CROSS-REGIONAL COMPETITION AND PRIVATISATION IN CHINA

by Shaomin Li, Shuhe Li and Weiying Zhang

When Deng Xiaoping and his comrades started reform in 1978, no one expected nearly double-digit annual growth in the subsequent two decades and a predominant non-state sector in today's China. Interestingly, the Chinese economic reform began with decentralisation rather than privatisation. Many economists and policymakers throughout the world refer to China's extraordinary performance as a puzzle. Unless we understand this puzzle, we cannot project the future of China nor can we provide useful lessons for other transitional or emerging economies where there is significant state control over the economy. At the theoretical level, the Chinese case provides insight into the process of institutional change.

The Chinese economic reform experience is often cited by economists as an illustration of why privatisation is not a necessary condition for efficiency, since the long-term high growth rate in China has occurred under the dominance of public ownership (Stiglitz 1994:175-76). However, the Chinese experience does not support this argument. In the past two decades, and particularly since the early 1990s, both explicit and implicit privatisation have been accelerating in China.[1] In 1978, at the beginning of the reform, 78 per cent of total industrial output came from SOEs. By 1995, the SOEs' share had shrunk to only one-third of industrial output (*China Statistical Yearbook* 1996:403). A recent survey estimates that more than 70 per cent of small SOEs have been fully or partially privatised in Shandong and a few other provinces (China Reform Foundation 1997:35). Note that these statistics account only for explicit, and not implicit, privatisation.

China's township and village enterprises (TVEs)[2] have been one of the major driving forces behind the rapid economic growth. Although some outside observers argue that the success of TVEs challenges the standard property rights theory (Weitzman and Xu 1994; Li, David 1996) ironically Chinese practitioners follow the standard property rights theory by privatising their TVEs in various forms, such as 'shareholding cooperatives'[3] or simply 'selling-out'. In fact, the privatisation of TVEs has been even faster than that of SOEs. In the Zibo municipality of Shandong province, private shareholders owned 30 per cent the share of TVEs in 1992 and 70 per cent in 1995. By 1996, about one-third of TVEs had been privatised in Nanhai of Guangdong. By the first half of 1997, more than 60 per cent of the township enterprises in Shenyang of Liaoning became shareholding companies or shareholding cooperatives; 90 per cent of the township enterprises with assets under 5 million yuan had been privatised in provinces such as Zhejiang and Jiangsu (*South China Morning Post* June 13 and 17, 1997). In general, privatisation tends to

MOCT-MOST 9: 75-88, 1999.

accelerate more quickly in townships where neighbouring townships have more private enterprises.

Casual observation suggests that the major players behind the ongoing privatisation process are local governments at various levels.[4] Although some local governments are undertaking explicit, wholesale privatisation programs, almost all local governments are considering privatisation of their enterprises in one way or another.[5]

The Chinese experience shows that our knowledge of institutional change is very limited. What are the driving forces behind this unintended, accelerating, and widespread process of privatisation in China? In particular, what motivates local governments to privatise the enterprises under their control? This paper is intended to address these questions with a theory of endogenous institutional change in the context of transitional economies developed by Li, Li and Zhang (1998). Firm ownership is defined by residual claimancy and control rights[6] and privatisation is viewed as a process of shifting residual claims and control rights from government to managers. Here the focus is on how cross-regional competition in the product market triggers privatisation of former state-owned enterprises (SOEs) and collective-owned enterprises (COEs) in China.

Ongoing privatisation in China is a consequence of the cross-regional competition which has followed the decentralisation policy introduced at the early stage of reform. When the Chinese central government implemented the decentralisation policy in the late 1970s, local governments began to compete with each other in product markets. As the cross-regional competition was sufficiently intense in the product market, each region had to cut production costs significantly in order to maintain a minimum market share for survival. Given that the efforts of managers are hidden, in order to induce managers to reduce costs, local governments may have had to grant total or partial residual shares to the managers. In general, more intense product competition triggers a higher degree of privatisation. It is in the interest of local bureaucrats to forgo more residual shares of profits to the managers since the induced incentive effect more likely dominates the distribution effect as competition intensifies. In contrast, if the central government sets the after-tax residual share, or if the two local governments can perfectly collude to maximize their joint revenue, then public ownership may prevail.

Our theoretical explanation for privatisation in China is closely related to those of North (1990), Weingast (1993), and Qian and Weingast (1995). North (1990) maintains that institutions are the rules of the game, while organisations are the players, and competition among organisations is the key to institutional change. Weingast (1993), and Qian and Weingast (1995) propose that 'market-preserving federalism' provides a good political foundation for economic development. They argue that cross-regional competition played a central role not only in the rise of

England's economic power in the eighteenth century and that of the United States in the nineteenth century, but also in the rise of the Chinese economy during the last two decades. One question these authors do not address, at least not formally, is how cross-regional competition triggers privatisation. It is not clear whether it is in the interest of local bureaucrats to privatise. Although privatisation generally makes the pie, which bureaucrats share with firm managers and others, bigger, it also decreases their relative shares.

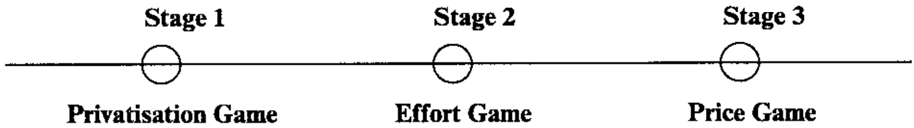
Although we are mainly concerned with privatisation in China, we believe that the relevance of our theory goes beyond China. According to a recent World Bank report, SOEs still account for a large share of the GDP in many countries, including not only transitional economies, but also developing and even industrial economies (World Bank 1997:31, 56).[7] Over time and across different countries, SOEs have been found to be poor performers. In the past decade, privatisation of state-owned enterprises has taken place not only in socialist and developing economies, but also in industrial economies. It is our conjecture that intensifying cross-country competition resulting from globalisation has been, and will continue to be, one of the most important driving forces behind the worldwide privatisation movement.

A non-technical summary of the Li-Li-Zhang model

In Li, Li and Zhang (1998), we developed a dynamic game-theoretic model. There are two local governments and two enterprises (firms). The enterprises were formerly owned by the central government. At the initial stage of reform, the central government gave the enterprises to local governments, with each local government owning one enterprise. After localisation, the central government still maintains the authority to set tax rates as well as the local government's share of the tax revenue, but local government obtains the residual claim on after-tax profits and also the right to decide whether or not to shift residual claims to management. In other words, the local government has the autonomy to decide whether to privatise. To simplify our analysis, it is assumed that the manager has all the control rights over the firm's business, except the rights of taxation and privatisation, and the manager's residual claim rights are well preserved. Thus, when the manager holds all residuals of the firm, he becomes the *de facto* owner of the firm. [8]

In the model, we assume that the production cost is determined by the manager's (hidden) effort. The local government is concerned with its own total revenue, which depends on its market share and the profit margin.

The timing of the game is as follows:



Stage 1. Two local governments play a privatisation game. Each local government chooses how much residual to be held by the manager (that is, whether to privatise) to maximise its revenue, taking the other's decision as given.

Stage 2. Given the distribution of residual claims set by the local governments, two managers play an effort game. Each manager chooses his own effort level to maximise his utility, determining the production cost, taking the others as given.

Stage 3. Given the distribution of residual claims and production costs, two managers play a Bertrand price game in the product market. Each manager chooses his price to maximize his profit, taking the others price as given.

To find a sub-game perfect Nash equilibrium, we begin with the price game of Stage 3. Suppose that the two firms are located at the two ends of a Hotelling's linear city with length of 1. They produce an identical (consumer) product. There is a continuum of consumers evenly located along the linear city and each consumer buys one unit of the good and incurs a unit transportation cost t. A natural interpretation of is as a parameter of the degree of competition in the product market; a lower represents a higher degree of competition. We may assume that summarizes all the factors affecting competition, such as transportation costs, trade barriers and enforcement costs. Some of these factors are under the control of the central government, and others are under the control of local government or are determined by technology. Since our focus is on how competition triggers privatisation, it is assumed these factors are exogenous.

The Nash equilibrium result of the price game is that each firm's market share and profit positively depend on transportation cost and its rival's production cost, and negatively depend on its own production cost. This result is standard.

After solving the price game of Stage 3, we then go back to solve the effort game of Stage 2. We assume that the production cost takes a linear form of $c_i = c_0 - a_i$, and the disutility function of effort takes a quadratic form of $0.5a_i^2$, where c_i is the realised unit cost, c_0 is the 'intrinsic' unit cost, and a_i is work effort of manager i. We show that the efforts of the two managers are strategic substitutes, and given the other's effort, each manager's effort monotonously increases with his residual share. At the equilibrium, each firm's market share increases with its own manager's residual share and decreases with its rival's residual share.

Taking into account the effect of residual share on efforts in the second stage, in the first stage the two local governments non-cooperatively choose the residual share for their managers to maximise revenue (subject to the manager's participation constraint). The local government's revenue consists of two parts: the tax revenue and the profit revenue. The trade-off facing the local government is that granting a higher residual share to its manager generates a higher total profit and therefore higher tax revenue, but decreases its own profit revenue. We refer to the first effect as the 'incentive effect', and the second effect as the 'distribution effect'.

Result 1. There is a critical level of the degree of competition (denoted by t^*), such that: (1) if t^*, full privatisation is a sub-game perfect Nash equilibrium; (2) if $t > t^*$, non-privatisation is a sub-game perfect Nash equilibrium.

In other words, the local government will be induced to privatise its firm if and only if competition is sufficiently intense. The intuition is that for sufficiently intense competition, the incentive effect dominates the distribution effect. Therefore the local government prefers to obtain tax revenue, otherwise the revenue increase resulting from a bigger profit share will not offset the tax revenue loss. The underlying reason for this is that the sensitivity of market share to the managerial incentive positively depends on the intensity of competition.[9] The marginal effects of both the local governments and its rival's incentives on market share decrease as competition becomes less intense (recall that the effect of its rival's residual on its own market share is negative). Since the local government's revenue directly depends on its market share, pressure to motivate its manager to cut costs is stronger when competition is more intense than when it is less intense.

Although efforts are independent of competition and depend only on the residual shares at symmetric equilibrium, strategic interactions between the two governments imply that as competition becomes more intense, each local government has to grant more residual shares to its manager to induce more effort. Effort becomes more valuable as competition intensifies. Thus the total effect of competition on effort is generally positive, by inducing changes of residual shares.

In the model, the critical level t^* is positively correlated with the local government's share of tax revenue (set by the central government). The larger the local government's share of tax revenue, the more likely private ownership will prevail. A larger share of tax revenue to the local government promotes a larger private sector. The higher the tax share to the local government (given the tax rate), the more likely the incentive effect dominates the distribution effect. If we reinterpret the tax share as a parameter of how strongly the local government cares for market share, the result implies that the firm is more likely to be privatised when the local government cares more for market share.[10]

For competition to work effectively, it must be the case that regional governments cannot erect trade barriers, and yet they must have the autonomy to make other economic decisions and respond to competitive pressures. So far we have assumed that regional governments have full autonomy to set after-tax residual shares. When the autonomy of regional governments is restricted by the central government, the privatisation process can be slowed down.

Result 2. If the central government sets the after-tax residual shares and treats the two regions equally, then maximisation of total government revenue would lead to no privatisation.

If the two regions collude perfectly, then they jointly achieve the same result. At the symmetric equilibrium of our spatial model, both market share and profits are uniquely determined by transportation costs, and are independent of actions and ownership structure. By colluding at non-privatisation, each local government can collect full profits equal to $\frac{t}{2}$.[11] In general such collusion cannot be an equilibrium. In particular, for $t < t^*$, we have shown that each local government is tempted to go a little ahead of its rival with respect to privatisation until equilibrium is restored. In other words, when competition in the product market is sufficiently intense, two local governments have to compete with each other in terms of privatisation of their firms. They are in a prisoners' dilemma where privatisation is the dominant strategy.

Explaining privatisation in China

As mentioned previously, Chinese economic reform began with decentralisation rather than privatisation. In the past two decades, and particularly since the early 1990s, privatisation in China has been widespread and accelerating. Our theory sheds light on this unintended process of privatisation. The basic logic is that decentralisation induced cross-regional competition which in turn triggered privatisation.

The authority of the central government began its expansion in 1949, dominating local governments in almost all major economic decision-making until the late 1970s. Partly as a result of such a high degree of centralisation, public ownership dominated from the mid 1950s to the early 1980s. During this period, the fiscal budget was centralised and the majority of SOEs were under central government control.[12] The economic reform launched in 1979 can be characterised as an evolutionary process of reassigning the economy's residual claims and control rights from the central to the local governments, and from government to firm managers. We may refer to the former process as decentralisation, and to the latter as deregulation.[13] Some leading Chinese economists have been opposed to decentralisation. They argue that decentralisation can hinder the autonomy of enterprises since local governments exercise control over the enterprises (see Wu and Liu 1992). In contrast, our theory shows that deregulation, and more generally privatisation, is a natural consequence of decentralisation.

China's decentralisation policy has had two major components. The first is a fiscal revenue contracting system (*caizheng baogan*) between adjacent levels of governments, and the second is the delegation of state enterprises to local governments (*qiye xiafang*). The fiscal revenue contracting system was first introduced in 1980, renewed in 1984 and 1988 with some modifications, and continued through 1993.[14] Under such a system, lower-level governments have an obligation to hand over a fixed amount or a fixed proportion of their revenue to the superior government, and can keep the remaining revenue for themselves. It was the end of arbitrary transfers between different levels of government and between different regional governments at the same level. Fiscal decentralisation was accompanied by the localisation of state-owned enterprises. By the end of 1983, the majority of SOEs had been transferred to local governments. By 1985, state-owned industrial enterprises controlled by the central government accounted for only 20 per cent of the total industrial output from all enterprises at or above the township level, while provincial and municipal governments controlled 45 per cent of industrial output and county governments controlled 9 per cent (Qian and Weingast 1995). By 1994, local governments at various levels controlled about 65 per cent of the total assets of SOEs (China Reform Foundation 1997:4).[15]

Governments at each level control their enterprises through industrial bureaus and regulatory agencies, such as planning agencies, economic or trade agencies, state assets administrations and economic reform agencies. Top government officials and industrial bureaucrats at each level appoint the managers of most SOEs and decide on their payment schemes. Politicians and bureaucrats get both pecuniary and non pecuniary rewards. Their bonuses are tied to, and their promotions depend on, the total revenue or profits in the region under their jurisdiction. Decentralisation policies, particularly the fiscal revenue contracting system, have provided them with ample opportunity for on-the-job consumption.

The decentralisation policy granted local government officials the autonomy to control their economies, establishing new firms, make investments with self-raised funds and more importantly, manage and restructure their firms (including setting the residual share for managers).[16] Decentralisation has effectively improved the delineation of property rights between governments at different levels. The government at each level has become the real residual claimant and controller of its own public economy, and each region acts as a conglomerate or holding company. This system has boosted the local governments' incentive to generate profit, and has also forced local governments to compete one another, and thus contribute to the marketisation of the entire economy. Although local governments may still use planning tools to control their enterprises, they can only conduct business with other regions through a bargaining process, since no one region has authority over the others. The relationship between provinces, municipalities, counties, townships, and villages has become marketised. The bargaining process between local governments has also helped push the national economy towards a market system by bypassing former arrangements.[17]

At the early stage of decentralisation, many local governments tried to protect their own enterprises from competition with other regions by erecting trade barriers. However, protectionism often failed because efficiency gains from exchange significantly exceeded the net benefits of erecting trading barriers. As the size of each local economy becomes smaller and the number of local economies becomes larger at the lower government level, the erection of trade barriers becomes more costly and less effective, and hence competition becomes more intense. Protection may work for a short time, but anti-protection forces are also powerful. The more efficient firms and regions will always try to break the barriers of other regions.[18] In 1993, the Chinese government enacted the Law of Anti-improper Competition, of which Article 7 prohibits local governments from using administrative means to erect trade barriers. All government bureaucrats seek rents and are reluctant to give up their power. Without a monopoly, rents can only be guaranteed by improving the efficiency of their firms. Our model predicts that, because the competitiveness of each local economy depends on its cost effectiveness relative to that of its rivals, competition will force local governments to grant more residual shares to their enterprises and, eventually to privatise. In fact, regions with a higher proportion of private enterprises have grown much faster than those that have a higher state-sector concentration.

Under the planned system, SOEs essentially submitted all of their earnings to the government, and there was no distinction between taxes and profits. In 1984, most SOEs began to submit taxes and profits to governments separately. The contract management responsibility system (CMRS) became widespread after 1987 and by 1989, most SOEs had adopted the CMRS. Under the CMRS, local governments at various levels decide how they and the managers will share after-tax profits. This contracting system can be viewed as a form of partial privatisation, and it has boosted managerial incentives in state enterprises (Zhang 1997). However, it has also induced the pervasive short-term behavior which is harmful to long-run competitiveness. In particular, intensified competition has made SOEs less and less profitable compared to the non-state sector, and local governments have become burdened with the increased losses of their SOEs. Thus various forms of privatisation began to emerge and accelerate in the 1990s (China Reform Foundation 1997). For small-sized enterprises, 'management (or employee) buy-outs' are a popular solution. For instance, 77 per cent of Zhucheng municipality's enterprises were bought out by managers and employees from 199294 (Wang and Xu 1996).

For large and medium-sized enterprises, forming joint ventures and 'going public' are the two most attractive ways to privatise. By forming joint ventures with domestic or foreign private enterprises, local governments can partially privatise their SOEs with minimum disruption to operations. In order to attract foreign investors, local governments compete to set up development zones and to offer substantial tax concessions and other favourable treatments to foreign investors. As for going public, two official stock exchanges, in Shanghai and Shenzhen, were inaugurated in the early 1990s, both of which were initiated by local governments.[19] Although the government often holds an absolute majority of shares when they are issued, typically its stake shrinks (and private shares expand) after the listing (Xu and Wang 1996). Again, local governments compete to make their firms go public.[20] More recently, 'privatisation through Hong Kong' has become fashionable. Shanghai and Beijing have packed their SOEs for listing on the Hong Kong Stock Exchange. Other regions are following in their footsteps.[21] In many cases the state-owned shares are taken over by non-state owners through the stock market. Some Hong Kong companies may also directly take over the SOEs.[22]

It should be emphasized that although our discussion has focused on cross-regional competition, competition also works vertically. Township governments and village committees choose to privatise their TVEs because of strong competition from private enterprises;[23] county and provincial governments choose to privatise their SOEs because their profit margins have been eroded by the more efficient TVEs and joint ventures. Facing strong competition from local enterprises, the central government eventually decided at the recent Fifteenth Communist Party Congress to privatise some of the centrally controlled SOEs.

Competitive pressures and their impact on privatisation vary at different government levels.[24] The effectiveness of cross-regional competition depends on the following factors: the leverage of regional governments to protect their products and to erect trade barriers; the degree of autonomy of regional governments to make decisions in reaction to competitive pressures; the number of competitors; and the costs of contract enforcement and transportation of their products. In general, the lower the level of jurisdiction, the more effective competition is, and the higher the degree of privatisation. First, a lower-level government has less leverage to protect its enterprises and to erect trade barriers. Second, a lower-level government and its firms tend to have more autonomy. Typically, firms controlled by lower-level governments produce fewer strategic products such as military products, and thus they are less subject to central planning and political control. Third, a lower-level government and its firms face more homogeneous competitors. Enterprises controlled by the same level of government tend to produce products of similar complexity and technology. Finally, firms controlled by lower-level governments produce more common, standardised products and hence the enforcement of contracts is easier.

Our theoretical predictions are consistent with what is observed in China. The economies of coastal regions in China are more privatised than those of inland regions due to lower transportation costs (which facilitate cross-regional competition) and more importantly, greater autonomy.[25] Similarly, SOEs in northeastern and southwestern China tend to be less privatised since their high concentration in these regions makes competition less intense, and there are few private enterprises in neighbouring regions. Sectors with simple or standard contracts tend to be more privatised than sectors with complex or specific contracts since the former involve lower enforcement costs and hence face stronger competition. Sectors with simple contracts include labour-intensive industries such as textiles and consumer electronics. Those with complex contracts generally include capital-intensive and contract-intensive industries, such as machine tools, banking, and insurance. In 1985 the output of SOEs accounted for 17 per cent and 64 per cent of the total output in the garment and machine tools industries, respectively. By 1995, the SOEs' share in the garment industry had shrunk to 6.9 per cent, while the SOEs' share in the machine tools industry was still 40 per cent (*China Statistical Yearbook* 1986:242-43; 1996:414, 418). The privatisation of TVEs proceeds more quickly than that of SOEs because TVEs operate in more competitive markets and their (township) governments have no leverage to protect them.

Although we have focused on product market competition, similar analyses can be applied to other markets such as capital and labor markets. In reality, the direct motivation for privatisation of local governments is often related to the financial health of their enterprises (Wang and Xu 1996). This is a consequence of competition in various markets. Competition erodes the monopoly profits that SOEs formerly enjoyed. In many regions, local governments are unable to get funds from capital markets to subsidise massive losses and are forced to privatise those enterprises that incur losses. Another important reason for privatisation is that SOEs and COEs cannot keep good managerial teams and skilled workers because more efficient private firms and foreign joint ventures are able to offer much higher salaries (Liu 1995).

Conclusions

Privatisation of state and collective-owned enterprises can occur as a consequence of cross-regional competition. Chinese economic reform initially did not intend to privatise state and collective enterprises, but the decentralisation policy eventually triggered privatisation through cross-regional competition. The Chinese Communist Party's recent Fifteenth Party Congress promoted the formation of joint stock systems to bail out the vast majority of failing SOEs. This move is widely viewed as a covert act of privatisation. Formal open privatisation in China thus far has not been adopted as central government policy for ideological reasons. However, competition is far more powerful than ideology. Regardless of whether or not the central government will draw up a blueprint for full privatisation, both our theory and the reality of the situation show that the privatisation process will continue to accelerate with vigour.

The Chinese experience demonstrates that the 'invisible hand' is not only powerful in allocating resources, but is also powerful in creating institutions. Once decentralisation starts, market competition may initiate a self-perpetuating process of privatisation. As a result, decentralisation may induce more privatisation than a deliberate privatisation policy if privatisation is not accompanied by sufficient decentralisation. This is a major lesson that other transitional and emerging economies may draw from China's experience.

Privatisation calls for a sound legal system to protect property rights. In particular, the *de facto* ownership of managers must eventually become *de jure* ownership. Commercial laws are needed to enforce contracts between privatised enterprises. Although China enacted the General Principles of Civil Law in 1986, the Law of Civil Litigation in 1991, and the Contract Law in 1981 (revised in 1993), there are two major problems in its current commercial law system. First, there are no clear and detailed rules to protect private property. To facilitate efficient private investment, detailed civil codes and procedures are needed to protect private property under different contingencies. Second, cross-regional commercial disputes are settled in local courts that are virtually controlled by local governments, in that they provide the courts both financial and personnel resources. To mitigate local protectionism and to facilitate competition, local courts must become independent of local government control or major cross-regional commercial disputes must be settled by national courts or national arbitration associations.

We are only beginning to understand the driving forces behind privatisation. Much work remains to be done. Although we have demonstrated how decentralisation can induce privatisation through competition, we do not yet have a theory of what drives decentralisation, nor do we have a theory of how *de facto* property rights evolve into *de jure* property rights. Exploration of these topics will further enhance our understanding of institutional change. Our study provides a new basis to advance such endeavours.

References

Beijing Unirule Institute of Economics, 1996. *Proceedings of the International Symposium on Case Studies of Takeovers and Mergers in China*, Beijing.

State Statistical Bureau of China, *China Industrial Census*, 1993-1995. State Statistical Bureau of China, Beijing.

China Reform Foundation, 1997. *Reality's Choice: Reforming Small State-owned Enterprises* (Xianshi de xuanze: Guoyou xiao qiye gaige shijian de chubu zongjie), Shanghai Yuandong Press, Shanghai.

State Statistical Bureau of China, *China Statistical Yearbook*, 1986-96. State Statistical Bureau of China, Beijing.

Gao, Qiang, 1995. 'Problems in Chinese Intra-governmental Fiscal Relations, Tax-sharing System and Future Reform,' in Ehtisham Ahmad, Gao Qiang and Vito Tanzi (eds.), *Reforming China's Public Finances*, International Monetary Fund, Washington, DC:15-24.

Grossman, Sanford and Hart, Oliver D., 1986. 'Cost and Benefits of Ownership: A Theory of

Vertical and Lateral Integration.' *Journal of Political Economy*, 94:691-719.

Hay, Donald and Guy, S. Liu., 1997. 'Efficiency of Firms: What Difference Does Competition Make?' *The Economic Journal*, May:597-617.

Hu, Shuli, 1994. 'The Phenomenon of 'China Strategy': Analysis and Thinking of Restructuring State Enterprises through Foreign Investors' (Zhongce xianxiang: Guanyu yinzi gaizhao de jiexi he sikao), *Reform Journal* (Gaige), 3:74-85.

Li, David D., 1996. 'Ambiguous Property Rights in Transition Economies', *Journal of Comparative Economics*, 23:1-19.

Li, Ling, 1996. 'Case Studies: HK China Resources Takes Over Beijing Huayuan Real Estate Company', *Proceedings of the International Symposium on Case Studies of Takeovers and Mergers in China*, Beijing Unirule Institute of Economics, Beijing.

Li, Shaomin, Shuhe Li and Weiying, Zhang, 1998. 'Competition and institutional change: privatisation in China', Working Paper No.1998E03, Institute of Business Research, Peking University.

Liu, Shiding, 1995. 'Changes in enterprise ownership structure in Shunde municipality' (Shunde qiye zichan suoyouquan zhuti jiegou de biange), *Reform Journal* (Gaige), 6:28-35.

Liu, Shijin and Jiang, Xiaojuan, 1996. 'Industrial policy and growth: a study of the refrigerator industry in China,' in Zhang Shuguang, eds., *Case Studies in China's Institutional Change*, Shanghai People's Press, Shanghai, 1:186-210.

North, Douglas, C., 1990. *Institutions, Institutional Change, and Economic Performance*. Cambridge University Press, Cambridge.

Qian, Yingyi and Weingast, Barry R., 1995. China's transition to market: market-preserving federalism, Chinese Style, Stanford University, Mimeo.

Stiglitz, J., 1994. *Whither Socialism?*, MIT Press, Cambridge.

Wang, Yanzhong and Xu, Heping, 1996. *Studies of Zhucheng's Enterprise Reform* (Zhucheng qiye gaige tantao), Economics and Management Press (Jingji guanli chubanshe), Beijing.

Weingast, Barry R., 1993. The economic role of political institutions, Stanford University, Mimeo.

Weitzman, Martin and Xu, Chenggang, 1994. 'Chinese township and village enterprises as vaguely defined cooperatives,' *Journal of Comparative Economics*, 18:121-145.

World Bank, 1997. *Bureaucrats in Business*, World Bank, Washington, DC.

Wu, Jinglian and Liu, Jierui, 1992. *On Competitive Market System* (Lun jingzheng xing shichang tizhi), Financial and Economic Press (Zhongguo caizheng jingji chubanshe), Beijing.

Xu, Xiaonian and Wang, Yan, 1996. 'Ownership structure, corporate governance, and firms' performance: the case of Chinese stock companies,' World Bank. Mimeo.

Zhang, Weiying, 1997. 'Decision rights, residual claims and performance: a theory of how Chinese state enterprise reform works,' *China Economic Review* 8(1):67-82.

Notes

[1] Implicit privatisation refers to cases in which assets and profits formally belong to the governments, but are held *de facto* by managers and bureaucrats. Typical forms of implicit privatisation include hiding the assets and profits in private accounts, making investments in so-called subsidiary companies with little governmental control, setting up companies in foreign countries, and transferring state assets to private or quasi-private companies.

[2] TVEs refor to community-owned enterprises controlled by township governments or village committees in this paper. Thus they are collectively-owned enterprises (COEs).

[3] The original form of a 'shareholding cooperatives' *(gufen hezuo zhi)* is where the major part of the shares is owned by the local government and/or by owkers collectively and the remaining part is owned by individuals, and where there are restrictions on share transfers and dividend payments. But presently the 'shareholding cooperatives' can take various forms of ownership, including private shareholding companies with some restricitons on share transfers.

[4] For instance, in 1992 Quanzhou municipal government of Fujian province sold all forty one of its SOEs to a Hong Kong businessman, who also bought dozens of other SOEs in other regions and successfully packed them for public offering on the Hong Kong and New York stock exchages (Hu 1994). From 1992 to 1994, the Zhucheng municipal government of Shandong province privatised all 272 of its government-owned enterprises (Wang and Xu 1996). A similar process of privatisation has been undertaken in many other areas, such as Shunde of Guangdong province, Yibin and Deyang of Sichuan province, Shuzhou of Shanxi province, and Xishui and Xianfan of Hubei province. For details, see China Reform Foundation (1997).

[5] An anecdote is that an economist told a provincial governor: 'I heard that the central government has enacted regulations forbidding local governments from selling SOEs.' The governor responded: 'Do you know anyone who wants to buy?' The 'Su-nan (south Jiangsu) model' where the local public economy plays a dominant role is claimed to be the most successful example. But resently the governor of Jiangsu province opennly called for a 'rethinking of the Sunan model' and local governments in the province have already begun to privatise their local public enterprises.

[6] Traditionally, ownership is defined by residual rights. Grossman and Hart (1986) define ownership as control rights over assets.

[7] In some transition economies, average SOEs' shares accounted for as much as over 96 per cent of GDP (for example, Czech Republic, 1978-91), while the figures are also high in developing countries (for example, SOEs accounted for 34 per cent of Egypt's GDP in 1978-91). Even in industrial economies, SOEs accounted for about 7 per cent of GDP in 1988 (World Bank 1997:31, 56).

[8] Since our model is timeless, 'the residual' is bewst intekrpreted as the present value of allf uture residual flows when one applies theory to reality. That is, privatisation should be understood as a permanent transfor of residual claims from government to private hands. A short-term contract between government and management, such as the 'contract management responsibility system', that is practiced in China, can be seen as partial privatisation of state-owned enterprises.

[9] This is consistent with a more general result that shows that the market share is more sensitive to production costs as competition becomes more intense. See Hay and Liu (1997).

[10] Note also that we assume that local government cares only for its total revenue. One may think that local government also cares for its market share *per se* since market share is positively related to the local employment level and often to local officials' promotion in the governmental hierarchy. Fortunately, our basic conclusion will not change, but rather will be strengthened, if the market share itself directly enters the local government's objective function. In fact, our assumption of the local government's objective function is very general in the sense that the tax revenue can be reinterpreted to capture the benefits that are not included in the pure residual but matter to the local government.

[11] It is this feature of the model that allows us to isolate the effect of competition from usual incentive considerations. When the two local governments perfectly collude (and competition disappears), the agency problem does not matter al all in our model. (In contrast, in a standard agency model, the principal needs to design incentive-compatible payment schemes even in the absence of competition.)

[12] In 1958 and 1970, the Chinese government undertook two decentralisation experiments, but each was shortly thereafter followed by re-centralisation because of the chaotic consequences. Some Chinese economists have cited these two experiences against decentralisation in the 1980s. However, we maintain that if the 1958 of 1970 decentralisation had been allowed to last longer, the Chinese economy would have been privatised much ealier.

[13] Chinese economists often refer to the former as administrative decentralisation, and to the latter as economic decentralisation.

[14] The 1994 tax reform classified all taxes into (1) loca taxes, (2) central taxes, and (3) shared taxes. Category (1) grants all residuals to local governments. Category (3) grants partial residuals

to local governments. However, the incentive structure for local bureaucrats largely reamins unchanged since the income taxes of local enterprises are classified as local taxes and local governments remain responsible for profits and losses of their local SOEs (Gao Qiang 1995).

[15] According to the National Administration of State Assets, by 1995, there were 302,000 SOEs, of which 33,000 (10.9 per cent) were controlled by the central government and the remaining 269,000 (89.1 per cent) were controlled by local governments.

[16] The basis for the decentralisation was partially determined by the 1982 constitution which granted provincial level governments auhtority to make broad regional economic regulations.

[17] In the 1980s when official prices were not at equilibrium levels but could not be violated, local governments invented a bundling exchange system *(chuan huan)* to bypass these restrictions. The system worked as follows: Suppose that the official price of one ton of steel was $600, and its market price was $1000; the official and market prices of a bicycle were $100 and $200, respectively. liaoning province produces steel and demands bicycles, while Shanghai produced bicycles and demands steel. When Shangai wanted bo buy 100 tons of steel at price of $600, it had to sell 400 bicycles at price of $100 to liaoning. By so doing, the official price system was followed formally, but the transaction actually took place at market prices. Note that this bundling exchange system is different from a barter system. How many bicycles are needed for one ton of steel is determined by the ratio of the market/official price gap of steel to that of bicycles, rather than by the ratio of their market prices. For example, if the official price of abicycle is raised bo $150, Shanghai must sell 800 bicycles in order to buy 100 tons of steel.

[18] Guangdong provence was one of the first provinces to rely on the development of the non-state sector. Its products have been very competitive both in terms of price and in terms of quality. In the 1980s, many other regions were histile to Guangdong businessmen and even prevented them from selling their products to local customers. The authors were once told by a Guangdong businessman that int he early 1980s Beijing local police required all businessmen from Guangdon to register at the local police office. Because of great compeitive advantages, however, Guangdong products eventually came to dominate many regions. For example, Kelong Electronic Company (a township enterprise in Guangdong, and now lested on the Hong Kong Stock Exchange) produced 11.9 per cent of all refrigerators nationwide and was ranked number one in the industry in 1994 (Liu and Jiang 1996).

[19] By the end of 1996, the total number of listed companies reached 529 with a total market capitalization of US$120 billion *(Security Market Herald* no. 1, 1997).

[20] Because the demand from local governments to list on stock exchanges is so great, the central governments security regulatory commission has had to set provincial quotas.

[21] There are two types of SOEs listed on the Hong Kong Stock Exchange. One type is H-share companies: registered in the mainland but listed in Hong Kong. The other type is 'red chip' companies: registered and listed in Hong Kong, but the largest shareholder is the government(s) or the parent SOEs in mainland China. By September 1997, S-shares and red chips accounted for about 15 percent of market capitalization, and 40 per cent of the daily volume on the Hong Kong Stock Exchange. *(Hong Kong Economic Journal,* September 16, 1997).

[22] For instance, in 1994 a hong Kong-based holding campany bought 52 per cent of the shares (this increased to 62.5 per cent in 1996) of the Beijing Huayuan Real Estate Company, one of the largest state-owned real estate companies in Beijing, and listed it in Hong Kong. After the takeover, although the management team remained the same, managerial compensation and control rights expanded significantly. (Li, Ling 1996) For more cases, see Beijing Unirule Institute of Exonomics (1996).

[24] China's administrative divisions are as follows: At the provincial level, there are thirty one jurisdictions, many of them are larger than medium-sized countries. At the county level, there are more than two thousand jurisdictions. At the township level, there are more than 50,000 hurisdictions.

[25] In the 1980s, the central governement granted much more autonomy to coastal regions than to inland regions.