEs has drawn significant attention from many academic researches. A substantial number of empirical studies report the effects of privatization on SOE performance, and they generally indicate that privatization has a significantly positive impact on the former SOE's profitability and efficiency.

Megginson, Nash and Randenborgh (1994) compare the pre- and post-privatization financial and operating performance of newly privatized firms. Their sample includes 61 companies from 18 countries and 32 industries that experience full or partial privatization through public share offerings over the 1961--1990 period. Their empirical results document significant increases in profitability, operating efficiency, and output for privatized SOEs. They also find former SOEs have lower leverage and higher dividend payouts subsequent to privatization. Their

most surprising and important finding is that employment levels do not decline but actually increase by a mean (median) of 2,346 employees (276 employees). Firms that experience 50% or greater turnover in directors achieve a greater performance change than those that experience less dramatic changes in directors. Their results indicate that privatization has significantly positive impacts on former SOE performance.

Boubakri and Cosset (1998), and D'Souza and Megginson (1999), use similar methodologies to Megginson et al. to examine the changes in financial and operating performance of newly privatized firms. They also document similar empirical results. Both studies show significant increases in profitability, real sales, dividends, and a significant fall in debt ratios. Additionally, their results indicate that privatization does not necessarily lower employment levels. The data sample of Boubakri and Cosset (1998) consist of 79 companies from 21 developing countries that were fully or partially privatized from 1980 to 1982. D'Souza and Megginson (1999) examined 85 companies from 28 industrialized countries that experienced privatization through public share offerings from 1990 to 1996.

La Porta and Lopez-de-Silanes (1999) examine the effects of privatization on the performance of Mexican SOEs in Mexico. Their sample consists of 218 SOEs that were privatized over the period 1983-1991. Their empirical results document significant improvement for these SOEs following privatization. The mean (median) changes in profitability and operating performance are both positive and significant at the 1% level. Mean real sales increase by 54.28%, and median real sales increased by 68.16%. Their findings of significant increases in profitability, operating

performance, and output are similar to those of previous empirical studies (Megginson et al. 1994; Boubakri and Cosset 1998, and D'Souza and Megginson 1999). However, La Porta and Lopez-de-Silanes (1999) reveal a different story of employment level change in their study of privatization in Mexico. The numbers of employees fall by about 50% after privatization. They conclude that the large increases in profitability of firms subject to privatization mainly result from the dismissal of workers, productivity gains, and increased product price. After studying two channels for social losses following privatization, increased price and layoffs, they suggest that the increased government revenues as a result of privatization are probably, at least in principle, to offset social losses that result from layoffs

Boardman and Vining (1989) compare the operating and financial performance of SOEs to those of mixed enterprises (MEs) and private firms (PCs) after controlling for the competitive/regulatory environment in which each firm operates. They study a sample of the 500 largest manufacturing and mining corporations in the world outside the United States, which are compiled by *Fortune* magazine in 1983. The sample consists of 419 PCs, 58 SOEs, and 23 MEs. Four profitability and two efficiency indicators are used to test firm performance. The former include return on equity, return on assets, return on sales, and net income. The latter are sales per employee, and sales per asset. The results provide very convincing evidence that PCs outperform both SOEs and MEs. In terms of profitability indicators, ME performance is similar or worse to that of SOEs. Boardman and Vining suggest that partial privatization is not the best choice for governments hoping to improve the profitability and efficiency of SOEs, even

though it is a popular organizational form in many countries.

Caves and Christensen (1980) investigate the case of Canadian Railroads to examine the relative efficiency of public and private firms. They compare the post-war productivity of the Canadian National (CN) and Canadian Pacific (CP) Railroads, which were very large railroads of roughly equal size, over the 1956-1975 period. CN was owned by the Canadian government, while CP was a private firm. Total Factor Productivity (TFP) is used as the measure of productivity efficiency. The empirical results document that in the late 1950s and early 1960s CN is less efficient than CP, the difference narrowing in the late 1960s, and the government-owned CN operated as efficiently as CP in the mid-1970s. There is no evidence that the public railroad has inferior performance to the private one. Caves and Christensen conclude that the benefits from competition can overcome any tendency toward inefficiency resulting from public ownership.

Jordan (1982) investigates the effects of regulatory monopolies and government ownership on airline performance. The sample consists of 18 North American airlines operating under different regulatory environments, and with different types of ownership. He compares the performance of 14 airlines under regulatory monopoly with 4 intrastate airlines under regulatory duopolies from 1975 to 1978. The results indicate that the difference of performance resulting from the different regulatory environment is quite convincing. Under regulatory monopoly, the performance of federally regulated airlines is similar regardless of ownership. He indicates that the ownership is not a relevant factor in airline performance where regulatory monopoly exists. However, he implies that under a less regulated

environment, government ownership may have some impacts on corporate performance.

Eckel, Eckel and Singal (1997) investigate the effect of privatization on the performance of British Airways. Two hypotheses, the stock-price effect hypothesis and the airfare hypothesis, are used to explain the effect of privatization. They employ data from the stock market and the product market instead of accounting data. Their empirical results indicate that the privatization of British Airways leads to an increase in efficiency, which hurt the profitability of rival firms depending on the degree to which they competed with the company. The greatest drop in stock prices is experienced by the close rivals of British Airways after its privatization. The decreased airfares affirm that British Airways improved economic efficiency subsequent to privatization. Finally, Eckel, Eckel and Singal confirm, to some extent, that the gains from privatization result from changes in ownership and the compensation structure of the top management.

From the above studies, we can see that some previous research suggests that the privatization of SOEs helps to improve their performance. However, these international studies do not include privatization data from China. In recent years, China has experienced much privatization. Do the results from international, non-China, studies apply in the Chinese case?

Chen, Firth and Rui (1999) conclude that performance of the privatized firms in China actually deteriorates after privatization, which differs from the previous studies. Their data sample includes 275 firms that were privatized through public

share offerings during the period from 1991 to 1995. The methodology employed in this study is similar to that of Megginson et al. (1994). Their empirical results indicate that the profitability and efficiency of Chinese privatized firms declined in the three years after restructuring. Additionally, they find that capital investments increase and debt ratios drop after privatization, which is consistent with the results from other studies. Chen, Firth and Rui argue that privatization in China has been unsuccessful because the government continues to hold substantial shareholdings in privatized firms. They suggest that the government sell all shares if the privatized companies are to function efficiently and effectively.

Xu and Wang (1999) investigate whether ownership structure has significant effects on the performance of Chinese stock companies. Their sample covers data for all listed firms in China for the period 1993-1995. They employ market-to-book value ratio as a main indicator of firm performance. Their empirical results indicate that ownership structure is significantly correlated to the performance of listed firms. The correlation between ownership concentration and profitability is positive and significant, and the effect on the companies dominated by legal person shareholders is stronger than on those controlled by the state. While firm profitability is positively correlated with the fraction of legal person shares, it is either negatively correlated or un-correlated with the proportion of state shares. The study also finds that labour productivity tends to decline as the fraction of state shares increase. Finally, they suggest that state ownership in an overly dispersed ownership structure is inefficient and the large institutional shareholders are an important aspect of corporate governance and they have an influence on the performance of listed firms.

Qi, Wu and Zhang (1998) examine the relationship between ownership structure and corporate performance for listed firms in China. Their sample consists of all firms listed on the Shanghai Stock Exchange from 1991 to 1996. The accounting rate of return on equity is employed to measure firm performance. Their empirical results indicate that corporate performance is positively related to the proportion of legal person shares, but negatively related to that of state shares. It is also found that firm performance has little association with the proportion of tradable shares held by individual domestic or overseas investors. They conclude without substantial improvement in corporate governance, the ongoing ownership reform alone may not enough in improving the corporate performance of SOEs.

Zou and Zhang (1999) conduct a survey on the 30 pilot firms participating in " the one hundred enterprise pilot programme". They investigate the performance changes of these 30 pilot firms following restructuring. The results of Zou and Zhang's survey indicate that the economic performance of the 30 pilot firms drop slightly from before to after restructuring. Total net incomes of the 30 firms decrease by 2.38 percent, while the average return on sales increases by 9.08 percent, The mean return on assets and return on equity decrease by 0.9 percent and 5.7 percent, respectively. They also find that the number of the personnel decreases by 1317 per firm on average and 18 out of the 30 investigated firms reduce their leverage ratios. Their survey results suggest that the effective corporate governance mechanisms have not been set up in some pilot firms and the government administration still dominates the management of the corporatized pilot firms.

5.3 Data Sample

My analysis is limited to the pilot firms participating in "the one hundred enterprise pilot programme". As stated earlier, the modern enterprise system, proposed by the central government in November 1993, was regarded as the appropriate SOE reform direction. Like other new economic reform measures, the modern enterprise system has taken a similar gradualist procedure, and was first undertaken as an experiment with some firms before expanding to the whole economy. In November 1994, the State Council initiated " the one hundred enterprise pilot programme". 100 large and medium sized SOEs were carefully selected by the State Council to undertake experimental practices of establishing the modern enterprise system. The chosen pilot firms represented major aspects of China's national economy. They were selected from the key economic or geographic areas, and from China's main industrial and commercial sectors critical to the economy, including those of chemicals, iron and steel, textiles, and automobiles. The operating performance of these pilot firms was expected to reflect whether the modern corporate system might be a success or a failure in China.

The data collection procedure involved sending a mail questionnaire that requested information from each of the 100 firms. Each firm was asked to send the annual report for before and after restructuring. This mailing was then supplemented by information extracted from the Securities Times, Shanghai Securities Times, the Shanghai Stock Exchange, and the Shenzhen Stock Exchange. According to "Provisional Documents on Selecting One Hundred Large and Medium-sized State-owned Enterprises to Undertake the Trial of Modern Enterprise System" of November 2 1994, the planning and preparation period of the pilot scheme was

expected to finish at the end of 1994. The implementation of the pilot scheme was to be initiated during 1995-1996. I began data collection for my study in late 1998. At that time, the post-restructuring financial data available were only available until 1997. As for the pre-restructuring data, I originally planned to select 1992, 1993 and 1994 as the three years before restructuring. Although I made great efforts to collect data from 1992 and 1993, they were only provided by 11 companies. Considering the very small size of the sample, this data was omitted. Furthermore, a new national accounting system came into effect on July 1, 1993. To some extent the major accounting changes from 1993 to 1994, reduced the reliability of the comparability of the pre- and post-restructuring periods. Therefore, 1994 was selected as the only pre-restructuring year, and 1997 as the post-restructuring year.

The results of this data collection are as follows: a final sample of 79 companies with accounting data from 1994 to 1997 was generated. 1994 was the pre-restructuring year, 1995 and 1996 were the restructuring years, and 1997 was the post-restructuring year. Twenty-one of the 100 pilot firms were not included in my study for the following reasons:

a. They did not respond to the survey and their data were unavailable (8 firms);

b. They provided insufficient data and were excluded from the analysis (9 firms);

c. The firms went into bankruptcy or were acquired by other companies during the pilot period, and hence post-restructuring financial data were not comparable to pre-restructuring data (3 firms);

d. One firm provided seriously false financial reports and was excluded from the study[3]. Since a data sample of 79 firms with only one-year of both pre- and post-restructuring accounting data was generated, the empirical study unavoidably suffers a data selection bias. Therefore, the results need to be treated with caution. However, the results are still informative, because the data overwhelmingly represented the largest and most economically important restructuring activities undertaken by the central government during the 1995-1996 period. By the end of 1994, the total amount of assets of the 79 companies in the sample were RMB 228 billion, the total sales were RMB 183 billion, and the number of employees totaled 1.27 million.

During the implementation period there were 3 enterprises that were acquired or went into bankruptcy and 1 enterprise that remained in the old system without undertaking significant restructuring. Except for these 4 enterprises, 93 out of the remaining 96 enterprises were transformed into companies according to the Company Law. During the pilot period, around 40 pilot firms had issued public shares equal to a certain proportion of their total assets. In general, SOEs have most profitable sections listed. Such kind of listing is defined as partial listing in this study. It must be emphasized that these pilot firms are all partially listed. They only had their profitable parts listed, and issued public shares to a certain proportion of their total assets. This situation is typical of listing SOEs in China. Hence, the

[3] In 1999, the Security Exchanges Commission announced that Chengdu Red Bright Limited Corporation, one of 100 pilot firms, provided serious false financial reports for three years before issuing public stocks, and for two years after being listed.

meaning of "listed firms" in this study refers to "partially listed firms". Some researchers argue that the organizational form of a listed company is the only feasible way to improve the performance of SOEs and reduce government interference. Did the firms restructured through stock listings improve their performance relative to the unlisted firms? Did industrial firms experience different restructuring results from non-industrial firms? In order to find answers to these questions, the data are then partitioned into the following sub-samples: listed versus unlisted companies, and industrial versus non-industrial firms. Table 5.1 shows a general description of the data sample.

Insert Table 5.1 Here

5.4 Testable Hypotheses and Research Methods

As mentioned in the previous section, Chinese SOEs have many deep-rooted problems that are not easily solved in a short period. Recently, most foreign governments have adopted privatization or restructuring to reform the state enterprise sector. The main goal of such restructuring has been to improve the operating performance and profitability of SOEs. Chinese SOEs not only have the problems of high leverage ratios, heavy social burdens, and excess personnel, but also have a long history of low efficiency. Since the pre-1993 enterprise reform policies did not completely change the problems of SOEs, the central government resorted to the modern enterprise system. With respect to the objectives of the 100 enterprise pilot programme, the Chinese government explicitly hoped that restructuring activities of establishing the modern enterprise system would achieve

Table 5.1
Data Sample

Subsamples				Total
Listed companies	35	unlisted companies	44	79
industrial firms	63	non-industrial firms	16	79
profitable firms before restructuring	75	loss-making firms before restructuring	4	79
profitable firms after restructuring	65	loss-making firms after restructuring	14	79

the following:

1. Increase profitability. After the pilot firms are transformed into modern corporations, the firms' objectives are changed to profit maximization, rather than serving some socio-political goals such as job creation. The corporatized SOEs should be subject to the discipline of market forces and must earn profits to survive. A change to profit maximization would generally lead to profitability increase. The restructured SOEs with the objective of maximizing profits should increase their profitability.

2. Improve operating efficiency. Efficiency will be improved as the manager maximizes the profitability of firms. Since the firm faces disciplines of hard budgets and market competitive forces, the firm will go out of business if efficiency does not improve. In addition, any enterprise subject to the modern corporate system will alleviate heavy social burdens, and pass social functions to the relevant government departments. This will help improve firm efficiency.

3. Increase output. As a firm is subject to market forces, it will respond to market demand and produce appropriate products. The firm that responds to market demand with improved efficiency will increase its output.

4. Lower employment levels. Since SOEs experience social-political pressure from the government to employ as many employees as possible, they are highly overstaffed. To be efficient and competitive, firms involved in the pilot scheme were to lay off unnecessary personnel, and lower their

employment levels.

5. Lower leverage ratios. High debt ratios are common amongst SOEs in China. During the restructuring procedure of the pilot scheme, a great number of measures were taken to decrease the proportion of debts in the capital structure of participating firms. For example, some outstanding state loans were converted into state equity, and some creditors of firms were transformed to shareholders. Moreover, those firms supported by the government diversified their channels of raising capital. Some listed companies greatly enhanced their access to financial markets both at home and abroad. This also helped to decrease leverage ratios.

Furthermore, the government also hoped that the modern enterprise system would reduce official interference in the daily operations of firms.

Given this situation, I examined whether the stated objectives of the pilot scheme were actually accomplished or not. Every testable prediction examined, together with the each proxy employed, is introduced in detail in Table 5.2.

Table 5.2 here

The methodology of Megginson, Nash and Randenborgh (1994) is followed to test the performance changes following restructuring for the pilot firms. The pre-restructuring year is defined as 1994, and post-restructuring year as 1997. The actual restructuring period of 1995 to 1996 are excluded from the calculations. Because of the relatively small sample size, both parametric and non-parametric tests are

employed to enhance the reliability of the results. I use the Wilcoxon signed-rank test and T Statistics as main methods to test the significance of differences in performance across pre and post restructuring period. If the T value is significant, the sign of a two-tailed test will indicate whether the financial and operating performance of the pilot firms improve or not after restructuring. The significance of the Z Value is similarly explained. If both the non-parametric Wilcoxon signed-rank test and parametric T Statistics produce consistent results, then the robustness of results is high. Aside from the Wilcoxon test and T Statistics, I also employ a (binomial) proportion test to examine whether the proportion of firms experiencing changes as predicted is greater than that expected to occur by chance (typically testing whether $p = 0.5$).

The firms themselves provided my data requirements, and as mentioned earlier I also used supplementary information from the Securities Times, Shanghai Securities Times, and the Shanghai and Shenzhen Stock Exchanges. Because the pilot firms belong to a variety of industrial and commercial sectors, variables are chosen for their wide applicability – such as sales, total assets, total equity, total debt, and net income. As for numbers of employees, they are available somewhat less frequently: a small proportion of my sample (4 firms) does not have this data item. Therefore, the analyses relating to numbers of employees are limited to those samples whose employee number data are available. Great reliance has been placed on those ratios that are calculated using the current-year values – such as sales, net income. These ratios are less sensitive to inflation than those stock measures accounted for by historical values, such as total assets, long-term debts, and equities.

The conclusions mainly depend on the ratios from the current-year values. In order to decrease the effect of inflation, I also use the Consumer Price Index (CPI), taken from China Statistics, to deflate sales, sales efficiency, and net income efficiency.

Table 5.2

Summary of empirical proxies and testable predictions

This table describes the economic characteristics used to explain the performance changes following restructuring. Also the empirical proxies employed in this analysis are shown here. Among these proxies, those which are the least sensitive to inflation, whilst being calculated from the current-year values, are relied upon. Then, based on the programme objectives, the possible changes in the economic characteristics are predicted. The symbols "a" and "b" in the prediction column stand for after and before restructuring, respectively. I use inflation-adjusted sales and net incomes to calculate the relevant proxies. The deflated sales efficiency is normalized to equal 1.000 in the pre-restructuring year of 1994, and the sales efficiency of post-restructuring year in 1997 is expressed as a fraction of pre-restructuring figures. Net income efficiency is similarly calculated.

characteristics	**empirical proxies prediction**
1. profitability	
return on sales (ROS) = net income/sales	ROSa > ROSb
return on assets (ROA) = net income/total assets	ROAa > ROAb
return on equity (ROE) = net income/equity	ROEa > ROEb
2. operating efficiency	
sales efficiency (SE) = sales/number of employees	SEa > SEb
net income efficiency (NIE) = net income/number of employees	NIEa > NIEb
asset efficiency (AE) = sales/total assets	AEa > AEb
3. output	
real sales (RS) = sales/consumer price index	RSa > RSb
4. employment	
total employment (EMP) = total number of employees	EMPa < EMPb
5. leverage	
debt to assets (LEV) = total debt/ total assets	LEAa < LEAb
long-term debt to equity (LEV1) = long-term debt/equity	LEA1a < LEA1b

Regression Model

In addition to comparing the mean and median performance change before and after restructuring, regression models are also developed in an attempt to explain the changes in the profitability and efficiency of firms from pre-restructuring to post-restructuring.

Independent variables are the change in employment level, the change in leverage ratio, company size, and two dummy variables for industry and listing. The former two explanatory variable show up in the regression models because dismissing excess labour and lowering the leverage ratio are the main focus of restructuring policies undertaken by the pilot firms. This procedure is designed to examine whether the restructuring measures of the pilot scheme had significant effects on the profitability and efficiency of the pilot firms, and in what way. However, regression models are not the main focus of this study.

Separate OLS regressions are estimated using the change in profit/sales (ΔROS), profit/equity (ΔROE), profit/assets (ΔROA), sales/employee (ΔSE), profit/employee (ΔNIE), and sales/assets (ΔAE) as respective dependent variables. The changes in employment levels (ΔEMP) and the changes in leverage ratios (ΔLEV) are expected to have an effect on the performance of firms. The sign of the coefficient of ΔEMP is hypothesized to be negative because that laying off the excess labour will help improve the profitability and efficiency of firms. The directional hypothesis for ΔLEV is not clear, given the complexity and particularity of SOE debts in China. Listing may have a positive relationship to profitability and

efficiency. I have no expectation on the sign of Size variable and Industry dummy variable because the effects of size and industry on performance are uncertain.

The regression model is:

$$\mathbf{DV} = \beta_0 + \beta_1 \mathbf{SIZE} + \beta_2 \Delta\mathbf{EMP} + \beta_3 \Delta\mathbf{LEV} + \beta_4 \mathbf{IND} + \beta_5 \mathbf{LIST}$$

Where:

DV = dependent variable. The dependent variables are changes in profit/sales (ΔROS), profit/equity (ΔROE), profit/assets (ΔROA), sales/employee (ΔSE), profit/employee (ΔNIE), and sales/assets (ΔAE);

SIZE = log of total assets of the firm before restructuring, or log of total sales of the firm before restructuring. For regression models of ΔROA and ΔAE as dependent variables, SIZE equals the log of total sales of firms;

ΔEMP = employment change from before to after restructuring;

ΔLEV = change in debt/asset from before to after restructuring;

IND = a dummy variable taking the value one (1) if the company is an industrial or manufacturing firm, otherwise IND is coded zero (0);

LIST = a dummy variable taking the value one (1) if the firm had issued public shares during the pilot period, otherwise LIST is coded zero (0);

5.5 Empirical Results

I will now present the empirical results for the performance change hypotheses described in Table 5.2. Table 5.3, Table 5.4, Table 5.5, and Table 5.6 show descriptive statistics for financial characteristics of full sample in 1994, 1995, 1996, and 1997, respectively. The empirical results for the performance changes for full sample of 79 firms are first presented in Table 5.7. Then I show the results for the following sub-samples: listed versus unlisted companies, and industrial versus non-

industrial firms. The purpose of these partitions is to examine the effects of listing and industry sector on economic gains as a result of restructuring. Finally, the regression results are presented in Table 5.10.

Insert Table 5.3 to 5.6 here

Results for the full sample

Table 5.7 shows the mean and median performance measures before and after restructuring (column 2 and 3), the mean and median differences (column 5), and the percentage of the firms which experienced the changes as predicted (column 8). T-statistics, Wilcoxon tests, and proportion test (columns 6, 7, and 9) are employed to examine whether the changes in performance measures are statistically significant.

Insert Table 5.7 here

Profitability

Three ratios are employed to measure profitability: return on sales (ROS), return on assets (ROA) and return on equity (ROE). Table 5.7 documents that profitability deteriorates after restructuring. The mean and median changes in ROS, ROA, and ROE are all negative. While ROS shows little change, ROA and ROE drop significantly. ROS is the most reliable empirical profitability ratio among the three, because it uses a current 'dollar' value in both the numerator and the denominator.

Table 5.3

Descriptive Statistics for Year 1994: Financial Characteristics of Full Sample

Items	N	Minimum	Maximum	Mean	Median	Std. Dev
Total Assets*	79	0.1587	24.3164	2.893	1.2486	4.2561
Total Liabilities*	79	0.0687	13.5527	1.9111	0.8749	2.6783
Long-term Liabilities*	79	0	13.5527	0.9114	0.1901	2.084
Equities*	79	0.0093	10.7636	0.982	0.2889	1.7078
Sales*	79	0.00423	36.6945	2.3197	0.7191	5.0182
Net Income*	79	-0.1373	3.5079	0.1094	0.0256	0.4098
Return On Sales	79	-0.15	1.1176	0.0542	0.0283	0.1317
Return On Assets	79	-0.0811	0.2608	0.1073	0.0679	0.0465
Return On Equity	79	-0.2089	0.7572	0.1073	0.0679	0.1428
Sales Efficiency#	75	0.8528	239.9352	27.0025	9.7696	47.6021
Net Income Efficiency#	75	-1.1362	7.463	0.8681	0.2964	1.5016
Asset Efficiency	79	0.0086	2.5372	0.7581	0.5965	0.5125
Debt to Assets	79	0.1862	0.9957	0.6727	0.6914	0.1649
Total Employment	75	108	100911	16850	6541	21062

*Units: RMB Billion ;
#Units: Ten thousand yuan per employee

Table 5.4

Descriptive Statistics for Year 1995: Financial Characteristics of Full Sample

Items	N	Minimum	Maximum	Mean	Median	Std. Dev
Total Assets*	79	0.1332	40.8005	3.7881	1.5666	6.0387
Total Liabilities*	79	0.0429	24.9515	2.5056	1.0484	3.9471
Long-term Liabilities*	79	0	24.2345	1.3396	0.2253	3.3745
Equities*	79	0.0381	15.8489	1.2826	0.4187	2.2413
Sales*	79	0.0032	53.0768	2.6555	0.7646	6.4344
Net Income*	79	-0.2584	4.7077	0.1151	0.0176	0.5426
Return On Sales	79	-0.4002	1.0196	0.0397	0.0219	0.1351
Return On Assets	79	-0.1121	0.2209	0.0251	0.0182	0.0451
Return On Equity	79	-0.3399	0.5596	0.0653	0.0507	0.123
Sales Efficiency#	75	0.222	269.1792	27.6478	11.4405	46.1949
Net Income Efficiency#	75	-2.4388	9.4811	0.8917	0.2478	1.9107
Asset Efficiency	79	0.068	2.2911	0.6894	0.5783	0.4392
Debt to Assets	79	0.2647	0.9276	0.654	0.6798	0.1592
Total Employment	75	106	101845	16943	7090	21184

*Units:RMB Billion;
#Units: Ten thousand yuan per employee

Table 5.5

Descriptive Statistics for Year 1996: Financial Characteristics of Full Sample

Items	N	Minimum	Maximum	Mean	Median	Std. Dev
Total Assets*	79	0.1486	55.1582	4.3392	1.7265	7.5078
Total Liabilities*	79	0.0594	34.3872	2.7502	1.1581	4.7629
Long-term Liabilities*	79	0	9.6209	0.9004	0.1831	1.7846
Equities*	79	0.0562	20.7711	1.5889	0.5287	2.8961
Sales*	79	0.0045	65.5941	2.8805	0.7833	7.7201
Net Income*	79	-0.1934	6.6643	0.1243	0.0201	0.7521
Return On Sales	79	-0.247	0.9004	0.0398	0.0211	0.1246
Return On Assets	79	-0.0818	0.1945	0.02	0.0099	0.0415
Return On Equity	79	-0.312	0.551	0.0448	0.0351	0.1261
Sales Efficiency#	75	1.2295	310.91	27.62	10.7157	47.32
Net Income Efficiency#	75	-4.39	10.93	0.7891	0.1988	1.9579
Asset Efficiency	79	0.0067	2.2369	0.6231	0.5452	0.392
Debt to Assets	79	0.2423	0.9172	0.6235	0.6469	0.1591
Total Employment	75	110	100623	16994	7187	21160

*Units: RMB Billion;
#Units: Ten thousand yuan per employee

Table 5.6

Descriptive Statistics for Year 1997: Financial Characteristics of Full Sample

Items	N	Minimum	Maximum	Mean	Median	Std. Dev
Total Assets*	79	0.1882	75.2675	5.1619	1.7887	9.7568
Total Liabilities*	79	0.0984	39.4624	3.1012	1.1729	5.4306
Long-term Liabilities*	79	0	10.0225	0.9751	0.1962	2.0387
Equities*	79	0.057	35.8051	2.0607	0.5982	4.5106
Sales*	79	0.0034	55.9328	2.3199	0.6121	6.5346
Net Income*	79	-0.0764	5.3728	0.1047	0.0205	0.6047
Return On Sales	79	-5.6909	1.1283	-0.0252	0.0203	0.6613
Return On Assets	79	-0.0315	0.1321	0.0162	0.0069	0.0291
Return On Equity	79	-0.1244	0.2576	0.0332	0.0137	0.0656
Sales Efficiency#	75	1.0643	147.7796	20.1516	8.8637	31.1979
Net Income Efficiency#	75	-6.0568	30.8385	0.9424	0.1129	4.026
Asset Efficiency	79	0.0046	1.1042	0.4143	0.3584	0.2235
Debt to Assets	79	0.2542	0.9176	0.6111	0.6141	0.1549
Total Employment	75	110	90061	16494	7407	20085

*Units: RMB Billion;
#Units: Ten thousand yuan per employee

Table 5.7 Test Results of Performance Changes Following Restructuring for Full Sample

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
Total assets #	2.893 (1.249)	5.162 (1.789)	79	2.269 (0.649)	3.199***	7.419***		
Net income #	0.109 (0.026)	0.105 (0.021)	79	-0.005 (- 0.003)	0.171	-1.373		
profitability								
Return on sales	0.0533 (0.0276)	-0.0252 (0.0204)	79	-0.0794 (-0.0061)	-1.096	-2.170**	39.24%	-1.913*
Return on assets	0.0332 (0.0181)	0.0162 (0.0061)	79	-0.0170 (-0.0098)	-3.961***	-4.824***	25.32%	-4.387***
Return on equity	0.1073 (0.0679)	0.0332 (0.0137)	79	-0.0741 (-0.0469)	-5.092***	-5.733***	21.52%	-5.063***
operating efficiency								
Sales efficiency	1.0000 (1.0000)	1.0104 (0.8869)	75	0.0104 (-0.1131	0.195	-0.729	46.67%	-0.577
Net income efficiency	1.0000 (1.0000)	2.2079 (0.7190)	74	-1.2079 (-0.2810)	1.102	-1.296	40%	-1.732*
Asset efficiency	0.7581 (0.5965)	0.4143 (0.3584)	79	-0.3438 (-0.2221)	-8.257***	-7.208***	8.86%	-7.313***
output								
Real sales #	2.3197 (0.7191)	2.3199 (0.6121)	79	0.0002 (-0.0009)	0.001	-0.865	49.36%	-0.111

Table 5.7 Continued

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
employment								
total employment	16850 (6541)	16494 (7407)	75	-356 (1)	-0.911	0.14	49%	0.116
leverage								
debt to assets (%)	0.6727 (0.6914)	0.6110 (0.6141)	79	-0.0617 (-0.0495)	-4.769***	-4.218***	69.62%	3.488***
long-term debt to equity (%)	0.9177 (0.6241)	0.4558 (0.2681)	79	-0.4619 (-0.1984)	-4.226***	-4.780***	72.15%	3.937***

*** statistically significant at the 0.01 level
** statistically significant at the 0.05 level
* statistically significant at the 0.1 level

Units: RMB Billion

However, the statistical significance of the changes in ROS is weak (only the median change is significant at the 5 percent level and the mean change is not significantly different from zero). The mean (median) decreases in ROA and ROE are 1.7 percent (0.98 percent) and 7.41 percent (4.69 percent), respectively. The reductions in the mean and median of ROA and ROE are all statistically significant at the 1 percent level. Despite the Chinese government hoping that restructuring SOEs without changing the ownership would increase their profitability, only around 30% of firms in the full sample performed as expected. In only 39.24% of all the cases did ROS increase after restructuring (25.32 percent for ROA, and 21.52 percent for ROE).

The overall results indicate that profitability deteriorates after the pilot period. ROA and ROE decrease substantially, and ROS changes little after restructuring. The credit tightening of 1995-1996 in China and the Asian financial crisis of 1997 certainly contributed to the decreases in profitability throughout industry. However, the significant decreases in ROA and ROE are mainly due to the total assets and equities of the pilot firms increasing significantly during the restructuring process, while their net incomes remain the same. In fact, the average total assets for the pilot firms nearly doubled, increasing from RMB yuan 2.893 billion before restructuring to RMB 5.162 billion after restructuring. The deterioration in profitability after restructuring is very different from the results of other restructuring studies that employ data from the other countries (Megginson et. al 1994; Boubakri and Cosset 1998; D'Souza and Megginson 1999). However, the results concerning profitability deterioration are remarkably consistent with the findings of Chen, Firth and Rui (1999), who examine the economic performance of

privatized firms in China.

Operating efficiency

Table 5.7 shows operating efficiency changes after restructuring. Three measures are used to test operating efficiency – sales per employee (SE), net income per employee (NIE), and sales per asset (AE). While two efficiency ratios, SE and NIE, show little change, AE, which shows the sales per asset, documents significant mean and median decreases following restructuring. The changes in SE and NIE are very limited and statistically insignificant. As for asset efficiency, the mean (median) of AE drops from 74.69 % (59.65 %) to 62.04 % (53.65) and is statistically significant at the 0.01 level. The proportion of firms which show an increase in SE and NIE is 46.67 % and 40 %, respectively. However, only 8.86% of all firms increase sales per asset after restructuring. Asset efficiency for the majority of the firms in the sample actually deteriorates following restructuring.

The empirical results show that the operating efficiency ratios of the pilot firms, except for asset efficiency (sales per asset), are little changed. Why did asset efficiency drop substantially after restructuring? The explanations are similar to those of profitability deterioration. Total assets of the pilot firms doubled, but real sales show little change (real sales changes will be discussed later). The significant deterioration in asset efficiency was also consistent with the results of Chen, Firth and Rui (1999).

Output

Table 5.7 also shows that the pilot firms experience insignificant changes in output following restructuring. The output change is tested by calculating the inflation-adjusted real sales. While the mean sales growth is 0.2 million yuan, the median value shows a decrease. Both changes in output are not significant, and the proportion of firms experiencing sales growth is not significantly different from 50%.

Employment

With regard to employment levels, although one of the explicit objectives of the pilot programme is to reduce excess workers, and the central government took many measures to encourage this, the results show little change in the employment level after restructuring. The average number of employees drops from 16,850 before restructuring to 16,494 after restructuring, which amounts to a decrease of 356 workers per firm on average. However, the median change increases by 1 employee per firm. Despite an estimated excess workforce of 50% across the 100 pilot firms (Lin and Cai 1999), the empirical results indicate that the problem was not sufficiently solved. However, the reduction of surplus labor will be a chronic process.

Leverage

Chinese SOEs have a long history of high debt ratios. Heavy leverage ratios have been obstacles to the development of SOEs, and the government expected that debt ratios should be decreased after restructuring. As predicted, the results from Table 5.7 demonstrate a significant decline in debt ratios after restructuring, the ratio of

long-term debts to equities is nearly halved. While the mean (median) decline in the debt/assets ratio is 6.17% (4.95%), the mean (median) long-term debt/equity ratio falls by 46.19% (19.84%). All declining changes in leverage ratios are statistically significant at the 0.01 level. Approximately 70% of the firms studied lower their leverage ratios after restructuring, and the proportion of firms reducing the leverage is significantly different from 50%. The significant decreases in debt ratios are consistent with the results from other privatization studies. The significant leverage reductions mainly result from debt-equity swap supported by the government. Some of long-term loans due to the state were transformed into equity. This may help explain why long-term debt/equity ratios are nearly halved after the pilot period.

Results for subsamples

In order to investigate whether the restructuring results of the pilot firms are influenced by listing and industry sector, the full sample is partitioned into the following sub-samples: listed versus unlisted companies, and industrial versus non-industrial firms.

Approximately half of the pilot firms had their most profitable sections listed during the pilot period, and issued public shares equal to a certain proportion of total assets. As stated earlier, such kind of listing is defined as "partially listed" in this study. Since the pilot firms are all partially listed, "listed firms" in this study refers to "partially listed firms". The results in Table 5.8 show that the changes in performance measures mirror those in Table 5.7. While return on sales changes little, return on assets and return on equity drop substantially for both listed and unlisted

firms. Table 5.8 also shows that before and after restructuring all three profitability ratios are higher for listed firms than for unlisted firms. For example, while the average pre-restructuring profitability ratios for listed firms are 8.73% for return on sales, 4.79% for return on assets, and 14.24% for return on equity, these ratios are nearly halved for unlisted firms (2.8%, 2.15%, and 7.93%, respectively). These results suggest that the government preferred to choose more profitable SOEs to issue public shares. In the case of operating efficiency, the directional changes in efficiency ratios are consistent with those in the full sample. Sales efficiency and net income efficiency show little change. Asset efficiency drops substantially after restructuring for both listed and unlisted firms.

Real sales and employment level show little change for both listed and unlisted firms. Small sales growth is shown for listed companies, but the increases are not significant. The unlisted firms experience a decrease in output (only the median decrease is significant at the 0.05 level and the mean decrease is not significant). The strong evidence of leverage reductions is reaffirmed in both listed and unlisted firms. Although there are arguments that listing an SOE is the only feasible way to improve its performance, the results from this study show that the directional changes in variables are similar across listed and unlisted firms. The effect of partial listing on the performance improvement of the whole SOE may be quite limited.

Insert Table 5.8 Here

Firms are then divided into two groups based on industry sector. The empirical

Table 5.8 Comparisons of performance changes before and after restructuring for listed versus unlisted firms

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
Total assets #								
listed companies	3.581 (1.319)	6.919 (2.028)	35	3.338 (0.879)	2.272**	4.881***		
unlisted companies	2.346 (1.118)	3.765 (1.755)	44	1.419 (0.351)	2.875***	5.672***		
Net Income #								
listed companies	0.169 (0.034)	0.210 (0.036)	35	0.041 (0.005)	0.721	0.524		
unlisted companies	0.063 (0.012)	0.022 (0.005)	44	-0.041 (-0.003)	-1.934*	-2.322**		
profitability								
Return on sales								
listed companies	0.0873 (0.0497)	0.0911 (0.0335)	35	0.0039 (-0.0001)	0.401	-0.295	45.71	-0.508
unlisted companies	0.0280 (0.0242)	-0.1177 (0.0091)	44	-0.1456 (-0.0118)	-1.123	-2.521**	34.09	-2.211**
Return on assets								
listed companies	0.0479 (0.0258)	0.0271 (0.0177)	35	-0.0209 (-0.0087)	-3.014***	-3.259***	22.86	-3.211***
unlisted companies	0.0215 (0.0164)	0.0075 (0.0028)	44	-0.0140 (-0.0099)	-2.57**	-3.501***	31.82	-2.412**
Return on equity								
listed companies	0.1425 (0.0891)	0.0591 (0.0471)	35	-0.0835 (-0.0455)	-3.486***	-4.439***	17.14	-3.887***
unlisted companies	0.0793 (0.0639)	0.0127 (0.0106)	44	-0.0666 (-0.0528)	-3.692***	-3.816***	25	-3.317***

Table 5.8 Continuted

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
operating efficiency								
Sales efficiency								
listed companies	1.0000 (1.0000)	1.0799 (1.1228)	31	0.0799 (0.1228)	0.974	0.451	54.84	0.539
unlisted companies	1.0000 (1.0000)	0.9614 (0.8554)	44	-0.0387 (-0.1446)	-0.555	-1.505	40.91	-1.206
Net income efficiency								
listed companies	1.0000 (1.0000)	1.6554 (0.9978)	31	0.6554 (-0.0022)	1.564	-0.353	48.39	-0.179
unlisted companies	1.0000 (1.0000)	2.6063 (0.6144)	44	1.6063 (-0.3856)	0.859	-1.968*	34.09	-2.111**
asset efficiency								
listed companies	0.7902 (0.5939)	0.4253 (0.3594)	35	-0.3649 (-0.2221)	-5.047***	-4.832***	8.57	-4.901***
unlisted companies	0.7326 (0.6003)	0.4055 (0.3401)	44	-0.3271 (-0.2323)	-6.753***	-5.403***	9.09	-5.427***
output								
Real sales #								
listed companies	2.9199 (0.9320)	3.5305 (0.8144)	35	0.6105 (0.0273)	1.06	1.032	62.86	1.521
unlisted companies	1.8422 (0.6361)	1.3569 (0.5785)	44	-0.4853 (-0.0441)	-1.437	-2.212**	38.64	-1.508
employment								
listed companies	23819 (12312)	23542 (10535)	31	-277 (88)	-0.389	0.137	48.39	-0.179
unlisted companies	11940 (5540)	11528 (5603)	44	-412 (-2)	-0.922	-0.169	50	0

Table 5.8 Continued

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
leverage								
debt to assets								
listed companies	0.6481 (0.6373)	0.5767 (0.5383)	35	-0.0713 (-0.0583)	-3.264***	-2.883***	71.43	2.535**
unlisted companies	0.6924 (0.7299)	0.6384 (0.6635)	44	-0.0540 (-0.0444)	-3.477***	-3.081***	68.18	2.412**
long-term debt to equity								
listed companies	0.8382 (0.5026)	0.4407 (0.2494)	35	-0.3975 (-0.3077)	-3.657***	-3.332***	77.14	3.211***
unlisted companies	0.9809 (0.6329)	0.4678 (0.3762)	44	-0.5131 (-0.1494)	-2.898***	-3.291***	68.18	2.412**

*** statistically significant at the 0.01 level
** statistically significant at the 0.05 level
* statistically significant at the 0.1 level

Units: RMB Billion

results for industrial and non-industrial firms are presented in Table 5.9. Changes in performance for industrial firms are consistent with those in Table 5.7 and 5.8. However, the changes in profitability and leverage ratios for non-industrial firms are different from those of industrial firms. While industrial firms experience significant profitability deterioration, profitability ratios are little changed for non-industrial firms after restructuring. Asset efficiency deterioration is also the norm for both sub-samples, while sales per employee and net income per employee show little change. Both real sales and employment level are little changed. As for leverage ratios, the results show significant reductions in leverage ratios for industrial firms. However, the decreases in leverage ratios for non-industrial firms are statistically insignificant.

Insert Table 5.9 Here

Regression results

The regression results are presented in Table 5.10. The dependent variables are the changes in profitability and efficiency from before to after restructuring. The independent variables include the change in leverage ratio and the change in employment level from before to after restructuring, and control variables representing firm size, industry, and listing.

Insert Table 5.10 here

The change in sales efficiency has the highest R-square value at 0.318, while the changes in return on sales and net income efficiency are both lower at 0.074. The

Table 5.9 Comparisons of performance changes before and after restructuring for industrial versus non-industiral firms

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
Total Assets #								
indurstrial firms	2.950 (1.249)	5.623 (1.789)	63	2.673 (0.664)	3.029***	6.634***		
non-industrial firms	2.668 (1.311)	3.346 (1.979)	16	0.678 (0.422)	3.724***	3.361***		
Net income #								
indurstrial firms	0.123 (0.026)	0.126 (0.013)	63	0.003 (-0.001)	0.076	-1.075		
non-industrial firms	0.056 (0.021)	0.027 (0.026)	16	-0.029 (-0.004)	-0.758	-0.672		
profitability								
Return on sales								
indurstrial firms	0.0445 (0.0325)	0.0309 (0.0204)	63	-0.0136 (-0.0061)	-2.213**	-2.293**	39.68	-1.638
non-industrial firms	0.0926 (0.0259)	-0.2460 (0.0179)	16	-0.3386 (-0.0055)	-0.944	-0.465	37.51	-1.001
Return on assets								
indurstrial firms	0.0358 (0.0181)	0.0155 (0.0061)	63	-0.0203 (-0.0087)	-4.327***	-4.546***	26.98	-3.654***
non-industrial firms	0.0232 (0.0250)	0.0191 (0.0054)	16	-0.0041 (-0.0115)	-0.406	-1.603	18.75	-2.500**
Return on equity								
indurstrial firms	0.1133 (0.0672)	0.0324 (0.0154)	63	-0.0809 (-0.0466)	-4.635***	-5.354***	22.22	-4.410***
non-industrial firms	0.0838 (0.0824)	0.0365 (0.0122)	16	-0.0473 (-0.0541)	-2.315**	-2.068*	18.75	-2.500**

Table 5.9 Continued

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
operating efficiency								
Sales efficiency								
indurstrial firms	1.0000 (1.0000)	1.0600 (1.0196)	61	0.0600 (0.0196)	1.019	0.183	50.82	0.131
non-industrial firms	1.0000 (1.0000)	0.7940 (0.7561)	14	-0.2060 (-0.2439)	-1.878*	-1.915*	28.57	-1.714
Net income efficiency								
indurstrial firms	1.0000 (1.0000)	1.7613 (0.7190)	61	0.7613 (-0.2810)	0.695	-1.097	44.26	-0.911
non-industrial firms	1.0000 (1.0000)	4.1218 (0.7010)	14	3.1218 (-0.2990)	0.902	-0.722	28.57	-1.714
asset efficiency								
indurstrial firms	0.7351 (0.6042)	0.4222 (0.3594)	63	-0.3129 (-0.2148)	-7.105***	-6.346***	11.11	-6.167***
non-industrial firms	0.8486 (0.5148)	0.3831 (0.3065)	16	-0.4655 (-0.2962)	-4.301***	-3.516***	0	-4.000***
output								
Real sales #								
indurstrial firms	2.2513 (0.7191)	2.5554 (0.6121)	63	0.3041 (0.0163)	0.94	0.219	55.56	0.882
non-industrial firms	2.5889 (0.7952)	1.3927 (0.7928)	16	-1.1963 (-0.1617)	-1.322	-2.43**	25	-2.000*
employment								
total employment								
indurstrial firms	18782 (7195)	18481 (7487)	61	-301 (180)	-0.631	0.42	45.9	-0.651
non-industrial firms	8433 (2466)	7834 (2544)	14	-599 (-102)	-1.989*	-1.601	35.71	-1.143

Table 5.9 Continued

Variable	Mean before (Median)	Mean after (Median)	N	Mean change (Median)	T-statistics for difference in Means (After-before)	Z-statistics for difference in Medians (After-before)	Proportion of enterprises that performed as predicted (%)	Z-statistics for significance of proportion change
leverage								
debt to assets								
indurstrial firms	0.6734 (0.6808)	0.6091 (0.6141)	63	-0.0643 (-0.0475)	-4.253***	-3.813***	68.25	2.898***
non-industrial firms	0.6699 (0.7293)	0.6188 (0.6202)	16	-0.0512 (-0.0635)	-2.162**	-1.913*	25	-2.000*
long-term debt to equity								
indurstrial firms	1.0139 (0.6579)	0.4731 (0.3385)	63	-0.5408 (-0.3077)	-4.086***	-4.687***	77.78	4.409***
non-industrial firms	0.5389 (0.2346)	0.3879 (0.1487)	16	-0.1509 (-0.0233)	-1.303	-0.966	60	0.801

*** statistically significant at the 0.01 level
** statistically significant at the 0.05 level
* statistically significant at the 0.1 level

Units: RMB Billion

Table 5.10 Regression Results of Performance Change Measures

Explanatory variables	Dependent variables					
	Profitability changes			Efficiency changes		
	Δ ROS (%) Return on sales	Δ ROA (%) Return on assets	Δ ROE (%) Return on equity	Δ SE # Sales/employee	Δ NIE# Net income/employee	Δ AE(%) sales/asset
Intercept	10.098 (1.438)	7.665 (2.540)	11.376 (0.911)	-47.825 (-2.012)	4.721 (1.323)	54.490 (1.682)
SIZE	-1.950 (-1.464)	-1.649 (-2.790)***	-2.681 (-1.131)	2.809 (0.623)	-0.755 (-1.116)	-21.747 (-3.427)***
ΔEMP (thousand)	-0.114 (-0.553)	-0.242 (-2.222)**	-0.230 (-0.625)	-0.047 (-0.067)	-0.015 (-0.142)	-1.855 (-1.585)
Δ LEV (%)	-0.016 (-0.253)	-0.015 (-0.454)	0.440 (4.032)***	0.170 (0.818)	-0.047 (-1.520)	-0.099 (-0.282)
IND	-2.506 (-1.375)	-1.635 (-1.688)	-2.574 (-0.793)	31.888 (5.166)***	-1.300 (-1.403)	23.288 (2.239)**
LIST	2.421 (1.669)	0.466 (0.599)	1.030 (0.399)	3.691 (0.752)	0.256 (0.348)	-4.737 (-0.567)
F	1.109	2.949	3.753	6.447	1.101	3.875
R_2	0.074	0.176	0.214	0.318	0.074	0.219
$\overline{R_2}$	0.007	0.116	0.157	0.269	0.007	0.163
P-value	0.364	0.018	0.005	0	0.368	0.004
N	79	79	79	75	75	75

*** statistically significant at the 0.01 level; **statistically significant at the 0.05 level; * statistically significant at the 0.1 level.
# Unit: RMB 10,000

negative coefficients on SIZE are statistically significant at the 0.01 level when modeling the changes in return on assets and changes in asset efficiency, which indicates that larger firms tend to have greater decreases in return on assets and asset efficiency.

ΔEMP, the change in employment level, is not a statistically significant indicator of changes in profitability and efficiency (except for ΔEMP being significant at the 0.05 level in the model of ΔROA). The weak significance of ΔEMP in the model of ΔROA indicates that companies with greater decreases in employment levels experienced higher changes in return on asset, and the hypothesized negative relationship between ΔEMP and changes in ROA is at least directionally supported. The coefficient of ΔLEV is positive and statistically significant at the 0.01 level in the regression of ΔROE, indicating that companies with greater reductions in debt ratios tend to experience greater decreases in return on equity. The positive and significant relationship between ΔLEV and ΔROE is mainly attributable to debt-equity swaps supported by the government during the pilot period. In order to lower leverage ratios of pilot firms, some debts were transformed into equities during the process of debt restructuring. Therefore, decreases in debt ratios are associated with reductions in return on equity. Because debt is swapped for equity, it appears that the reductions in leverage ratios do not have significant effects on the changes in profitability and efficiency.

Industrial firms (IND=1) are positively related with greater increases (or lower decreases) in efficiency. The coefficients of IND are positive and statistically

significant when modeling changes in sales efficiency and asset efficiency. These findings imply that industrial firms tend to have lower decreases (or higher increases) in sales efficiency and asset efficiency than non-industrial firms. Although there are arguments that listing an SOE is the only feasible way to improve its performance, the results document that the LIST dummy variable is not a statistically significant indicator of SOE performance changes. This result indicates that partial listing may not improve the overall performance of an SOE.

Chapter Six

Conclusions and Suggestions

Conclusions

Although international experience suggests that privatization has significant positive effects on the performance of SOEs, the results of this study show that the majority of performance measures for pilot enterprises are little changed from before to after restructuring. For the full sample, the empirical results show little change in return on sales (the most reliable ratio among three profitability ratios), sales efficiency, net income efficiency, employment, and real sales. Return on assets, return on equity, and sales per asset drop substantially after restructuring. The empirical results also document significant reductions in leverage ratios following restructuring, which is consistent with the results from other empirical privatization studies. Additionally, the results are similar when the data are partitioned into listed versus unlisted firms, and industrial versus non-industrial firm subsamples. Despite arguments that listing an SOE is the only feasible way to improve its performance, the empirical evidence from this study is weak, and the effect of partial listing on the performance improvement of the whole SOE appears to be quite limited. These findings suggest that the corporatization of SOEs alone may not be enough to improve their corporate performance. Substantial changes in corporate governance structures and matched government reforms closely linked to SOE reform are needed in order to realize the benefits of enterprise reform.

The pilot firms in the data sample, however, represent only a small subset of China's large and medium sized state-owned enterprises and perhaps a better-performed group of SOEs than those not selected to participate in the pilot scheme. Only 4 of the sample firms were in the red, and the others were all profitable before restructuring. Therefore, although the results from this study are informative, they should not be interpreted as systematic, because of data limitations. In contrast to my study results, Qian (1998) concluded that the restructuring of small and medium sized SOEs initiated by local governments is relatively successful, and the corporate performance of such firms has generally improved after restructuring.

Some recent international SOE restructuring has employed systems similar to the modern enterprise system as a vehicle for improving SOE efficiency. The corporate form has proved to be one of the most efficient institutions for resource allocation. Since the advent of reform in China, much effort has been put into reforming SOEs to increase their profitability and efficiency. Before 1993, SOE reform mainly focused on expanding firm autonomy. However, as autonomy was enlarged, state assets were drained away at an accelerated pace, and SOE performance declined. In 1993, China chose the modern enterprise system as the basis for restructuring its SOEs. The central government hoped that such an approach would solve the serious agency problem of SOEs, and improve their performance. Accordingly, most SOEs were corporatized. Can the corporatization of SOEs definitely improve their performance? The empirical results of this study do not support this proposition. However, such an overall result is not unexpected, given the complexity of deep-rooted problems in Chinese SOEs. Moreover, a 24-month "trial

period" was far too short, and it will take some time for some restructuring activities, such as debt reduction and lifting of social burdens, to provide significant effects on SOE performance. The lack of improvement in performance amongst the pilot firms was, therefore, mainly attributable to the following two reasons.

Firstly, despite the pilot enterprises having been corporatized, the effective corporate governance mechanisms have not been set up accordingly and the government administration still dominates the management of the corporatized SOEs. An effective corporate governance mechanism is a necessary precondition for the success of a modern corporation. This mainly includes incentive mechanisms, effective monitoring mechanisms, and scientific internal management. During the trial period, all but seven of the pilot firms were transformed into corporations according to the Company Law. However, for some of them effective corporate governance mechanisms were not set up at all: that is, a change in form, but not in content. In 1998, the State Commission on Restructuring Economic Systems conducted a survey on 30 pilot firms under its responsibility. According to the survey (Zou and Zhang 1999), only 5 out of the 30 firms set up a general meeting of shareholders. Although most of the 30 investigated firms established a board of directors according to the Company Law, 20 of the investigated firms had their boards of directors directly appointed by the relevant governments, rather than by the general meeting of shareholders. Moreover, from the composition of the boards, the representatives recommended and appointed by the government and supervisory departments led a dominant role, accounting for 79.6 percent of board membership. The representatives recommended by legal shares rank second, accounting for 17.3%

of board membership. Representatives recommended by individual shareholders accounted for only 3.1% of board membership (Zou and Zhang 1999).

International evidence suggests that the appointment of non-governmental representatives to the boards of SOEs is an effective way of ensuring that they are able to perform their strategic and monitoring roles. Among the 30 investigated firms, only 8 appointed representatives with non-governmental or technical backgrounds to the board of directors. In addition, senior managers should be hired or fired by the board according to the Company Law. However, Zou and Zhang's survey results indicate that the senior managers in 21 out of the 30 investigated firms were directly appointed by the relevant governments and supervisory departments, and only 3 boards elected senior managers. In fact, after pilot enterprises were corporatized, the original managers and party leaders in the majority of pilot enterprises remained in key board positions. There was little fundamental change in the corporate governance structure. From the above, we can see that the corporate governance structure of some pilot enterprises just existed in form alone and did not have an effective function. The influence of the administrative nature of the old SOEs could not be easily eliminated in a short time period. Since the government still exercises an administrative power over the corporatized SOEs, the nominal corporate governance mechanisms will not help improve performance.

Secondly, some matched reforms closely linked to enterprise reform, such as the reform of pricing, public finance, banking, and social security system, lagged behind enterprise reform, which may have affected the restructuring results of the pilot firms. The establishment of a modern enterprise system in SOEs is far beyond

the reform level of enterprise itself, and requires such matched reform as that of banking, the social security system, and public finance. Without such matched reforms, SOE reform alone cannot be successful. The results from the pilot programme provide further evidence for this point. For example, at both the theoretic and practical levels policymakers and economists have realized that the overstaffing of SOEs put heavy financial burdens on them, and put them in disadvantageous positions when competing with non-state enterprises. An estimated 50% of the workforce in the 100 pilot firms was excess to needs (Lin and Cai 1999). However, the empirical results of this study suggest that the problem was not significantly solved. This is because there is no effective social security system to takeover the welfare role of SOEs in China. The corporatized, but still government controlled, SOEs still need to shoulder the responsibility of absorbing most surplus workers in order to ensure social stability. Therefore, that matched reforms closely linked to SOE reform lagged behind enterprise reform is another important factor affecting the restructuring results of the pilot firms. China may take a long while to establish a well-developed market environment, but the process is now under way.

Suggestions

The success of a modern corporation requires a dynamic interplay between the internal mechanisms of enterprises, and external market competition. The evidence from international experience suggests that certain preconditions must exist for SOEs to be successfully corporatized. According to the Chinese situation, the following preconditions are required.

1. The establishment of an effective corporate governance mechanism, and the

abolition of government administrative intervention in SOEs. Relevant corporate governance mechanisms should include effective performance-based incentive reward systems, and effective monitoring systems. The interplay of incentive and monitoring systems will help improve the performance of SOEs. Meanwhile, senior managers should be appointed by the board rather than by the government or supervisory departments. More experienced representatives with non-governmental or technical backgrounds should be appointed to the boards. The government should not exercise any administration power over corporatized SOEs.

2. Pushing forward matched reforms closely linked to SOE reform. The past experience of enterprise reform in China suggests that successful SOE reform depend on a whole range of specific matched reform in the economic field, such as the reform of pricing, banking, public finance, and social security system. In order to make SOE reform successful, the central government should speed up putting forward matched reforms closely linked to SOE reform and harden SOE budget constraints. However, these reforms may not definitely improve SOE performance. The performance improvement of SOEs really depends on their own restructuring activities.

3. Increasing the role of competition and market forces. Economic theory and practice demonstrate that competition is perhaps the most important exogenous factor affecting firm efficiency. The central government should create a competitive and fair market environment and encourage competition for all kinds of firms. Meanwhile, a system of bankruptcy and acquisition

should be established. The SOEs with poor performance should be allowed to go into bankruptcy or be acquired. The threat of bankruptcy will impose strict disciplines on SOE management. The market competition will determine the mechanism of "survival of the fittest" and force SOE management to adopt efficient operating methods.

4. Establishing a well-developed manager market for SOEs. As we know, the shortage of professional managerial personnel is very acute in SOEs. Most corporatized SOEs have inherited the traditional planned personnel system, and their managers are appointed by the government. Efficiency gains have been severely limited in these SOEs. International experiences suggest that excellent senior managers are very important to the success of corporations. To some extent, talented managers can compensate for institutional imperfections. Indeed, the lack of professional managerial personnel has become a major restrictive factor for the reform of SOEs. In order to improve management of SOEs, a managerial labour market should be developed. Managers should compete with each other to attain top positions within modern corporations. The compensation of a manager should be determined by the market, rather than by the government. Managers with excellent records would be hired with high salaries, and those with poor records would struggle to find work. In such a competitive environment, managers in SOEs would have to work hard to improve firm performance. This may also help reduce the agency problem of SOEs.

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